REGIONAL DIRECTOR FOR ENVIRONMENTAL PROTECTION IN GDAŃSK

Gdańsk, September 6, 2022

RDOŚ-Gd-WOO.420.16.2021.AJ.36.
with acknowledgment of receipt

DECISION

Pursuant to

- Article 3a, in conjunction with Article 14 section 1 of the Act of July 24, 2015 on the preparation and implementation of strategic projects in the field of transmission grids *(consolidated text: Journal of Laws of 2022, item 273)*, hereinafter referred to as the "PITG Act",
- Article 75 section 7 in conjunction with Article 71 section 2 point 1, Article 82 section 1 point 2 letters b), c) and Article 82 section 1 point 4 and 5 of *the Act of October 3, 2008 on providing access to information about the environment and its protection, public participation in environmental protection and on environmental impact assessment (consolidated text: Journal of Laws of 2022, item 1029, as amended)*, hereinafter referred to as the "EIA Act",
- Article 104 of the Act of June 14, 1960 *Code of Administrative Procedure (consolidated text: Journal of Laws of 2021, item 735, as amended),* hereinafter referred to as the "CAP",
- Article 76 section 1 of the Act of December 17, 2020 on promoting electricity generation in offshore wind farms *(consolidated text: Journal of Laws of 2022, item 1050)*, hereinafter referred to as the „POWF Act",
- § 3 section 1 point 7 and § 3 section 1 point 62 and § 3 section 1 point 88 of the Regulation of the Council of Ministers of September 10, 2019 on projects that may significantly impact the environment *(Journal of Laws of 2019, item 1839, as amended),*

having examined the application of the Investor Baltic Power Sp. z o.o. represented by Mr. Radosław Opioła (Maritime Institute of the Gdynia Maritime University), ref. No. BP/4/2021 of March 31, 2021 for issuing the decision on environmental conditions for the following project:

"Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm"

acting based on:

- environmental impact assessment report (contractor: MEWO S.A. (Leader) in consortium with the Maritime Institute of the Gdynia Maritime University, June 2021), letter of October 25, 2021, (hereinafter referred to as the EIA report),
- uzupełnienie do raportu o oddziaływaniu na środowisko z dnia 08.06.2021 r.,
- uzupełnienie do raportu o oddziaływaniu na środowisko z dnia 06.07.2021 r.,

- uzupełnienie do raportu o oddziaływaniu na środowisko z dnia 21.12.2021 r.,
- supplement to the environmental impact assessment report of January 31, 2022,
- approval of the Director of the Maritime Office in Gdynia, ref. No. INZ.8103.39.3.2021.AD of March 7, 2022,
- decision of the Director of the Maritime Office in Gdynia, ref. No. INZ.8103.39.4.2021.2022.AC of August 31, 2022,
- explanation of the contents of the environmental impact assessment report of June 20, 2022 and June 24, 2022,
- opinion of the State Border Sanitary Inspector in Gdynia, ref. No. SE.ZNS.80.4910.16.21 of May 4, 2021,
- opinion of the Director of the National Water Management Authority Wody Polskie, Basin Area Management Authority in Gdańsk, ref. No. GD.ZZŚ.435.249.2.2021.AK of July 19, 2021,
- results of the procedure with the participation of the public,

having completed the environmental impact assessment for the project

I hereby decide

I. To determine the following environmental conditions for the implementation of the project named: "Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm".

1) Type and location of the project.

The planned project consists in the construction and operation of electricity transmission lines together with the customer substation and accompanying infrastructure. The purpose of the planned project is to connect the BP OWF to the National Power System (NPS).

The designed Grid Connection Infrastructure of the BP OWF will enable the transmission of electricity generated by the Baltic Power OWF to the NPS. Electricity shall be transmitted via a multi-circuit EHV AC cable line with an operating voltage of 220 kV or 275 kV. Export cables will connect the OWF with the customer substation, which in turn will be connected to the PSE substation by means of a 400 kV overhead line.

The project will consist of the following elements:

- extra high voltage power cable lines located in the offshore area within the boundaries of the Exclusive Economic Zone, territorial sea and internal sea waters;
- cable draw pits located onshore, in which offshore and onshore cable lines will be connected;
- extra high voltage power cable lines, located in the onshore area in the Choczewo municipality (Wejherowo district, Pomorskie voivodship) together with accompanying infrastructure (fiber optic cables, cable joints, cable terminals);
- customer substation;
- 400 kV overhead power line connecting the customer substation with the PSE substation;
- access roads.

The list of the most important parameters of the Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm in the option proposed by the Applicant is presented in Table No. 1:

Tab. 1: Parameters of the Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm in the option proposed by the Applicant.

Parameter	Value/Description
Length of the power connection in the offshore area (assuming the routing of export cables from each of up to three substations of the Baltic Power OWF)	approx. 46.8 km
Length of the trenchless routing of power cables in HDD technology from the offshore area to the onshore area (includes a part of the offshore route and a part of the onshore route)	approx. 1.5 km
Length of the power connection in the onshore area	approx. 6.5 km
Operating voltage of power cables	220 kV or 275 kV
Maximum number of cables in the offshore area	4 single cable lines
Maximum number of cable lines in the onshore area	12 cables laid in four circuits, three cables per one circuit
Method of routing cable lines from the offshore area to the onshore area	trenchless method, e.g. horizontal directional drilling (HDD or HDD Intersect)
Method of laying power cables in the offshore area	burial in the seabed or laying on surface of the seabed with a protection
Method of laying power cables in the onshore area	burial in the ground
Method of connection of the customer substation with the PSE substation	wired overhead line
Length of the wired overhead line	up to 270 m

The construction area of the BP OWF Grid Connection Infrastructure is located in the offshore area of the Republic of Poland – in the Exclusive Economic Zone, in the area of the territorial sea, internal sea waters and onshore, in the Choczewo municipality (Wejherowo district, Pomorskie voivodship).

In the offshore and onshore area, the construction area of the BP OWF Grid Connection Infrastructure was described using coordinates indicated in Table No. 2.

Tab. 2: Geographic coordinates of the construction area of the Baltic Power OWF Grid Connection Infrastructure in the offshore area and in the onshore area.

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
Offshore area				
1	794064.9	417158.3	55'00'10.851"	17'42'15.978"
2	794268.1	418044.4	55'00'17.953"	17'43'05.643"
3	784616.4	424714.3	54'55'09.476"	17'49'30.211"
4	780624.8	427982.3	54'53'02.064"	17'52'37.370"
5	774784.9	428701.0	54'49'53.482"	17'53'22.901"
6	773768.4	428618.9	54'49'20.549"	17'53'19.203"
7	773762.0	428588.4	54'49'20.328"	17'53'17.496"
8	773724.0	428481.4	54°49'19.041"	17'53'11.536"
9	774667.9	428262.0	54'49'49.469"	17'52'58.401"
10	779807.7	427629.5	54'52'35.444"	17'52'18.307"
11	779932.8	427597.3	54'52'39.472"	17'52'16.388"
12	780046.1	427533.6	54'52'43.106"	17'52'12.713"
13	780139.2	427442.9	54'52'46.071"	17'52'07.538"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
14	781049.1	426289.6	54°53'14.901"	17°51'01.981"
15	784009.2	423919.1	54°54'49.395"	17°48'46.120"
16	793142.5	417607.4	54°59'41.277"	17°42'42.211"
17	792605.7	415277.7	54°59'22.503"	17°40'31.687"
18	792129.1	413559.6	54°59'06.021"	17°38'55.533"
19	791963.9	412995.3	54°59'00.324"	17°38'23.969"
20	796508.0	412166.9	55°01'26.807"	17°37'32.345"
21	796946.6	411930.8	55°01 '40.846"	17°37'18.561"
22	797426.8	411871.2	55°01'56.343"	17°37'14.669"
23	798089.6	412718.1	55°02'18.325"	17°38'01.643"
24	797997.8	412870.2	55°02'15.449"	17°38'10.310"
25	796717.8	412636.9	55°01'33.895"	17°37'58.580"
26	793093.6	413297.6	54°59'37.061"	17°38'39.744"
27	793502.0	414769.8	54°59'51.188"	17°40'02.147"
28	797571.5	413890.9	55°02'02.299"	17°39'08.271"
29	797960.0	413534.8	55°02'14.644"	17°38'47.789"
30	798854.8	413548.3	55°02'43.603"	17°38'47.574"
31	799338.5	413223.0	55°02'59.048"	17°38'28.717"
32	799677.5	414691.8	55°03'10.929"	17°39'51.117"
33	799487.3	414781.0	55°03'4.830"	17°39'56.348"
34	798931.0	414049.5	55°02'46.380"	17°39'15.731"
35	798151.2	414037.7	55°02'21.146"	17°39'15.913"
36	797809.5	414351.0	55°02'10.284"	17°39'33.931"
37	793626.2	415254.5	54°59'55.504"	17°40'29.291"
38	793861.4	416271.0	55°00'03.734"	17°41'26.248"
39	793953.1	416671.0	55°00'06.943"	17°41'48.665"
40	798349.9	415690.5	55°02'28.592"	17°40'48.812"
41	798696.4	415459.9	55°02'39.663"	17°40'35.449"
42	800334.3	415007.2	55°03'32.373"	17°40'08.186"
43	800434.4	415147.2	55°03'35.699"	17°40'15.967"
44	799551.4	416442.2	55°03'07.922"	17°41'29.894"
45	798499.6	416169.4	55°02'33.728"	17°41'15.633"
Onshore area				
Cable draw pit and cable line construction area				
1	771665.9	428684.4	54°48'12.556"	17°53'24.738"
2	771671.0	428677.7	54°48'12.717"	17°53'24.360"
3	771675.6	428670.8	54°48' 12.862"	17°53'23.965"
4	771679.7	428663.5	54°48'12.992"	17°53'23.554"
5	771683.4	428655.9	54°48'13.105"	17°53'23.128"
6	771686.5	428648.2	54°48' 13.202"	17°53'22.690"
7	771693.1	428629.8	54°48'13.407"	17°53'21.658"
8	771763.3	428435.5	54°48' 15.580"	17°53'10.711"
9	771775.4	428418.4	54°48'15.962"	17°53'09.739"
10	771910.1	428091.2	54°48'20.150"	17°52'51.294"
11	771916.6	428060.1	54°48'20.345"	17°52'49.547"
12	771919.8	428052.5	54°48'20.445"	17°52'49.118"
13	771923.5	428045.1	54°48'20.561"	17°52'48.701"
14	772156.9	427615.8	54°48'27.892"	17°52'24.443"
15	772161.4	427608.3	54°48'28.031"	17°52'24.017"
16	772166.3	427601.1	54°48'28.188"	17°52'23.609"
17	772171.8	427594.2	54°48'28.360"	17°52'23.221"
18	772177.7	427587.8	54°48'28.548"	17°52'22.854"
19	772184.0	427581.8	54°48'28.749"	17°52'22.511"
20	772190.7	427576.2	54°48'28.964"	17°52'22.193"
21	772197.8	427571.1	54°48'29.192"	17°52'21.902"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
22	772205.3	427566.5	54°48'29.430"	17°52'21.638"
23	772213.0	427562.4	54°48'29.678"	17°52'21.404"
24	772221.0	427558.9	54°48'29.935"	17°52'21.200"
25	772229.2	427556.0	54°48'30.200"	17°52'21.027"
26	772237.7	427553.6	54°48'30.471"	17°52'20.886"
27	772246.2	427551.8	54°48'30.747"	17°52'20.779"
28	772254.9	427550.6	54°48'31.026"	17°52'20.705"
29	772263.6	427550.1	54°48'31.308"	17°52'20.664"
30	772272.3	427550.1	54°48'31.591"	17°52'20.657"
31	772281.1	427550.7	54°48'31.873"	17°52'20.685"
32	772289.7	427551.9	54°48'32.154"	17°52'20.746"
33	772298.3	427553.8	54°48'32.431"	17°52'20.841"
34	772306.6	427556.2	54°48'32.704"	17°52'20.968"
35	772314.9	427559.2	54°48'32.972"	17°52'21.129"
36	772322.8	427562.7	54°48'33.232"	17°52'21.321"
37	772330.6	427566.8	54°48'33.484"	17°52'21.543"
38	772338.0	427571.5	54°48'33.726"	17°52'21.796"
39	772587.5	427739.3	54°48'41.887"	17°52'30.977"
40	772597.4	427746.5	54'48'42.210"	17'52'31.368"
41	772606.8	427754.3	54'48'42.517"	17'52'31.798"
42	772615.6	427762.7	54'48'42.807"	17'52'32.262"
43	772623.8	427771.8	54'48'43.078"	17'52'32.760"
44	772631.4	427781.3	54'48'43.328"	17'52'33.289"
45	772638.3	427791.4	54'48'43.557"	17'52'33.845"
46	772644.5	427801.9	54'48'43.763"	17'52'34.428"
47	772650.0	427812.8	54'48'43.946"	17'52'35.034"
48	772654.7	427824.0	54'48'44.105"	17'52'35.660"
49	772700.0	427943.2	54'48'45.633"	17'52'42.298"
50	772702.9	427950.2	54'48'45.731"	17'52'42.687"
51	772706.3	427957.0	54'48'45.842"	17'52'43.064"
52	772710.0	427963.6	54'48'45.967"	17'52'43.429"
53	772714.2	427969.9	54'48'46.104"	17'52'43.779"
54	772718.7	427976.0	54'48'46.254"	17'52'44.114"
55	772723.6	427981.7	54'48'46.416"	17'52'44.432"
56	772728.9	427987.2	54'48'46.589"	17'52'44.733"
57	772734.4	427992.3	54'48'46.772"	17'52'45.014"
58	772740.3	427997.0	54'48'46.965"	17'52'45.274"
59	772844.5	428075.7	54'48'50.376"	17'52'49.591"
60	772861.8	428092.1	54'48'50.944"	17'52'50.494"
61	773297.4	428421.4	54'49'05.209"	17'53'08.556"
62	773306.2	428429.7	54'49'05.497"	17'53'09.013"
63	773314.3	428435.9	54'49'05.764"	17'53'09.351"
64	773318.6	428439.1	54'49'05.904"	17'53'09.527"
65	773321.3	428440.8	54'49'05.993"	17'53'09.621"
66	773432.6	428496.7	54'49'09.620"	17'53'12.654"
67	773724.0	428481.4	54'49'19.041"	17'53'11.536"
68	773762.0	428588.4	54'49'20.328"	17'53'17.496"
69	773768.4	428618.9	54'49'20.549"	17'53'19.203"
70	773623.3	428617.6	54'49'15.855"	17'53'19.255"
71	773505.4	428598.4	54'49'12.029"	17'53'18.286"
72	773483.4	428593.8	54'49'11.314"	17'53'18.051"
73	773299.9	428501.8	54'49'05.332"	17'53'13.055"
74	773289.2	428496.7	54'49'04.981"	17'53'12.779"
75	773281.5	428493.1	54'49'04.730"	17'53'12.585"
76	773271.1	428486.8	54'49'04.393"	17'53'12.242"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
77	772849.3	428167.9	54°48'50.578"	17°52'54.752"
78	772825.9	428141.9	54°48'49.807"	17°52'53.314"
79	772701.7	428048.1	54°48'45.743"	17°52'48.169"
80	772692.7	428040.8	54°48'45.448"	17°52'47.771"
81	772684.2	428033.0	54°48'45.168"	17°52'47.342"
82	772676.2	428024.7	54°48'44.904"	17°52'46.884"
83	772668.7	428015.9	54°48'44.658"	17°52'46.398"
84	772661.8	428006.7	54°48'44.429"	17°52'45.887"
85	772655.4	427997.0	54°48'44.219"	17°52'45.352"
86	772649.7	427987.0	54°48'44.028"	17°52'44.795"
87	772644.6	427976.6	54°48'43.858"	17°52'44.219"
88	772640.2	427966.0	54°48'43.709"	17°52'43.626"
89	772594.9	427846.8	54°48'42.181"	17°52'36.988"
90	772591.8	427839.5	54°48'42.079"	17°52'36.586"
91	772588.3	427832.6	54°48'41.962"	17°52'36.197"
92	772584.3	427825.8	54°48'41.830"	17°52'35.824"
93	772579.9	427819.4	54°48'41.683"	17°52'35.466"
94	772575.0	427813.2	54°48'41.522"	17°52'35.127"
95	772569.8	427807.5	54°48'41.349"	17°52'34.808"
96	772564.1	427802.0	54°48'41.163"	17°52'34.510"
97	772558.1	427797.0	54°48'40.966"	17°52'34.235"
98	772551.8	427792.4	54°48'40.758"	17°52'33.983"
99	772302.3	427624.5	54°48'32.598"	17°52'24.802"
100	772298.6	427622.3	54°48'32.478"	17°52'24.678"
101	772294.8	427620.3	54°48'32.355"	17°52'24.569"
102	772290.9	427618.5	54°48'32.226"	17°52'24.474"
103	772286.8	427617.0	54°48'32.095"	17°52'24.395"
104	772282.7	427615.8	54°48'31.961"	17°52'24.332"
105	772278.5	427614.9	54°48'31.824"	17°52'24.286"
106	772274.2	427614.3	54°48'31.686"	17°52'24.256"
107	772269.9	427614.0	54°48'31.547"	17°52'24.242"
108	772265.6	427614.0	54°48'31.408"	17°52'24.245"
109	772261.4	427614.3	54°48'31.269"	17°52'24.265"
110	772257.1	427614.9	54°48'31.132"	17°52'24.302"
111	772252.9	427615.8	54°48'30.996"	17°52'24.355"
112	772248.7	427616.9	54°48'30.863"	17°52'24.424"
113	772244.7	427618.4	54°48'30.732"	17°52'24.509"
114	772240.8	427620.1	54°48'30.606"	17°52'24.609"
115	772237.0	427622.1	54°48'30.484"	17°52'24.725"
116	772233.3	427624.4	54°48'30.366"	17°52'24.854"
117	772229.8	427626.9	54°48'30.255"	17°52'24.998"
118	772226.5	427629.6	54°48'30.149"	17°52'25.154"
119	772223.4	427632.6	54°48'30.050"	17°52'25.323"
120	772220.5	427635.8	54°48'29.957"	17°52'25.504"
121	772217.8	427639.1	54°48'29.872"	17°52'25.695"
122	772215.4	427642.7	54°48'29.796"	17°52'25.895"
123	772213.2	427646.4	54°48'29.727"	17°52'26.105"
124	771982.5	428070.6	54°48'22.482"	17°52'50.077"
125	771983.2	428089.6	54°48'22.515"	17°52'51.140"
126	771833.7	428452.8	54°48' 17.865"	17°53'11.618"
127	771821.0	428464.3	54°48'17.460"	17°53'12.274"
128	771753.3	428651.6	54°48'15.365"	17°53'22.823"
129	771746.7	428669.9	54°48'15.161"	17°53'23.855"
130	771746.7	428669.9	54°48'15.161"	17°53'23.855"
131	771741.9	428681.7	54°48'15.014"	17°53'24.519"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
132	771736.4	428693.1	54°48' 14.842"	17°53'25.164"
133	771730.2	428704.2	54°48' 14.645"	17°53'25.788"
134	771723.2	428714.8	54°48' 14.425"	17°53'26.387"
135	771715.5	428724.9	54°48'14.182"	17°53'26.959"
136	771509.3	428978.0	54°48'07.638"	17°53'41.322"
137	771475.5	429021.1	54°48'06.567"	17°53'43.763"
138	771468.6	429029.3	54°48'06.347"	17°53'44.232"
139	771461.1	429037.1	54°48'06.108"	17°53'44.674"
140	771453.1	429044.4	54°48'05.853"	17°53'45.087"
141	771444.6	429051.0	54°48'05.581"	17°53'45.468"
142	771435.7	429057.1	54°48'05.296"	17°53'45.817"
143	771426.3	429062.6	54°48'04.997"	17°53'46.130"
144	771416.7	429067.4	54°48'04.687"	17°53'46.408"
145	769594.3	429897.1	54°47'06.142"	17°54'34.464"
146	769584.4	429901.2	54°47'05.823"	17°54'34.703"
147	769574.2	429904.6	54°47'05.496"	17°54'34.904"
148	769563.8	429907.3	54°47'05.161"	17°54'35.067"
149	769553.3	429909.4	54°47'04.821"	17°54'35.189"
150	769542.6	429910.7	54°47'04.477"	17°54'35.271"
151	769531.9	429911.2	54°47'04.131"	17°54'35.313"
152	769521.2	429911.1	54°47'03.784"	17°54'35.313"
153	769510.5	429910.2	54°47'03.437"	17°54'35.273"
154	769499.9	429908.6	54°47'03.093"	17°54'35.192"
155	769231.2	429858.6	54°46'54.375"	17°54'32.626"
156	769184.3	429849.8	54°46'52.851"	17°54'32.176"
157	769182.2	429849.5	54°46'52.785"	17°54'32.160"
158	769180.1	429849.3	54°46'52.718"	17^54'32.151"
159	769178.1	429849.2	54°46'52.651"	17°54'32.149"
160	769176.0	429849.3	54°46'52.584"	17°54'32.155"
161	769173.9	429849.5	54°46'52.517"	17°54'32.168"
162	769171.9	429849.8	54°46'52.451"	17°54'32.188"
163	769169.9	429850.3	54'46'52.385"	17'54'32.215"
164	769167.9	429850.9	54'46'52.321"	17'54'32.249"
165	769165.9	429851.6	54'46'52.258"	17'54'32.290"
166	768806.6	429993.0	54'46'40.703"	17'54'40.522"
167	768804.7	429993.8	54'46'40.643"	17'54'40.569"
168	768802.9	429994.8	54'46'40.585"	17'54'40.623"
169	768801.2	429995.8	54'46'40.529"	17'54'40.683"
170	768799.5	429997.0	54'46'40.476"	17'54'40.750"
171	768797.9	429998.3	54'46'40.425"	17'54'40.823"
172	768796.4	429999.7	54'46'40.378"	17'54'40.902"
173	768795.0	430001.1	54'46'40.333"	17'54'40.986"
174	768793.7	430002.7	54'46'40.292"	17'54'41.075"
175	768792.6	430004.4	54'46'40.255"	17'54'41.169"
176	768791.5	430006.1	54'46'40.221"	17'54'41.267"
177	768790.5	430007.9	54'46'40.192"	17'54'41.368"
178	768789.7	430009.8	54'46'40.166"	17'54'41.473"
179	768789.0	430011.7	54°46'40.144"	17'54'41.581"
180	768788.5	430013.6	54'46'40.127"	17'54'41.691"
181	768788.0	430015.6	54°46'40.114"	17'54'41.802"
182	768787.7	430017.6	54'46'40.106"	17'54'41.915"
183	768784.0	430051.3	54=46'40.002"	17'54'43.803"
184	768778.8	430096.0	54'46'39.856"	17'54'46.310"
185	768778.3	430099.5	54'46'39.841"	17'54'46.508"
186	768777.5	430103.0	54'46'39.818"	17'54'46.704"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
187	768776.5	430106.5	54'46'39.788"	17'54'46.898"
188	768775.3	430109.8	54'46'39.750"	17'54'47.087"
189	768773.9	430113.1	54'46'39.706"	17'54'47.271"
190	768772.2	430116.3	54'46'39.654"	17'54'47.450"
191	768770.4	430119.3	54'46'39.595"	17'54'47.623"
192	768768.3	430122.3	54'46'39.530"	17'54'47.788"
193	768766.1	430125.0	54'46'39.459"	17'54'47.946"
194	768763.7	430127.7	54'46'39.382"	17'54'48.096"
195	768761.1	430130.1	54'46'39.300"	17'54'48.236"
196	768758.3	430132.4	54'46'39.212"	17'54'48.366"
197	768755.4	430134.5	54°46'39.119"	17'54'48.486"
198	768752.4	430136.4	54'46'39.022"	17'54'48.595"
199	768749.3	430138.1	54'46'38.921"	17'54'48.693"
200	768746.0	430139.6	54'46'38.817"	17'54'48.779"
201	768684.6	430165.3	54'46'36.843"	17'54'50.270"
202	768704.7	429964.4	54'46'37.392"	17'54'39.006"
203	769142.5	429792.0	54'46'51.470"	17'54'28.977"
204	769148.2	429790.0	54°46'51.653"	17'54'28.857"
205	769154.0	429788.3	54'46'51.840"	17'54'28.758"
206	769159.9	429787.0	54'46'52.031"	17'54'28.679"
207	769165.9	429786.0	54'46'52.224"	17'54'28.621"
208	769171.9	429785.4	54 "46'52.419"	17'54'28.583"
209	769177.9	429785.2	54'46'52.614"	17'54'28.567"
210	769184.0	429785.4	54'46'52.810"	17'54'28.571"
211	769190.0	429786.0	54'46'53.005"	17'54'28.597"
212	769196.0	429786.9	54'46'53.199"	17'54'28.643"
213	769242.1	429795.5	54'46'54.697"	17'54'29.086"
214	769511.6	429845.7	54'47'03.441"	17'54'31.659"
215	769517.9	429846.6	54'47'03.646"	17'54'31.708"
216	769524.3	429847.2	54'47'03.852"	17'54'31.732"
217	769530.7	429847.3	54'47'04.058"	17'54'31.731"
218	769537.0	429846.9	54'47'04.264"	17'54'31.707"
219	769543.4	429846.1	54'47'04.469"	17'54'31.658"
220	769549.6	429844.9	54'47'04.671"	17'54'31.585"
221	769555.8	429843.3	54'47'04.870"	17'54'31.489"
222	769561.9	429841.3	54'47'05.064"	17'54'31.369"
223	769567.7	429838.8	54'47'05.254"	17'54'31.227"
224	771390.2	429009.1	54'48'03.799"	17'53'43.169"
225	771395.9	429006.3	54'48'03.984"	17'53'43.004"
226	771401.4	429003.0	54'48'04.161"	17'53'42.817"
227	771406.8	428999.4	54'48'04.331"	17'53'42.610"
228	771411.8	428995.4	54'48'04.492"	17'53'42.383"
229	771416.6	428991.1	54'48'04.644"	17'53'42.138"
230	771421.0	428986.5	54'48'04.786"	17'53'41.875"
231	771425.2	428981.6	54'48'04.918"	17'53'41.596"
232	771459.0	428938.4	54'48'05.992"	17'53'39.147"
233	771459.4	428938.0	54'48'06.003"	17'53'39.122"
Customer substation construction area				
1	768711.3	430296.9	54'46'37.771"	17'54'57.616"
2	768740.3	430046.3	54'46'38.584"	17'54'43.563"
3	768347.9	430210.5	54'46'25.971"	17'54'53.091"
4	768432.7	430413.5	54'46'28.815"	17'54'04.381"
Construction area for the overhead line to the PSE substation				
1	768375.8	430178.4	54'46'26.857"	17'54'51.273"
2	768490.7	430186.2	54'46'30.580"	17'54'51.608"

Point No.	Coordinate system			
	Cartesian planar PL-1992 [m]		Geodetic GRS80H [DD°MM'SS.SSS"]	
	x	y	φ	λ
3	768536.3	430295.0	54'46'32.107"	17'54'57.659"
4	768383.8	430291.9	54'46'27.174"	17'54'57.615"
5	768275.8	430323.5	54'46'23.695"	17'54'59.478"
6	768221.2	430193.0	54°46'21.864"	17°54'52.224"

In the onshore and offshore part, the project will be implemented on plots in the Choczewo municipality in accordance with Table No. 3.

Tab. 3: The onshore and offshore area of the project – a list of plots on which the project will be implemented.

No.	Plot No.	Cadastral district	Municipality
1	375*	0016 Kierzkowo	Choczewo
2	3/7	0016 Kierzkowo	Choczewo
3	3/6	0016 Kierzkowo	Choczewo
4	17/133	0016 Kierzkowo	Choczewo
5	17/134	0016 Kierzkowo	Choczewo
6	17/136	0016 Kierzkowo	Choczewo
7	303/3	0016 Kierzkowo	Choczewo
8	311	0016 Kierzkowo	Choczewo
9	312	0016 Kierzkowo	Choczewo
10	316	0016 Kierzkowo	Choczewo
11	318	0016 Kierzkowo	Choczewo
12	322	3016 Kierzkowo	Choczewo
13	324	0016 Kierzkowo	Choczewo
14	325	0016 Kierzkowo	Choczewo
15	326	0016 Kierzkowo	Choczewo
16	327	0016 Kierzkowo	Choczewo
17	335	0016 Kierzkowo	Choczewo
18	336	0016 Kierzkowo	Choczewo
19	349	0016 Kierzkowo	Choczewo
20	290	0016 Kierzkowo	Choczewo
21	299	0016 Kierzkowo	Choczewo
22	300	0016 Kierzkowo	Choczewo
23	301	0016 Kierzkowo	Choczewo
24	305	0016 Kierzkowo	Choczewo
25	308	0016 Kierzkowo	Choczewo
26	309	0016 Kierzkowo	Choczewo
27	310	0016 Kierzkowo	Choczewo
28	317	0016 Kierzkowo	Choczewo
29	319	0016 Kierzkowo	Choczewo
30	320	0016 Kierzkowo	Choczewo
31	321	0016 Kierzkowo	Choczewo
32	328	0016 Kierzkowo	Choczewo
33	329	0016 Kierzkowo	Choczewo
34	330	0016 Kierzkowo	Choczewo
35	331	0016 Kierzkowo	Choczewo
36	332/2	0016 Kierzkowo	Choczewo
37	333	0016 Kierzkowo	Choczewo
38	337	0016 Kierzkowo	Choczewo
39	338	0016 Kierzkowo	Choczewo
40	339	0016 Kierzkowo	Choczewo
41	340	0016 Kierzkowo	Choczewo

42	341	0016 Kierzkowo	Choczewo
43	347	0016 Kierzkowo	Choczewo
44	350	0016 Kierzkowo	Choczewo
45	351	0016 Kierzkowo	Choczewo
46	352	0016 Kierzkowo	Choczewo
47	354	0016 Kierzkowo	Choczewo
48	355	0016 Kierzkowo	Choczewo
49	360	0016 Kierzkowo	Choczewo
50	25/5	0016 Kierzkowo	Choczewo
51	21	0016 Kierzkowo	Choczewo

*** internal sea waters**

2) **Relevant conditions of using the area at the stage of implementation and operation or usage of the project, with particular focus on the necessity of protecting outstanding natural values, natural resources and monuments, as well as on reducing nuisance to neighboring areas:**
   1. Felling of trees and shrubs shall be performed in the period from October 16 to the end of February (outside the breeding season of birds and outside the period of existence of breeding colonies and mating groups of bats). It is permissible to cut trees outside this period, provided that ornithological and chiropterological monitoring is provided;
   2. Fencing work on trees that are not subject to felling and are located close to the construction site shall be carried out under the environmental supervision;
   3. Prior to the commencement of construction, the site shall be assessed for any sensitive areas due to the potential presence of amphibians and reptiles. A herpetologist will be a competent person to designate the above areas. The results of the assessment shall be taken into account when securing the construction site against possible animal entry;
   4. Prior to the commencement of construction, amphibian migration sites and areas adjacent to key amphibian sites shall be secured, under herpetological supervision, with protective fences to prevent animals from entering the construction site and access roads;
   5. Daily site surveys shall be ensured for amphibians, reptiles and small mammals; small animals that enter the construction site shall be caught on an ongoing basis and relocated outside the site to an appropriate habitat, relocation shall be carried out under the supervision of a naturalist and, in the case of amphibians, with the use of protective gloves; equipment used for this purpose shall be disinfected; the implementation and execution of the applied solutions shall be monitored by a naturalist during the construction stage;
   6. With the guidance of an ornithologist, sources of strong light directed upwards at night during bird migration periods, i.e. from March 1 to May 31 and from July 31 to November 15, shall be restricted;
   7. The progress of construction works shall be intensified in the period from April to September, when the number of birds in the Baltic Sea area is the lowest;
   8. Cable laying activities shall be properly planned to avoid disturbances to the period of mating, molting and breeding of marine mammal species, mainly seals;
   9. Trenchless technology in the area of the Lubiatowo Dune, i.e. in 160.5 km of the seashore (according to the chainage of the Maritime Office) shall be used in the form of horizontal directional drilling in order to limit interference with the structure, stability and layout of soil habitats or pollution of the adjacent area;
   10. At the stage of implementation of the project in the onshore part, permanent environmental supervision shall be carried out. Supervision shall be carried out by botanical specialists. The

environmental supervision shall include:

a. training for employees to supervise the construction site,
b. protective indications during the performance of the works,
c. inspections of construction sites,
d. supervision over the implementation of the provisions of the decision on environmental conditions in the scope of compliance with the agreed conditions for the implementation of the project and supervision over the implementation under other permits resulting from the Nature Conservation Act, confirmed by entries in the construction site log book;

11. For the duration of the construction, the access road to the cable draw pits – in km from 33+550 to 33+740 of the project route – from the east, shall be fenced off by means of a complete fence, e.g. made of metal sheet before the commencement of the construction, in order to protect natural habitat 2180 – mixed forests and coniferous forests on coastal dunes against potential negative impact of construction works. “Protected habitat. Do not enter” signs shall be placed on the fencing;
12. Power cables should be laid at a depth of up to 3 m below the seabed surface to limit the increase in the sediment temperature. The minimum burial depth shall be determined on the basis of the seabed characteristics, the type of sediments (their thermal conductivity) and the type of power grid (size and type of loads, thermal characteristics). If it is not technically possible to bury the cable, it shall be laid on the seabed surface. Cables laid on the seabed surface shall be protected with permanent artificial structures;
13. During the construction stage, the reporting of the depth of bedding and burial of submarine cable lines shall be carried out. The information shall be submitted to the RDEP Gdańsk in the form of reports, which will include data on: length of the cable line laid, depths of burial in the seabed, sections where the cable lines were laid on the seabed and methods of laying together with justification of the choice of the target method of laying the cable in the seabed or on the seabed.
14. During the construction stage, the site back-up facilities (including vessels) and technical facilities shall be equipped with technical means for the containment, removal or neutralization of oil derivative pollutants; in case of a leakage of oil derivative substances, these shall be removed or neutralized immediately;
15. Leaving uncovered trenches that can become temporary retention tanks for run-off rainwater shall be avoided;
16. Depositing soil from trenches in the path of surface water run-off, which can lead to the washout of pollutants from heaps or accumulation of water and flooding shall be avoided;
17. During the operation stage, substations shall be equipped with technical means for the containment, removal or neutralization of oil derivative pollutants; in case of a leakage of oil derivative substances, these shall be removed or neutralized immediately;
18. Construction materials likely to cause contamination of the groundwater environment with oil derivative substances, as well as equipment and apparatus, shall be stored at the site back-up facilities on hardened and sealed ground;
19. Waste shall be stored selectively in places where machinery is permanently parked and materials are stored in order to protect groundwater and in bins/containers ensuring full isolation from the groundwater environment in conditions protecting against contamination with oil derivative substances, and the influence of weather and access of unauthorized persons and animals, and then handed over for recovery or disposal to an authorized entity;
20. The access routes to the planned infrastructure on land shall first of all be run using existing roads;
21. Onshore construction works, which are a source of noise, shall be carried out only during

daytime (from 6:00 a.m. to 10:00 p.m.), excluding periods of construction, where continuity of works is technologically required (e.g. casting of foundations, concrete works, sea – shore drilling works) and excluding transport of oversize elements necessary for the implementation of the project;

22. Rainwater from the transformer trays shall be discharged to the rainwater drainage system in the area of the switchgear by means of oil derivative substance separators.

3) Requirements regarding environmental protection necessary to be taken into account in the building permit design:

A. Offshore part:

1. A submarine power line shall be designed, taking into account the following parameters:
   - Maximum length of the cable line – 46.8 km;
   - Maximum number of cables – 4 pcs;
   - Maximum width of the service corridor – 20 m;
2. The routing of cable lines from the offshore area to the onshore area shall be designed using the trenchless method – horizontal directional drilling (HDD or HDD Intersect) in the area of 160.5 km of the seashore (according to the chainage of the Maritime Office);

B. Onshore part:

1. An onshore power line with the necessary telecommunication infrastructure (fiber optic cable) shall be designed, taking into account the following parameters:
   - Maximum length of the underground cable line – approx. 6.5 km;
   - Maximum length of the overhead cable line connecting the customer substation with the PSE substation – up to 270 m;
   - Maximum number of cable lines – 12 cables laid in 4 circuits, 3 cables per circuit;
   - Maximum width of the fixed service corridor – 25 m;
   - Maximum width of the temporary auxiliary service corridor – 20 m from the external cable lines;
   - Maximum width of the additional service corridor – 250 m.
2. The power line shall be laid in an open trench with directional drilling/steerable moiling at the intersection with the existing technical infrastructure;
3. Markers, e.g. signal spirals, shall be designed on lightning protection wires in order to limit the extent of bird collisions, not less than 25 m per wire;
4. In the area of the planned OnSs, a (internal) rainwater drainage system equipped with oil derivative substance separators shall be designed;
5. The oil pans, under equipment containing oil, shall be designed with capacities at least 10% larger than the volume of the oils in them;
6. Access roads with a length of approx. 5 km shall be designed.

4) Requirements to counter the effects of industrial accidents:

The planned project does not meet the criteria referred to in the Regulation of the Minister of Development of January 29, 2016 on types and volumes of hazardous substances present in the plant, which decide on classification of a plant as a plant of increased or high risk of major industrial accident *(consolidated text: Journal of Laws of 2016, item 138)*.

5) Position regarding the cross-border environmental impact in relation to the projects with the performed procedure concerning cross-border environmental impact:

In connection with the type and location of the project, the possibility of the planned project impact on the areas located outside Poland is excluded both at the stage of implementation and operation. Therefore, the local authority does not find any premises to carry out the cross-border environmental

impact assessment procedure.

II. The following obligations shall be imposed on the Investor:

1. **Obligations of the applicant related to monitoring of the project environmental impact:**

a) Noise measurements at the boundary of noise-protected areas shall be performed, in particular at observation points (P1 – P5) and at the calculation point on the building facade (E1) indicated in the EIA report. The first series of measurements (background measurement) shall be carried out after the building permit has been granted, but before the start of construction works or after the project has been implemented with the equipment switched off. The second series of measurements shall be carried out up to three months after the construction of the designed facilities and their handover for operation, under full operation conditions, at the same measurement points. These measurements shall be made under conditions as identical as possible to those under which the first series of measurements were made. Control measurements shall be performed for daytime and nighttime.

The results of the aforementioned noise measurements must be submitted to the Regional Director for Environmental Protection, the Pomeranian Voivodship Inspector of Environmental Protection within three months of the measurements being taken.

b) Monitoring of bird mortality shall be performed.

Monitoring shall be carried out in the second and fifth year after handover of the onshore part of the project for operation. Monitoring shall cover the entire route of the 400 kV overhead line, including that passing through the OnS and over the access road to the OnS; observations shall also cover, if feasible, the widest possible area under the 400 kV line included in the scope of the project located in Choczewo substation.

a. Three checks per month shall be carried out between March and April and between September and November and one check each in the other months (due to the rate of disappearance of the bodies, each check shall be carried out on two consecutive days; on each day of the check, the entire area to be monitored shall be surveyed);
b. Checks shall be carried out using a GPS receiver along prescribed routes, 5–10 m apart (depending on the type of vegetation), which will allow the same passage routes to be maintained in subsequent checks and the results to be comparable, the course of the transects in the OnS area shall be agreed with the Investor;
c. Birds shall be recorded by species and if possible by sex and age.

In case of justified change of the methodology, a detailed scope and methodology of the post-development monitoring shall be submitted for acceptance by the RDEP in Gdańsk 8 months prior to the planned commencement of the project operation.
After the second year of monitoring, within 3 months of its completion, reports on completed monitoring shall be submitted to the Regional Director for Environmental Protection in Gdańsk. After the fifth year of monitoring, within 6 months of its completion, reports on completed monitoring shall be submitted to the Regional Director for Environmental Protection in Gdańsk.
The reports shall include results of bird mortality monitoring together with an analysis of conclusions in relation to the environmental impact assessment report and the effectiveness of proposed measures limiting the negative impact on birds.

III. It shall be pointed out that the environmental impact assessment of the project does not indicate the need to conduct an environmental impact assessment as part of the procedure for issuing a building permit.

The local authority does not deem it necessary to reassess the environmental impact of the project in question. The information contained in the environmental impact assessment report is sufficient to determine the conditions for the building permit design.

The above does not preclude a reassessment of the project environmental impact if:

- an authority planning to undertake the project submits an application to the authority competent to issue a decision (referred to in Article 72 section 1 point 1, 10, 14 and 18 of the EIA Act);
- the authority competent to issue the aforementioned decision determines that the application for the decision has been amended in relation to the requirements specified in the decision on environmental conditions.

IV. Pursuant to Article 76 section 1 of the POWF Act and Article 25 section 1 of the PITG Act, this decision has the order of immediate enforceability.

V. The characteristics of the planned project are attached as Appendix No. 1 to this decision.

STATEMENT OF REASONS

On April 1, 2021, the Regional Director for Environmental Protection in Gdańsk received the application of the Investor: Baltic Power Sp. z o.o. represented by Mr. Radosław Opioła (Maritime Institute of the Gdynia Maritime University), ref. No. BP/4/2021 of March 31, 2021 for issuing the decision on environmental conditions for the project named: **"Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm".**

The above-mentioned project, in accordance with Article 3 point 13 of the POWF Act consists of two projects classified as sets of power output equipment which are understood as separate sets of equipment and structures attached to, as well as not permanently attached to the ground, including the seabed, used for power export from the offshore wind farm from the terminals of the high voltage side of the transformer or transformers located in the substation or substations located in the Polish maritime areas to the ownership boundary location specified in the preliminary connection conditions or connection conditions.

Pursuant to Article 3a of the PITG Act, the provisions of the Act shall also apply to projects in the scope of the set of power output equipment within the meaning of the POWF Act, however, the investor in relation to these projects is the generating entity.

Pursuant to Article 14 section 1 of the PITG Act, the decision on environmental conditions for the implementation of the strategic project in the scope of the transmission grid is issued in accordance with the provisions of the EIA Act, taking into account the provisions of this Act.

The above application was accompanied by:

1. Project information sheet (3 copies + CD version);
2. Navigation chart with the route of the project in the offshore part;
3. Excerpts from the land register for the project route in the onshore part;
4. A map presenting topographical and elevation data, prepared in a scale enabling detailed presentation of the route of the boundaries of the area covered by the application and covering the area referred to in Article 74 section 3a, second sentence of the EIA Act;
5. Power of attorney for Mr. Radosław Opioła of March 29, 2021 together with confirmation of

payment of the stamp duty;

6. Proof of payment of stamp duty for issuance of the decision (PLN 205).

The project being the subject of the application is a project implemented on the basis of the Act of July 24, 2015 on the preparation and implementation of strategic projects in the field of transmission grids *(consolidated text: Journal of Laws of 2022, item 273).*

Pursuant to Article 74 section 1 point 5 and section 1a of the EIA Act, it is not required to submit, together with the application for issuing the decision on environmental conditions for the project in question, a map excerpt and extract of the local development plan and extracts end excerpts from the land register. Moreover, the project in question does not belong to the projects for which it is required to attach to the application the cost-benefit analysis referred to in Article 10a section 1 of the Act of April 10, 1997 – Energy Law *(Journal of Laws of 2022, item 1385, as amended)*.

The project covered by the application is qualified in accordance with *§ 3 section 1 point 7, section 1 point 62 and § 3 section 1 point 88* of the Regulation of the Council of Ministers of September 10, 2019 on projects that may significantly impact the environment *(Journal of Laws of 2019, item 1839, as amended)*, as:

- § 3 section 1 point 7, i.e.: "overhead power lines with a rated voltage not smaller than 110 kV, other than those mentioned in § 2 section 1 point 6";
- § 3 section 1 point 62, i.e. "roads with a hard surface with the total length of the project exceeding 1 km other than those mentioned in § 2 section 1 points 31 and 32, or bridge structures within a hard-paved road, excluding the alteration of roads or bridge structures used for servicing substations and located outside the areas covered by the forms of nature conservation referred to in Article 6 section 1 points 1–5, 8 and 9 of the Act of April 16, 2004 on nature conservation";
- § 3 section 1 point 88, i.e.: "change of forest, other land with a dense area of at least 0.10 ha covered with forest vegetation – trees and shrubs and forest ground cover – or idle lands into agricultural land or deforestation aimed at changing the manner of use of the land with an area of at least 1 ha, other than those mentioned in letters a-cf".

Therefore, the implementation of the aforementioned project requires obtaining a decision on environmental conditions.

Pursuant to Article 71 section 2 point 2 of the EIA Act, for planned "projects that may significantly impact the environment" it is required to obtain a decision on environmental conditions.

The project being the subject of the application is a project implemented in the offshore area of the Republic of Poland and onshore. Therefore, pursuant to the wording of Article 75 section 7 of the EIA Act, the authority competent to examine the case in question is the Regional Director for Environmental Protection in Gdańsk.

The parties were notified of the submission of the application and initiation of the procedure by letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.1 of April 14, 2021 and, taking into account the provisions of Article 74 section 3 of the EIA Act – by notification ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.3 of April 14, 2021. The information about the above application was included in the publicly available *Ekoportal* data list *(http://www.ekoportal.pl)* under number 238/2021, kept pursuant to Article 22 of the above-mentioned EIA Act.

Under the provision referred to above and Article 64 sections 1 and 1a of the EIA Act, the obligation to carry out the environmental impact assessment for the planned project that may significantly impact the environment is determined, by way of decision, by the authority competent for issuing decisions on environmental conditions:

- considering jointly the criteria specified in Article 63 section 1 of the EIA Act;
- having received the opinion of: 1) the State Sanitary Inspectorate authority referred to in Article 78, in the case of projects requiring decisions referred to in Article 72 section 1 points 1–3, 10–19 and 21–28 and the resolution referred to in Article 72 section 1b; 2) the director of the maritime office – when the project is implemented in the offshore area, 3) the authority competent for issuing an integrated permit pursuant to the Act of April 27, 2001 – Environmental Protection Law, if the planned project is classified as the plant referred to in Article 201 section 1 of this Act; 4) the authority competent for issuing a water assessment referred to in the provisions of the Act of July 20, 2017 – Water Law.

Pursuant to Article 6 and 6a of the EIA Act, the requirement for approval or providing opinion does not apply if the authority in charge of the procedure is also the approving authority or authority providing the opinion. In this case, the authorities competent to give opinions/approvals are: Director of the Wody Polskie Basin Area Management Authority in Gdańsk, National Water Management Authority Wody Polskie, State Border Sanitary Inspector in Gdynia and Director of the Maritime Office in Gdynia.

In consequence of the foregoing, the local authority, acting pursuant to Article 64 section 1 point 2, Article 6a and Article 78 sections 1 and 4 of the EIA Act, by letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.2 of April 14, 2021, applied to the State Border Sanitary Inspector in Gdynia, Director of the Maritime Office in Gdynia and Director of the Basin Area Management Authority in Gdańsk for issuing an opinion on the necessity to carry out an environmental impact assessment of the planned project.

The Director of the Maritime Office in Gdynia, by letter ref. No. INZ.8103.39.2021 of April 30, 2021 (submitted on May 11, 2021), decided: *"to assess the project covered by the application as the one requiring an environmental impact assessment".* The opinion of the Director of Maritime Office in Gdynia was fully taken into account when determining the scope of the environmental impact assessment report.

Director of the National Water Management Authority Wody Polskie, Basin Area Management Authority in Gdańsk, by letter ref. No. GD.ZZŚ.3.345.249.1.2021.AK of June 25, 2021, called for explanations and supplementation of the submitted Project Information Sheet, which the Investor did in letter ref. No. BLP-CNO-00011 of July 6, 2022.
The Director of the National Water Management Authority Wody Polskie, Basin Area Management in Gdańsk, by letter ref. No. GD.ZZŚ.435.249.2.2021.AK of July 19, 2021 (submitted on July 21, 2021), expressed its opinion that, as quoted: "*does not find it necessary to carry out an environmental impact assessment for the above-mentioned project*". At the same time, in the above-mentioned letter, the assessing authority, in accordance with Article 64 section 3a of the EIA Act, indicated the necessity to specify in the decision on environmental conditions the conditions or requirements referred to in Article 82 section 1 point 1 letter b or c or to impose obligations of the actions referred to in Article 82 section 1 point 2 letter b or c:

1. Avoid leaving uncovered trenches that can become temporary retention tanks for run-off rainwater;
2. Avoid depositing soil from trenches in the path of surface water run-off, which can lead to the washout of pollutants from heaps or accumulation of water and flooding;
3. Use equipment in good technical condition to minimize a risk of failure and potential release of pollutants into the environment;
4. Operate and stop mechanical equipment in a place protected from the possibility of contamination of the soil and groundwater with oil derivative substances;

5. In order to minimize the possibility of damage to equipment and leakages, vehicles and construction equipment should be inspected and maintained on an ongoing basis, and possible repairs of equipment should be carried out outside the construction site in places intended for this purpose;
6. Equip the site back-up facilities with sorbents, mats, bioagents and other agents neutralizing and eliminating possible spills and leakages of oils and oil derivative substances;
7. Neutralize, on an ongoing basis, possible leakages of oil derivative substances with the use of sorbents and remove them; in case of significant soil contamination, ensure efficient collection and removal of pollutants by an authorized entity;
8. Equip the site back-up facilities with a portable sanitary facility in which gray and black water will be collected in a tight holding tank, regularly emptied by an authorized entity;
9. Collect waste selectively in places and bins/containers ensuring full isolation from the groundwater environment in conditions protecting against weather conditions and access of unauthorized persons and animals, and then hand it over for recovery or disposal to an authorized entity;
10. After completion of the project, clean the adjacent area and restore it to the condition enabling its use.

The Regional Director for Environmental Protection did not take into account the following conditions in this decision due to the fact that the issues included therein are regulated in the following regulations:

- points 3 and 5 in Chapter 7 of the Regulation of the Minister of Infrastructure of February 6, 2003 on occupational health and safety during construction works *(Journal of Laws No. 47, item 401)*, concerning requirements for machinery and other technical equipment used during construction works,
- point 8 in the Regulation of the Minister of Labor and Social Policy of September 26, 1997 on general occupational health and safety provisions *(consolidated text: Journal of Laws of 2003, No. 169, item 1650, as amended)*, regulating, among other things, the need to provide sanitary facilities and amenity rooms at the construction site,

- point 10 in Article 57 section 1 point 2 sub-point 2 letter b of the Act of July 7, 1994 – Construction Law *(Journal of Laws 2021, item 2351, as amended).*

The State Border Sanitary Inspector in Gdynia, by letter ref. No. SE.ZNS.80.4910.16.21 of May 4, 2021 (received on May 11, 2021), expressed its opinion that, as quoted: *"does not indicate the need to carry out an environmental impact assessment for the project".*

On May 21 2021, the Regulation of the Council of Ministers of April 14, 2021 *on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000 (Journal of Laws, item 935)* entered into force. In view of the above-mentioned letter ref. No, RDOŚ-Gd-OO.420.16.2021.AJ.6 of May 26, 2021, the local authority called the Investor to comment on the compliance of the project with the provisions of the said plan.

In response, the Investor addressed the aforementioned issue in letter ref. No. BLP-CNO-00008 of June 8, 2021.

Taking into account the conditions indicated in Article 63 section 1 of the EIA Act, the Regional Director for Environmental Protection in Gdańsk, by decision ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.9. of July 22, 2021 *(Ekoportal,* under number 367/2021) identified the need to carry out an environmental impact assessment for the project in question and determined the scope of

the report in accordance with Article 66 of the EIA Act, taking into account the assessment of the impact on Natura 2000 sites pursuant to Article 6.3 of Council Directive 92/43/EEC in the scope of the impact of the project on the subjects of protection of Natura 2000 sites Coastal waters of the Baltic Sea PLB990002, as well as species under legal protection, with particular emphasis on:

a) description of the planned project, in particular: characteristics of the entire project and conditions of land use during the performance of works related to its implementation and operation; main characteristic features of technological processes; expected types and amounts of pollutants resulting from the project implementation;
b) analysis of the impact of the planned process options of the project on individual elements of the environment;
c) environmental characteristics of the project site and the area within the range of its impact, taking into account the species of plants, fungi and animals and their habitats, subject to protection pursuant to the provisions of the Act of April 16, 2004 on nature conservation *(consolidated text, Journal of Laws of 2022, item 916, as amended)*, as well as species and habitats of species included in Annex I to the Directive of the EP and of the Council 2009/147/EC and habitats included in Annex I and species included in Annex II to the Habitats Directive 92/43/EEC, being the subject of protection in the Białogóra PLH220003 and Coastal Waters of the Baltic Sea PLB990002 Natura 2000 sites, including the presentation of issues in graphic and cartographic form;
d) assessment of the direct and indirect impact of the project and technologies used therein on the condition and preservation of, at the stage of its implementation and operation:
- species and their habitats being the subjects of protection in the Białogóra PLH220003 and Coastal Waters of the Baltic Sea PLB990002 Natura 2000 sites;
- natural habitats, habitats of species protected under the above-mentioned Nature Conservation Act, present and likely to be present in the project site and in its vicinity;

e) assessment of the impact of the project (at the stage of its implementation and operation) after the application of all possible measures mitigating the negative impact, including the assessment of significance of impacts for the individual subjects of protection in the above-mentioned Natura 2000 sites, as well as the possibility to implement conservation measures and achieve the protection objectives set out in the plans of conservation measures for these areas;
f) description of the hydrological system of the site covered by the project and within the range of the project impact, including an analysis of the impact of the project on this system;
g) analysis of the cumulated impact of the project along with other planned and implemented projects of similar nature, located in the vicinity, on the individual elements of the environment including the Białogóra PLH220003 and Coastal Waters of the Baltic Sea PLB990002 Natura 2000 sites;
h) presentation of a detailed description of methods and materials used to prepare the environmental impact assessment report;
i) assessment of the impact of the planned project on the Coastal Protected Landscape Area;
j) description of the landscape in which the given project is to be located, taking into account the impact of the project on the significance and reception of the landscape from the lookout points, exposure fields and viewing axes within the impact range;
k) analysis of the impact of the planned project on ecological corridors located within its impact range;
l) analysis of the impact of the planned project on the climate and its change (mitigation of climate change by the project) and the impact of the climate and its change on the project (adaptation of the project to climate change), taking into account the changes in the development of the site covered by the application;
m) analysis of possible social conflicts related to the project implementation – determining whether the option selected for implementation is optimal not only for the Investor, but also for the owners of

neighboring real properties and determining how the Investor is going to counteract social conflicts in relation to the planned project.

Moreover, the environmental impact assessment will take into account the scope indicated by the Director of the Maritime Office in Gdynia, with particular consideration given to:

a) analysis of the impact and functioning of the Baltic Power offshore wind farm grid connection infrastructure on the subjects of protection of the Coastal Waters of the Baltic Sea PLB990002 and the Słupsk Bank PLC990001 Natura 2000 sites;
b) analysis of the impact of the planned works on the coastal zone at the place of cable landfall, including the morphodynamic and lithodynamic processes taking place in the coastal zone and on the condition of the sea shore protection system;
c) determination of the species composition of benthic organisms and the impact of the planned works on benthos at the implementation and operation stages;
d) analysis of the impact of the electromagnetic field on ichthyofauna;
e) analysis of the impact of the project on resources and recruitment of fish important for fishing;
f) analysis of possible collisions with navigation routes and fishing areas;
g) analysis of the cumulative impact of the planned project along with other designed, implemented and existing projects in the vicinity of the project in question, inter alia, offshore wind farms, cables, other infrastructure;
h) proposal of procedure in the case of emergency situations during the project implementation.

The information about the above decision was included in the publicly available *Ekoportal* data list *(http://www.ekoportal.pl)* under number 367/2021, kept pursuant to Article 22 of the above-mentioned EIA Act.

The parties to the procedure were notified of the above with notice ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.10 of July 22, 2021.

Acting pursuant to Article 63 sections 5 and 6 of the EIA Act, the local authority, by virtue of decision ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.12 of September 10, 2021, suspended the procedure until the applicant submitted the environmental impact assessment report. The parties to the procedure were notified of the above with notice ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.13 of September 10, 2021.

On October 25, 2021, the Regional Director for Environmental Protection in Gdańsk received the environmental impact assessment report for the above-mentioned project together with appendices in hard copy and electronic version.

The report was entered in the publicly available Ekoportal list *(www.ekoportal.pl)*, under number 504/2021.

In view of the above, by decision ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.16 of October 27, 2021, the local authority resumed the suspended procedure.

On December 21, 2021, by letter of December 21, 2021, the Investor submitted to the case files the data made available by the Pomeranian Voivodship Conservation Officer (letter ref. No. ZA.5183.1552.2021.SS of December 17, 2021) and updated results of the conducted technical analyses.

Pursuant to Article 62 of the EIA Act, in the process of the project environmental impact assessment, the following shall be determined, analyzed and assessed:

1) the direct and indirect impact of the project on:
   a) the environment and people, including human health and living conditions,
   b) tangible property,
   c) monuments,
   ca) landscape, including cultural landscape,
   d) interaction between the elements referred to in letters a–ca,
   e) availability of mineral deposits,
1a) risk of serious failures as well as natural and construction disasters,
2) possibilities and methods of preventing and reducing the negative impact of the project on the environment,
3) required scope of monitoring.

As part of the assessment of the impact of the project on the Natura 2000 site, the impact of the project on the Natura 2000 sites is determined, analyzed and assessed, also taking into account the cumulative impact of the project with other projects that have been implemented, are being implemented or are being planned.

In accordance with the definition contained in Article 3 section 1 point 8 of the EIA Act, such an assessment includes in particular: 1) verification of the project environmental impact report, 2) obtaining opinions and agreements required by law, 3) ensuring the possibility of public participation in the procedure. The above activities are the main determinants for the submission of evidence in this case.

Pursuant to Article 77 section 1 points 2 and 4 of the EIA Act, the approval is not required unless the authorities have previously expressed their opinion that there is no need to carry out an environmental impact assessment. In view of the above, by virtue of letter ref. No.: RDOŚ-Gd-WOO.420.16.2021.AJ.17 of October 27, 2021, the local authority applied to the Director of the Maritime Office in Gdynia for approval of the implementation conditions of the project in question.

The parties to the procedure were notified about the initiation of the suspended procedure and the request to the Director of the Maritime Office in Gdynia with notice ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.18 of October 27, 2021.

By letter ref. No. INZ.8103.39.2021.AD of December 13, 2021, the Director of the Maritime Office in Gdynia called for additional explanations and supplements to the EIA report, which the Investor did in the letter of January 31, 2022, ref. No. BLP-RDO-LTR-00004.

The Director of the Maritime Office in Gdynia, by virtue of decision ref. No. INZ.8103.39.3.2021.AD of March 7, 2022, agreed on the conditions of implementation of the project in question.

I. General conditions for all stages of the project implementation:
   1. All works shall be carried out in accordance with the prohibitions and restrictions laid down in the Regulation of the Council of Ministers of April 14, 2021 on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000 *(Journal of Laws of 2021, item 935)*, in particular in accordance with the detailed decisions constituting Appendix No. 2 to the Regulation or its amendment;
   2. The Project shall be implemented and operated in a manner that does not pose a threat to people, the environment and safety of navigation, in accordance with the applicable provisions of law;

3. The project shall be implemented in such a manner as to exclude the possibility of any pollutants entering the water environment. For this purpose, it is necessary to:
   a) if the marine environment is contaminated with solid and liquid waste, immediately and continuously remove the waste from the water surface,
   b) in the case of spillage of oil and oil derivative products during the works being performed, remove the pollutants from the water surface on an ongoing basis using mechanical methods of their collection, whereas in the case of using means other than mechanical, removal of pollutants from the sea water surface is possible only after obtaining each time the consent of the competent director of the maritime office in accordance with the provisions of § 6 section 1 of the Regulation of the Council of Ministers of August 8, 2017 on the organization and manner of combating hazards and pollution at sea *(Journal of Laws of 2017, item 1631),*
   c) equipment and machinery used in the project should be inspected and serviced regularly. The type of protective coatings on older vessels used in operations in the project area should also be inspected to minimize the release of, inter alia, TBT to sea waters;

4. The vessels, which will be used to implement the project, should have up-to-date documents required by the relevant regulations and meet all requirements in terms of navigation safety and environmental protection;
5. Transport of construction components and materials, which takes place in waters administered by the Director of the Maritime Office in Gdynia, are to be performed in conditions ensuring the safety of the transported components and materials, in accordance with the applicable regulations on the safety of shipping and technical requirements;
6. Appropriate handling and notification procedures and preventive measures should be developed and implemented with regard to possible finding of unexploded ordnance and combat toxic agents in the planned cable corridor;
7. Plans should be developed to address hazards and pollution arising during the construction and operation of the project;
8. Rescue plans and training for crews and personnel should be developed, including the rules for updating and verification by regular exercises, in particular establishing the procedures for the use of own rescue units as well as external units;
9. In case of finding an item that has not been located yet, which may be recognized as a heritage asset, actions shall be taken in accordance with the provisions of the Act of July 23, 2003 on the protection and care of historical monuments *(Journal of Laws of 2021, item 710, as amended)*, including:
   - suspension of all works that may damage or destruct the discovered item;
   - protection, as far as possible, of the item and place of its discovery using the available measures;
   - immediate notification of the competent director of the maritime office about the discovery of an item located in the Polish maritime areas.

II. Detailed conditions:

A. Requirements regarding environmental protection necessary to be taken into account in the building permit design:

1. A trenchless method should be used for the purpose of landfall of cables, taking into account the need to protect the dune system and the dynamic conditions of the coastal zone;
2. The cable lines should be laid under the seabed surface, and if this is not possible due to environmental or technological reasons, other permanent protection ensuring navigation safety should be used. In the water region POM.46.E designated by the Regulation of the Council of

Ministers of April 14, 2021 on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000, other protection permanently allowing a safe use of set anchored gillnets should be used;

3. In the water region POM.40a.C designated by the Regulation of the Council of Ministers of April 14, 2021 on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000, cable lines should be laid at least 3 meters below the average depression in the bottom of sandbars, perpendicular to the coast if possible.

B. At the stage of project implementation:

1. The least environmentally burdensome technology for the construction of marine cable lines should be used to ensure the fastest cable line laying with the minimum number of vessels simultaneously operating in the construction area;
2. In order to minimize the risk of bird collisions, night lighting during the construction of the Baltic Power OWF Grid Connection Infrastructure should be minimized to the level resulting from the applicable regulations and safety standards;
3. The pace of works should be intensified from April to September to take advantage of the period of reduced seabird presence in the water region;
4. Cable laying activities should be properly planned to avoid the period of mating, moulting and breeding of marine mammal species, mainly seals;
5. Construction works should be organized taking into account the requirements for safety of maritime traffic, undisturbed navigation and minimization of the risk of collision with other vessels by, inter alia:
   - obtaining consent from the Director of the Maritime Office in Gdynia to establish temporary prohibited (or safety) zones around vessels engaged in cable laying and to introduce navigation restrictions in the area concerned. The consent should be obtained sufficiently in advance to publish information in Wiadomości Żeglarskie (Notices to Mariners) prior to commencement of works,
   - in the course of cable laying and burying, due to the works in the area of the Słupsk Bank TSS, the Investor should introduce a system of local information for other sea users on the works in progress and the exact current position of vessels engaged in the works. Additionally, the permanent navigational supervision shall be provided by the vessel in the immediate vicinity of the vessels engaged in the cable laying. The navigational supervision consists in coordinating the traffic of vessels engaged in the works, observing and warning other vessels not associated with the works, performing rescue functions,
   - carrying out a risk analysis and determining boundary conditions (wind strength, state of the sea, visibility) to safely conduct a cable laying operation. The same applies to risk analysis for the entire operation, underwater works, including diving, as well as specialized vessels, service vessels plus anchor positioning and dynamic positioning systems,
   - establishing a system of effective communication between the construction supervision center and the coordinator of offshore works and services responsible for navigation safety (navigation supervision services, Słupsk Bank VTS) and prevention of hazards and pollution of the marine environment (Maritime Search and Rescue Service (MSPiR)) in order to quickly respond to emergency situations,
   - implementing action plans in case of collisions and leaks,
   - informing the Director of the Maritime Office and the Hydrographic Office of the Polish Navy about the status of works, cable laying in the OWF area and between the OWF and the coast, the vessels used, the route and the time frame.

The Regional Director for Environmental Protection did not take into account the following conditions in

this decision due to the fact that the issues included therein are regulated in the following regulations:

- point I.1., points II.A.2, II.A.3. in the Regulation of the Council of Ministers of April 14, 2021 on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000 (Journal of Laws of 2021, item 935), in particular in accordance in the detailed decisions that constitute Appendix No. 2 to the Regulation or its amendment;
- point 1.2. in the Regulation of the Minister of Labor and Social Policy of September 26, 1997 on general occupational health and safety provisions (Journal of Laws of 2003, No. 169, item 1650, as amended) and in the Act of August 18, 2011 on maritime safety (Journal of Laws of 2022, item 515, as amended);
- points I.3.a) and b) in § 6 sections 2 and 5 of the Regulation of the Council of Ministers of August 8, 2017 on the organization and manner of combating hazards and pollution at sea (Journal of Laws of 2017, item 1631);
- points I.3.c), I.4. in Chapter 7 of the Regulation of the Minister of Infrastructure of February 6, 2003 on occupational health and safety during construction works (Journal of Laws No. 47, item 401) concerning requirements for machines and other technical equipment used during construction works, Act of August 18, 2011 on maritime safety (Journal of Laws of 2011, No. 228, item 1368, as amended) and Act of March 16, 1995 on the prevention of marine pollution from ships (Journal of Laws of 1995, No. 47, item 243, as amended);
- point I.5. in the Act of August 18, 2011 on maritime safety (Journal of Laws of 2022, item 515, as amended) and the Act of March 16, 1995 on the prevention of marine pollution from ships (Journal of Laws of 1995, No. 47, item 243, as amended);
- point I.6. in the Act of June 13, 2019 on conducting business activity in the field of manufacturing and trading of explosives, weapons, ammunition and products and technology intended for military or police use (Journal of Laws of 2022, item 268, as amended), regulating the manner of handling the explosives found, in the Regulation of the Minister of Infrastructure of December 15, 2021 on the rescue plan and the plan for combating hazards and pollution for an offshore wind farm and a set of equipment (Journal of Laws of 2021, item 2391) and the Regulation of the Council of Ministers of August 8, 2017 on the organization and manner of combating hazards and pollution at sea (Journal of Laws of 2017, item 1631);
- point I.7., I.8. in the Regulation of the Minister of Infrastructure of December 15, 2021 on the rescue plan and the plan for combating hazards and pollution for an offshore wind farm and a set of equipment (Journal of Laws, item 2391, as amended), defining the detailed scopes of the rescue plan and the plan for combating hazards and pollution for an offshore wind farm and a set of equipment;
- point I.9. in Article 32 of the Act of July 23, 2003 on the protection and care of historical monuments (Journal of Laws of 2022, item 840, as amended), referring to the duties of the discoverer of the monument;
- point II.B.5 in the Act of August 18, 2011 on maritime safety *(Journal of Laws of 2022, item 515, as amended)*.

The condition in point II sub-point 2 letter d was specified by the Regional Director for Environmental Protection in accordance with the decision of the Director of the Maritime Office in Gdynia of August 31, 2022, ref. No. INZ.8103.39.4.2021.2022.AC. In the above-mentioned decision, the Director of the Maritime Office explained that its intention is not, quote: *"exclusion of the execution of any works related to cable laying during the period of mating, molting and reproduction of marine mammals, mainly seals, but such planning of cable laying activities as to avoid disturbing the period of mating, molting and reproduction of species of marine mammals, mainly seals".*

The Regional Director for Environmental Protection claims that the condition included in point II.B.1. was met by imposing the condition of monitoring the depth of laying on the seabed and burial of submarine cable lines in the seabed. The EIA report indicates several methods for laying cable lines with different laying rates, each of which was analyzed in terms of environmental impact.

Pursuant to Article 33 section 1 points 1, 3, 4, 5, 6, 7, 8 of the EIA Act, before issuing and amending decisions requiring public participation, the authority competent to issue the decision shall, without undue delay, make public information on: commencing the environmental impact assessment of the project, the subject of the decision to be issued in the case, the authority competent to issue the decision and the authorities competent to issue the opinion and make arrangements, the possibilities of becoming familiar with the necessary documentation of the case and the place where it is available for review, the possibility of submitting comments and applications, the manner and place of submitting comments and applications, indicating at the same time a 30-day deadline for their submission, the authority competent to consider comments and applications.

Pursuant to Article 79 section 1 of the EIA Act, prior to issuing the decision on environmental conditions, the authority competent to issue this decision ensures the possibility for the public to participate in the procedure under which the project environmental impact assessment is to be conducted.

In view of the above provisions, the Regional Director for Environmental Protection in Gdańsk, by means of announcement ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.22 of March 18, 2022, published the information referred to in Article 33 section 1 points 1.3, 4, 5, 6, 7 and 8 of the EIA Act, including, i.a., information on the commencement of the environmental impact assessment and on the possibility of becoming familiar with the necessary documentation of the case (including the submitted EIA report and its appendices, supplements to the application and explanations of the Investor) by all the parties concerned at the registered office of the authority or on the website indicated within 30 days – from March 22, 2022 to April 21, 2022.

The above-mentioned announcement was published on the website of the authority (www.rdos.gdansk.gov.pl) and on the notice board in the registered office of the authority, as well as at the request of the authority in the Choczewo Municipal Office.
No comments or requests were received in the course of the procedure involving public participation within the set time limit.

With the application of May 28, 2022, GRAND AGRO Foundation for Environmental Protection requested the Regional Director for Environmental Protection in Gdańsk, in accordance with Article 44 section 1 of the EIA Act and Article 31 § 1 point 2 of the CAP to be admitted as a party to the administrative procedure in question. The local authority recognized GRAND AGRO Foundation for Environmental Protection as an environmental organization with the right to participate in the procedure as a party.

On June 21, 2022 with letter ref. No. BLP-RDO-LTR-00009 of June 20, 2022, the Investor submitted explanations of the provisions included in the EIA report concerning the cross-border impact.

On June 24, 2022 with letter ref. No. BLP-RDO-LTR-00010 of June 24, 2022, the Investor submitted explanations of the provisions included in the EIA report, referring to the possibility of temperature increase in bottom sediments during the operation of power cables.

On July 11, 2022, the local authority received a letter from the Choczewo Forest District, ref. No. ZZ.2215.3.2022. The comments raised in the above-mentioned letter concerned, among others:

- selection of the option to be implemented,
- no possibility of forest management in the area occupied by cable trays laid using the open-cut method,
- activation of processes of displacement of dune sands by destruction of vegetation during excavation works,
- increasing soil temperature.

The comments were submitted to the Investor in letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.31 of July 11, 2022.

On July 21, 2022, the local authority received the Investor's letter in which it referred to the comments indicated in the above letter of the Choczewo Forest District Manager.
Having analyzed the reply submitted by the Investor on July 21, 2022 and the documentation collected earlier, including the EIA report, the local authority states that the issues raised in the above-mentioned letter of the Choczewo Forest District Manager were discussed in detail in the EIA report.
Pursuant to Article 66 section 1 point 5 of the EIA Act, the EIA report included a description of the option planned for implementation and a reasonable alternative option. In the case in question, a comprehensive analysis of the options presented by the applicants was carried out. The analyses clearly indicate that the presented options (OPA and RAO) are feasible and do not violate the applicable provisions of law.

The route option proposed by the Investor was developed in a multilateral consensus. The route of the cable tray and the technology used (directional drilling and open-cut trench), referred to in the opinion of the Choczewo Forest District, were developed in accordance with the arrangements made with this Forest District on March 1, 2021 (in accordance with the information contained in the Investor's letter of July 21, 2022 and the minutes of March 1, 2022 attached thereto). Representatives of Baltic Power, PGE Baltica and Ocean Wind participated in the meeting with the Forest District. At the stage of selecting the place for the passage of power output cables from offshore wind farms through the coastal zone (hereinafter referred to as: export cables), the planned offshore wind farm projects were taken into account, creating appropriate reserves for entities which have not yet actively participated in the works and which were to potentially join the planned Choczewo substation. Baltic Power sp. z o.o., while performing further works and describing the project as part of the EIA Report for the Grid Connection Infrastructure of the Baltic Power OWF, did not in any way change the arrangements made with the Choczewo Forest District and planned the cable route and technologies as previously agreed.

Electricity transmission by means of high voltage cable power lines naturally involves the presence of thermal impact in their immediate vicinity. As part of the environmental impact assessment procedure for the Project in question, calculations of thermal impacts from underground cable lines were carried out, among others. Thermal impact modeling was carried out taking into account the least environmentally friendly option, i.e. without filling the controlled part of the cable trench, e.g. in the form of bentonite. Moreover, the thermal impact analysis was carried out assuming the maximum generation of all offshore wind turbines at the same time, which in practice occurs only periodically, with the occurrence of optimum wind conditions.

According to the presented results of the analyses of heat emission by the planned power cables, the impact on surface formations resulting from heat emission into the ground was assessed as

insignificant and on soils as moderate. According to the analysis conducted, at a distance of more than 10 m from the extreme cable lines, the thermal impact will be at the level of several degrees above the assumed soil temperature, which may result in soil drying in this region.

The issue of activation of eolian processes as a result of removal of the vegetation cover was the subject of analyses carried out during preparation of the environmental documentation. The movement of sands may be activated wherever the sandy soil is deprived of the vegetation cover. To start the wind erosion process, it is sufficient to expose a small piece of soil, which always occurs with even small felling sites. To prevent this phenomenon, forest services use mechanical stabilization of sands by covering their surface with branchwood, branches of felled trees or, less frequently, by building small fences or spreading straw. As observed, during the annual survey of abiotic and biotic resources of the Baltic Power OWF grid connection infrastructure survey area in the Choczewo Forest District, the biological stabilization of sand by sowing large-leaved lupine or planting open felling sites with grass seedlings or even seedlings of willows or mountain pine was abandoned. Such plantings not only introduce alien species to forest communities, but also often species considered invasive.

As part of the EIA report, the assessment of the potential impact of the planned construction and operation of the electricity transmission infrastructure connecting the Baltic Power OWF with the National Power System on the geological and geomorphological conditions of the area of the Lubiatowo Dune showed that the implementation of the planned project, in the Option proposed by the Applicant, will have a minimum impact on the change of the geomorphological nature of the area and will be limited only to the area of cable draw pits. In the area of the Lubiatowo Dune, it is planned to use directional drilling with a length of approx. 800 m, which excludes the risk of disturbance of surface formations and minimizes the risk of pollution infiltration. The significance of the impact resulting from the execution of the trench at the sections planned to be crossed using the directional drilling method was considered negligible. The project will not significantly disturb contemporary geomorphological processes in this area. Only in the sections of eolian sands located outside the Lubiatowo Dune, planned to be crossed with an open-cut trench, was assessed as moderate (approx. 300 m of eolian dune sands in total). It should be emphasized that the possible impact of the project on geomorphological and geological conditions concerns mainly the construction phase. If appropriate procedures are maintained during this phase, the impact on geomorphological and geological conditions will be minimum. During the operation phase, no intensification of geomorphological processes resulting from the presence of project elements is expected, unless negligence occurs in relation to the activities carried out as part of the operation of the system. Moreover, as part of the planned project, in the sections of the line route carried out with the open-cut method, directly near the extreme circuit of the cable line, paved service roads will be routed, which will significantly stabilize the soil and limit the areas where the sand could be activated.

In the opinion of the Forest District, it was indicated that: "(...) *due to the impact of abiotic and biotic factors, the planned project will have a negative impact on neighboring tree stands. Exposing the forest wall over a significant length and thus changing the light, thermal and humidity conditions will be dangerous. Some of the trees forming the existing tree stand will grow in modified environmental conditions, very different from the existing ones, the life and health of the trees will be weakened and the susceptibility to strong winds will be increased*.Exposing the forest wall over a significant length, referred to above, occurs each time when the trees are felled, moreover, it occurs at the natural boundary of forest areas, creating the so called treelines or forest edges, i.e. ecotone zones, often characterized by a multi-layer structure, high species richness and a diversified zoned system of plant strips. In the treelines and forest edges, there are mainly shrubs which have significantly better light conditions in the forest buffer zone than in the interior of the forest. The treelines and forest edges play an important role in shaping the climate inside the forest. They constitute a direct barrier to wind and prevent the mixing of cold and warm air from the inside of the forest and the open area. They also

provide shelter and a food base for many animal species. In view of the above, exposing the forest wall will not be a clearly negative process due to the formation of ecotone zones. Reducing the forest area is not a desirable process, but is necessary for many linear infrastructure projects. Due to process reasons, after completion of the trench, the area of the fixed service corridor with a width of 25 m will remain permanently deforested.

To sum up, the collected evidence, including the EIA report, indicates the legitimacy of the proposed and applied open-cut methods from the exit of cable lines from the offshore-onshore drilling towards onshore substations. The method of project implementation planned by the investor complies with the provisions of law and will not have a significant negative impact on the environment.

The Investor's reply was submitted by letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.32 of July 25, 2022 to the Choczewo Forest District.

On July 22, 2022, the Investor submitted a letter to the local authority, indicating that the scope of the project includes plots No. 25/5 and 21, Kierzkowo cadastral district, which was taken into account in the environmental impact assessment and presented in the EIA report and appendices to the application for issuing the environmental decision. At the same time, the Investor indicated a typographical error in the EIA report. Plot 25/3 was indicated as the plot on which the project will be implemented. The correct plot number is 25/5.

When assessing all the evidence gathered in this case, the Regional Director for Environmental Protection in Gdańsk determined as follows:

The planned project consists in the construction and operation of electricity transmission lines together with the customer substation and accompanying infrastructure. The objective of the project is to output power produced by the Baltic Power Offshore Wind Farm to the National Power System.
In accordance with § 54 and 55 of the Regulation of the Council of Ministers of April 14, 2021 on the adoption of the spatial development plan for internal sea waters, the territorial sea and the exclusive economic zone at a scale of 1:200,000 *(Journal of Laws, item 935)*, the project area is located in the following water regions and water sub-regions:

1) water region POM.46.E;
2) water region POM.16.Pw, including:
   a. water sub-region 16.201.1;
3) water region POM.34.T, including:

   a. water sub-region 34.926.B;
4) water region POM.54.T, including:
   a. water sub-region 54.926.B,
   b. water sub-region 54.201.1;
5) water region POM.41a.P, including:
   a. water sub-region 41a.201.l,
   b. water sub-region 41 a.926.B;
6) water region POM.40a.C, including:
   a. water sub-region 40a.201.l,
   b. water sub-region 40a.712.R,

indicated in the plan adopted.
In accordance with § 1 section 3 point 5 of Appendix No. 1 to Spatial Development Plan for the Polish Maritime Areas (PZPPOM), entitled “General arrangements”, the planned project is classified as “technical infrastructure”, i.e. *“function: technical infrastructure – shall mean: a) possibility of location of telecommunication cables, substation infrastructure and laying and maintenance of power cables,*

including internal and external grid connection infrastructure of offshore wind farms, (...)". In the above mentioned water regions and water sub-regions, the provisions of the plan allow for laying and operation of linear technical infrastructure.

The project will consist of the following elements:

- EHV power cable lines located in the offshore area within the boundaries of the Exclusive Economic Zone, territorial sea and internal sea waters;
- crossing the coastline in the area of 160.5 km of the seashore (according to the chainage of the Maritime Office) using the trenchless method;
- cable draw pits located onshore, in which offshore and onshore cable lines will be connected;
- EHV power cable lines, located in the onshore area in the Choczewo municipality (Wejherowo district, Pomorskie voivodship) together with necessary accompanying infrastructure (fiber optic cables, cable joints, cable terminals);
- customer substation;
- 400 kV overhead power line connecting the customer substation with the PSE substation;
- access roads.

The starting point of the planned project (km 0+0) will be transformers on not more than three export platforms located at a maximum distance of approx. 30 km to the shore.
The interface between the offshore part and the onshore part, i.e. the cable line landfall, is represented by plots No. 3/7 and 3/6, Kierzkowo cadastral district, Choczewo municipality (Wejherowo district, Pomorskie voivodship) (km 33+400). The corridor in which the BP OWF GCI from the offshore part enters the onshore area will be located in the vicinity of 160.5 km of the seashore (according to the chainage of the Maritime Office). Pursuant to the Act of March 21, 1991 on maritime areas of the Republic of Poland and maritime administration *(Journal of Laws of 1991, No. 32, item 131, as amended)*, the planned project will be implemented within the boundaries of the waterside strip. The route of the underground cable line will run through forests managed by the Regional Directorate of State Forests (RDLP) in Gdańsk within the boundaries of the Choczewo Forest District.
The final part of the BP OWF GCI will be the connection to the customer substation with an input voltage of 220 kV or 275 kV and an output voltage of 400 kV (km 40+0). The substation to be designed is located on plot No. 17/134, Kierzkowo cadastral district, Choczewo municipality. The customer substation will be connected to the PSE substation by means of an overhead 400 kV line. The terminal point of the planned project is the feeder clamps at the PSE substation (km 41+0).

Cable lines in the offshore area.
Electricity will be output from the Baltic Power OWF by up to four submarine EHV power cables operating in the alternating current technology with an operating voltage of 220 kV or 275 kV. Three-core power cables with a circular cross-section will be used with the necessary telecommunication infrastructure to enable communication with the Baltic Power OWF infrastructure.
A typical EHV submarine power cable consists of three conductors, properly insulated and screened, reinforced with steel wires and plastics, covered with a durable plastic sheath. A fiber optic cable is placed inside of the cable to measure the cable temperature and to communicate with the wind farm infrastructure. The most common insulating material used in extra high voltage power cables (up to 500 kV) is cross-linked polyethylene (XLPE), which has a high main conductor temperature of up to 90°C.
It is planned to construct up to 4 submarine cables to output electricity from the Baltic Power OWF to the shore. Each line will consist of one three-core submarine cable. From up to 3 substations located in the Baltic Power OWF area, up to 4 export offshore power cables will be routed. In the OWF area, the cable corridors will be routed at a distance of approximately 1.45 km from each other. Outside the OWF boundary, up to the depth of approx. 22 m, measured from the water table to the seabed, the cable lines

will be laid at a distance of approx. 200 m from each other. Then, after breaking the route, the cables will be routed towards each other to the distance of approx. 100 m, up to the isobath of approx. 13 m. At the section from substations to the isobath of approx. 13 m, the cables are planned to be buried in the bottom sediment at the depth of up to 4 m. An exception may be the seabed areas with a compact bottom sediment structure or covered with a large number of boulders (stony areas), which will prevent burying of cables at the sections crossing such areas. In this situation, the cables will be laid on the seabed surface and properly protected against damage.

Technologies for cable laying in the seabed.
The burial of the power cable in the seabed can be performed using two basic technologies:

- SLB *(Simultaneous Lay and Burial)* – simultaneous laying and burying of the cable in the bottom sediment;
- PLB *(Post Lay Burial)* – burying the cable after it has been laid on the seabed.

In SLB technology, only one vessel is typically used to lay the cable line – the cable lay vessel (CLV). The equipment (usually cable plough) pulled by a vessel will bury the cable in the seabed, without the necessity of prior excavation and subsequent burial of the cable in it. The rate of cable laying depends mainly on weather conditions and seabed characteristics. It ranges from about 1 km to a maximum of 9 km per day.

PLB technology requires the use of at least two vessels to lay the cable. One is a CLV or towed barge that lays the cable on the seabed. The second vessel is usually a service vessel or another multi-purpose vessel equipped with a device for burying the cable laid earlier on the seabed in the seabed sediment.
The first method requires a sufficiently long period of favorable weather conditions, which makes it possible to construct the entire cable line without interruptions, which are not recommended for this technology; in the second method, it is possible to separate the process of cable line construction, which is beneficial, e.g. in case of short periods with favorable weather conditions.
In addition, other vessels not directly involved in the process related to the laying of power cables may participate in offshore operations, such as: patrol, service (SOV), support (W2W) vessels and hotel vessels where persons involved in the construction phase may be accommodated.

The choice of cable line construction technology, resulting from the seabed type, determines the equipment types used to lay cables in the seabed. In the SLB technology, the most commonly used device is cable plough, which makes it possible to simultaneously lay and bury the cable in the bottom sediment.
Laying the cable with a plough is the most common method of laying export cables due to the economics of this method (one operating vessel, relatively short laying time) and the possibility of its use in a wide range of bottom sediment types – from sands to loose loams. Some ploughs are equipped with additional accessories, the purpose of which is to loosen the substrate structure and thus facilitate cable burial.
Other equipment often used in the construction of offshore cable lines are vehicles moving on the seabed with equipment enabling pumping of sea water under pressure (water jetting) into the sediment to the required depth. Water pumped under pressure into the sediment causes short-term fluidization of cohesive sediments, i.e. fine-grained sand and clays. A cable lying on the surface of the fluidized sediment collapses in it under its own weight and is automatically buried. For this reason, this equipment is most often used to bury a cable lying on the seabed and not to create a trench in which the cable will be laid later.
Earlier excavation in soft sediments is very rarely performed using high-performance mass flow

excavators (MFEs). The use of MFEs causes significant amounts of bottom sediment to be agitated into the water column, which leads to periodic strong turbidity of water and sediment re-sedimentation in a large area of the seabed. These effects are most often unfavorable for the environment, so the use of MFEs for cable trenching is occasional.

If the seabed is made up of compact clays or rocks, self-propelled equipment with e.g. cutting wheels or chains (ROV mechanical trencher) is used to make the cable trench. This equipment is most often used to make a trench before a cable is laid, less frequently during its laying, due to the high risk of its damage.

The selection of the appropriate cable line construction technology and equipment depends mainly on:

- technical parameters of the cable to be laid;
- complexity of the cable line route;
- seabed type and depth;
- cable burial depth;
- natural or anthropogenic obstacles located along the cable line route;
- availability of appropriate vessels for cable line construction;
- other logistics conditions;
- economic conditions.

Routing cable lines from the offshore area to the onshore area.

Cables will be routed from the sea to the shore using the HDD trenchless method (making it possible for the cable line to be routed under obstacles, starting from the ground level, so that it does not require deep trenches) or HDD Intersect (which assumes execution of the pilot drilling from two ends of the section). Each of the up to 4 submarine cables will be routed through separate drilling, which will be performed from the land side or in exceptional cases from both the land and sea sides. Boreholes on land will be located at a distance of up to 210 m from the coastline and at a distance of approx. 20 m from each other. Each of up to 4 trenches will be up to 1.5 km long. Cable landfall locations in the offshore area will be located outside the coastal zone at a depth of approx. 13 m measured from the water table to the seabed. The distance between the bottom drilling exits will be approx. 100 m. The maximum depth of drilling will be approx. 50 m BGL.
After construction and protection of the excavations, the offshore cables will be routed to the shore and connected to onshore cable lines and fiber optic cables in cable draw pits. Cable draw pits are rectangular structures with a side length of a maximum of several meters at a depth of approx. 2 m. The operation of cable draw pits is caused by the necessity to adapt the structural parameters of the offshore cable to the onshore conditions. A submarine cable is characterized by stronger armoring due to more difficult environmental conditions and higher risk of damage. In cable draw pits, submarine cables with three live wires will be connected with onshore cables with one live wire and with a fiber optic cable. Each cable draw pit will be equipped with inspection and maintenance manholes. Cable draw pits will be designed so as to ensure safe access to the equipment located therein.

Cable lines in the onshore area.
As part of the planned project, power cables with the voltage of 220 kV or 275 kV, including fiber optic cables, will be laid in 4 cable circuits, 3 cables in each circuit. There are four methods of construction of the extra high voltage cable line in the onshore area:

- underground cable lines;
- cable lines laid in cable conduits;

- cable lines laid in a cable duct;
- cable lines laid in a cable circuit/tunnel.

In practice, two options of laying underground cable lines are used:

- trefoil formation,
- flat formation.

As part of the planned project, it is planned to lay cables in a flat formation, which is characterized by more favorable conditions of heat transfer to the ground, which allows to use smaller cables with the same transmitted current in relation to the trefoil formation.

As part of the planned project, a total of 12 cables will be located onshore. The cable lines will be laid in parallel, mainly in the form of an open-cut trench, at a minimum depth of 1.3 m and, if necessary, directional drilling will be used (after arrangements with the competent authorities). Due to differences in the topography (e.g. dunes), cable burial depth may locally exceed 2 m. The width of the cable corridor (fixed service corridor) in which permanent deforestation will take place will be maximum 25 m wide. In the area of cable draw pits, the corridor width will be up to 80 m. At the sections where the cables will be laid in the ground using trenchless methods, it will not be necessary to remove phanerophytes.

In the direct vicinity of the cables, bentonite (mixture of sand and cement) will be used, which increases the current carrying capacity of the cables placed in the circuits and stiffens their laying. Then, composite or concrete slabs will be placed on the upper layer of bentonite. Perforated foil or plastic mesh will be placed above the plates. The remaining trench part will be backfilled with native soil.

In areas of natural value and difficult to cross with an open-cut trench, as well as due to the presence of watercourses and other natural obstacles, trenchless types in the form of directional drilling and horizontal pushing (jacking) are planned. In the remaining area, an open-cut trench is planned and, if necessary, a directional drilling will be used.

Customer substation.

As part of the planned project, a customer substation with an input voltage of 220 kV or 275 kV and an output voltage of 400 kV will be located.

The customer substation will consist of:

- 400 kV switching station;
- 400/220/15 kV or 400/275/15 kV autotransformers or transformers;
- 220 kV switching station or 275 kV switching station.

Auxiliary systems include:

- MV switching stations;
- MV/0.4 kV transformers;
- equipment to improve electricity quality;
- power generator set.

The switching stations will be equipped with standard switching, measuring and protection equipment meeting the relevant technical, environmental and Transmission Grid Operator requirements.

The accompanying components will comprise:

- buildings: process part of the 400 kV GIS switching station, 220 kV or 275 kV GIS switching station, two STATCOM buildings, fire water pumping station, MV/0.4 kV auxiliaries;
- cable ducts;
- on-site circulation system;
- access road;
- fire water tank.

Water will be supplied from the nearest water supply network or local water intake on the substation premises. Wastewater will be discharged to an external sewer network or to a tight sump tank. It is

planned to install a drainage system for the substation area.

400 kV power line.
The customer substation will be connected by a short, maximum 270 m section of the 400 kV overhead power line to the PSE substation.
Preliminary technical parameters of the 400 kV power line:

- number of circuits: two circuits of three three-conductor bundles each (18 wires in total);
- design operating temperature of phase conductors +80°C;
- ground wires;
- line's service corridor width: 70 m (35 m per line axis side).

The terminal point of the planned project is constituted by the feeder clamps at the PSE substation.

The planned project will consist of three main phases: construction, operation and decommissioning, which in the case of this project, will be the discontinuance of the operation of the BP OWF GCI.
Construction phase – offshore area.
The construction phase will consist of three basic stages:

1) transport and laying of export cables on the seabed;
2) burial of export cables in the bottom sediment;
3) export cable landfall.

These works will be performed sequentially. The construction works will be performed by specialized vessels, including: cable-laying vessels, service vessels, cable barges and barge tugboats. It is assumed that the construction phase (laying of up to four cable lines and cable landfall) will be implemented in the shortest possible time and will be completed within a maximum of 12 months of its commencement. The date of commencement of construction works will not depend on the season of the year.
Construction phase – onshore area.
For the purpose of the project implementation, it is planned to perform the following works:

- tree stand cutting from the area intended for the multi-circuit cable line;
- construction of access roads for the needs of the project;
- execution of trenches for the multi-circuit cable line;
- execution of directional drilling in places where no open-cut trenches will be executed;
- laying of the cable line and optical fiber cables in trenches;
- execution of cable line connections – cable joints, cable terminals, connection to the customer substation;
- finishing works – backfilling of excavations, marking of the cable line, execution of the communication system, leveling and land reinstatement.

During the construction phase, construction vehicles and machines used as standard in this type of works will be used: cranes, lifts, jib cranes, backhoe loaders, rollers, cutting equipment, etc. It is expected that the construction phase will last for up to 36 months.

Operation phase – offshore area.

During the operation phase, regular inspections of particularly sensitive locations (e.g. intersections with existing infrastructure) and of the entire length of the cable lines are planned, at least once every 5 years. Inspections of submarine cables require the use of small vessels for the inspection of the cable circuit, which may cause periodic appearance of vessels performing the inspection. Inspections may be carried out with the use of unmanned ROVs or by divers. Currently, for reasons of human safety and technology advancement, inspections with the use of unmanned vehicles are preferred.

In the event of a cable line failure, the cable repair may be necessary. This will result in periodic increased vessel traffic at the failure site. The framework schedule of actions to be taken in case

of damage to the offshore cable assumes the following:

- location of the damaged cable section and type of damage;
- loading of the cable replacing the damaged piece onto the cable vessel;
- transport of the cable to the repair operation site;
- extraction of the damaged piece of the cable – the operation time depends on the type and extent of the damage and the conditions of cable sinking in the seabed (sinking depth), usually the extraction operation lasts 1 to 2 weeks; the cable is excavated using mass flow excavators, the cable is excavated and loaded onto the repair vessel without the involvement of divers;
- repair of the cable, including cable jointing and laying on the seabed;
- sinking the cable in the seabed;
- return of the cable vessel to the port.

Operation phase – onshore area.

The underground cable line operation phase is an unmanned process. Due to the need to ensure access to the underground cable infrastructure, there will be permanent exclusion from forest use in a strip with a width of approx. 25 m in the prevailing section of the cable line and up to approx. 80 m in the area of cable draw pits. This need is caused by the risk of cable damage by root systems and possible failure. In this context, access to cable draw pits and connection stations will be provided. The area occupied during operation for the underground cable line will be approx. 15 ha. Service works will be carried out during the operation phase of the power grid connection. A visual inspection of cable lines is an element of periodic assessment of the technical condition to meet the requirements of the standard for maintenance of power networks and is performed using a visual method.

In case of failure of the underground cable line, the framework schedule of activities assumes the following:

- location of the damaged cable section and type of damage;
- removal of the damaged section of the cable (if it is not possible to repair the cable on site, e.g. puncture to the insulation);
- repair of the cable, including cable jointing and laying underground.

The customer substation will not be intended for permanent stay of persons. The time of presence of the same persons per day should not exceed 4 hours, and in emergency situations this time may be longer, in accordance with relevant regulations. As part of the operation of the substation and the overhead power line, regular inspections and service are planned.

Decommissioning phase – offshore and onshore area.

The end of operation of the BP OWF GCI will result from the end of operation of the Baltic Power OWF. After discontinuance of use, it is not planned to dismantle the offshore cable lines – buried power cables will remain in the bottom sediment. This is a common practice in terms of handling the decommissioned power and telecommunication cables to avoid the occurrence of negative environmental impacts, the scope and force of which could exceed the impacts generated during the construction phase, e.g. as a result of the necessity to use mass flow excavators (MFE) to dig the cable lines up in the offshore area, which cause strong water turbidity and strong sedimentation. Similarly, as in the case of the offshore area, with the discontinuation of the cable line use, the Investor is planning to leave the cables in the ground. It is also not planned to dismantle the customer substation and the 400 kV hardwire overhead line.

When analyzing alternative solutions for the implementation of the planned project, the Investor

took into account:

- determination of the project location;
- methods of achieving the objective of the project;
- determination of process solutions of the project necessary to be taken into account in the building permit design, important from the point of view of environmental protection;
- determination of the methods of operation of the project important from the point of view of environmental protection objectives.

The main assumption in the design process was to determine the route of the BP OWF GCI, taking into account environmental aspects, technical possibilities, minimization of the risk of potential failures and social conflicts, while ensuring economic optimization.

Taking into account the specificity of the planned project, i.e. integration of the power generated by the Baltic Power OWF into the National Power System, the location of the planned project in both options results from the location of the wind farm and PSE onshore substation.

To select a reasonable location option for the project, the Investor took into account the conditions resulting from space sharing by other sea users, including the need to maintain collision-free route with the infrastructure of neighboring offshore wind farm projects, thus the location of the Baltic Power OWF GCI does not violate the interests of other entities implementing similar projects. Additionally, when selecting the location option the need to adapt to the conditions resulting from the adoption of the Spatial Development Plan for the Polish Maritime Areas was taken into account. Safety of navigation was also taken into account. At the same time, to take into account environmental conditions, environmental surveys for the offshore area were carried out. The analysis of the results of environmental surveys for the offshore area, including in particular the valorization of elements related to the seabed (among others, the presence of benthic organisms, feeding grounds for fish), indicated that the other cable line routes have similar characteristics in terms of quality and quantity. When determining the location in the onshore part, the results of onshore environmental surveys and arrangements made between the Investor of this project and other investors implementing similar projects and the Choczewo Forest District concerning the onshore part of the BP OWF GCI route in the forest district administration area were taken into account. The arrangements with the Choczewo Forest District concerned mainly the avoidance of fragmentation of habitats for the purpose of execution of the grid connection infrastructure of various investors. For this reason, it was decided to construct one common cable tray at the section from the connection of Investors' cable routes to the exit in the onshore part to the Choczewo substation. Such an approach allowed the accumulation of works in one part of the forest, without the need to perform several parallel felling. The Investor also presented the planned route to the authorities of the Choczewo municipality and was also communicated to the local community.

Option proposed by the Applicant (OPA).

The starting point of the planned project is the routing of export cables from substations being a part of the Baltic Power OWF at sea. Electricity will be output from the Baltic Power OWF by up to four submarine three-core EHV power cables operating in the alternating current technology with an operating voltage of 220 kV or 275 kV. The length of the power connection in the offshore area is approx. 46.8 km. The cables will be routed from the sea to the onshore area using the trenchless method in the HDD or HDD Intersect technology in the area of 160.5 km of the seashore (according to the chainage of the Maritime Office). In 4 cable draw pits at the onshore section, the structural parameters of the offshore cable will be adapted to the onshore conditions. Then, electricity in the onshore part will be transmitted using single-core underground cables with an operating voltage of 220 kV or 275 kV operating in the alternating current technology. The cables will be laid in 4

cable circuits – 3 cables in each circuit. The route of the underground cable line will run through forests managed by the Regional Directorate of State Forests (RDLP) in Gdańsk within the boundaries of the Choczewo Forest District. The BP OWF GCI will enter the customer substation with an input voltage of 220 kV or 275 kV and an output voltage of 400 kV. The designed substation is located on arable land of class V. The customer substation will be connected to the PSE substation by means of a 400 kV overhead line with a length of approx. 270 m. The terminal point of the planned project is the feeder clamps at the PSE substation. The length of the power connection in the onshore area is approx. 6.5 km, and the width of the service corridor will be approx. 25 m.

The reasonable alternative option (RAO) in relation to the OPA assumes an extension of the route of the multi-circuit cable line in the offshore area. Other parameters characterizing the BP OWF GCI in the offshore area are the same as for the OPA. The length of the power connection in the offshore area is approx. 53.6 km. In the onshore part, electricity will be transmitted by means of a 4-circuit overhead power line routed through the forest. The line route will run through forests managed by the RDLP in Gdańsk within the boundaries of the Choczewo Forest District – east of the OPA. Then it will enter the customer substation. The length of the power connection in the onshore area is approx. 5.2 km, and the width of the service corridor will be approx. 100 m.

In the offshore part of the BP OWF GCI, the change of the route and thus its extension are the only changes in relation to the OPA. In the case of the onshore part, not only the route but also the method of power line construction will be changed. This will result in a different length of the onshore grid connection and execution technology, as well as technical parameters.

Table No. 4 presents a list of technological and technical parameters of the planned project differentiating the option proposed by the Applicant (OPA) and the reasonable alternative option (RAO).

Tab. 4: List of technological and technical parameters of the planned project differentiating the option proposed by the Applicant (OPA) and the reasonable alternative option (RAO).

Technical parameters	**Option proposed by the Applicant (OPA)**	**Reasonable alternative option (RAO)**
Offshore area		
Length of the multi-circuit cable line (assuming the routing of export cables from each of up to three substations of the Baltic Power OWF)	Approx. 46.8 km	Approx. 53.6 km
Onshore area		
Cable line length	Approx. 6.5 km	0 km
Overhead line length	Up to 270 m	Approx. 5.2 km
Service corridor width	Cable line – approx. 25 m, cable draw pit – 80 m	Approx. 100 m
Depth and width of trenches	Depth of approx. 2 m, width of max. 2 m for each of maximum four cable circuits. In the cable joint area, the width of trenches may reach up to 6 m	The trenches will be made in the places where the poles will be founded. Trench dimensions approx. 10 x 8 m, depth approx. 4 m
Cable technical specification	Single-core cables in the alternating current technology. Cross-linked polyethylene (XLPE) insulation	
Number of power lines	Maximum 4 circuits of 3 cables each	Maximum 4 circuits of 3 conductors each

Both options are reasonable and feasible under the current legal status, technical and technological conditions and the current state of knowledge on environmental conditions. The analysis of environmental data and the current use of the area intended for the construction of the BP OWF GCI showed the possibility of implementing the project in the OPA option. The implementation of this option will also be more favorable for the environment compared to the RAO option.
The greatest impacts will concern the construction phase. During the operation phase of the BP OWF GCI, significant and substantial impacts will occur, which will be considerably reduced after the implementation of mitigation measures. To conclude, the comparison of both options, including, in particular, the possible impacts resulting therefrom, showed that the option least burdensome for the environment and other users of space is the implementation of the BP OWF GCI in the OPA.

In addition, the EIA report contains an analysis of a scenario that would occur if the project was abandoned, i.e:

- complete abandonment of offshore wind energy in the Polish maritime areas, which in consequence means the need to generate energy from the existing or other sources;
- abandonment of the Baltic Power OWF project having a power output of 1200 MW with the simultaneous implementation of other OWFs within the Polish EEZ.

The aforementioned options are essentially different. The first one would mean in the long term abandonment of the use of an alternative source of electricity having a significant power output (e.g. Baltic Power OWF itself would cover approximately 3% of domestic electric power demand), which would require compensation through the operation of conventional sources having a similar power output, with emissions of gaseous and particulate pollutants from the combustion of fuels (hard coal or lignite), generation of approx. 20% of waste from combustion in relation to the amount of combusted fuel, and indirectly with the effects of environmental changes in the areas where fossil fuels are

extracted.
The above option will have local benefits related to abandoning the development of offshore areas. Failure to invest in offshore wind energy (wind turbines, power cables, substations) will in practice mean that complex impacts related to the construction, operation and decommissioning of these elements of the OWF will not occur over a period of several dozen years. This also entails the absence of restrictions on the availability of these areas to the existing and potentially new users [navigation, fisheries, tourism and possible production of hydrocarbons (crude oil and natural gas extracted below the seabed)].
The second option will mean the implementation of other OWFs in other water regions with a set of impacts on the marine environment and human activities occurring there (navigation, exploitation of hydrocarbons, fisheries, maritime tourism) that is difficult to estimate. However, this option has the advantage of reducing the effects of domestic fossil fuel extraction and combustion in conventional power plants. At the same time, while limiting the share of conventional energy in electricity generation, it will be possible, in accordance with the trends in the European power sector, to deepen the integration of the Polish EHV transmission systems with Germany, Denmark and Sweden.
For each of the two situations indicated above, the expected impacts on abiotic and biotic elements of a varied degree and extent will not occur. These elements will be subject to the existing impacts resulting from the existing pressures in the marine environment.

The preparation of the EIA report was preceded by a comprehensive study of the marine environment carried out in 2018–2021. Moreover, when preparing the EIA report, sources of information, in particular, environmental impact assessment reports or other documentation for projects completed, implemented or planned, located closest to the planned project, such as:

- Offshore electricity transmission infrastructure, environmental impact assessment report for Polenergia Bałtyk III Sp. z o.o.;
- Environmental impact assessment report for the Baltic Power Offshore Wind Farm.

Abiotic elements were examined: hydrological and hydro-chemical conditions (water quality, sea currents and wave motion, temperature, turbidity and electrical conductivity of water, meteorological conditions), seabed geology, mineral raw materials, physical and chemical properties of bottom sediments and the acoustic background.
Biotic elements were also examined: benthos, fish, birds (seabirds staying in the area of the project and flying over the farm, including migratory birds), marine mammals and bats. In addition, studies related to archeology, fishery and vessel traffic were carried out in the project area. Assessment of the impact of the project on the environment and on Natura 2000 sites was based on determination of the facts as well as research and development concepts included in the project environmental impact assessment report presented by the applicant.

It follows from the evidence collected in this case, concerning the type and reach of the environmental impact, including on human health and Natura 2000 sites, that the project impact will be above all as follows:

Negative environmental impacts during the construction stage of the offshore part of the BP OWF GCI are primarily related to the sea traffic of vessels involved in cable laying within the offshore area and the operation of the equipment physically used for cable laying, as well as to pulling submarine cables ashore. In case of constructing an offshore substation, the impacts will also be related to its transport and installation. During the construction stage of the BP OWF GCI offshore part, negative impacts on the sedimentary environment, ichthyofauna, marine mammals and birds can be expected. The scale of impacts at this stage of project implementation depends primarily on the properties of the substrate and sediments, the selected cable-laying method, the installation method of the offshore substation and the

values of environmental background indicators (e.g. suspended matter concentration in water). However, it is estimated that these will be short-term and local impacts, limited only to the area of activities carried out and possibly to its immediate neighborhood.

Emissions into the environment:

- emission of pollutants to the atmosphere (associated with the traffic of vessels involved in cable laying),
- emission of noise and vibration,
- production of municipal waste by persons aboard vessels,
- production of post-installation waste (cable elements, etc.),
- uncontrolled emergency spills of chemicals into the water (from vessels or equipment laying cables on the seabed).

Vessels and underwater vehicles engaged in the construction of cable lines will generate underwater noise. In the case of vessels the noise will come from the running engine, the sound of the propeller, and the operation of the steering engines. Large vessels equipped with DP systems, such as cable-laying vessels, generate noise with low frequencies in the band from 30 Hz to 3 kHz and acoustic pressure from 100 to 197 dB re 1 pPa at a distance of 1 m from the source. Noise levels do not depend on the vessel speed, but on the operation intensity of the DP systems maintaining the vessel in a preset position. Therefore, higher noise levels emitted by the vessel will occur during adverse weather conditions, i.e. strong wave motion and wind. Smaller vessels not equipped with DP systems generate underwater noise with a frequency between 50 Hz and 2 kHz and acoustic pressure from 170 to 180 dB re 1 pPa at a distance of 1 m from the source.

Unlike vessels equipped with DP systems, the noise level depends on the speed of these vessels.

The operation of underwater equipment engaged in the construction of cable lines also involves the generation of noise to the environment. The highest noise levels will be generated by underwater vehicles operating in the *mechanical trenching* technology, which emit sounds with acoustic pressure from 172 to 185 dB re 1 pPa at a distance of 1 m from the source.

Various types of waste will be generated during the construction phase of the BP OWF GCI due to the operation of vessels and equipment used for the purpose of the cable line laying.

The waste and wastewater generated during the construction phase will be properly stored and secured on vessels in accordance with the marine pollution prevention plan in force on each vessel, drawn up in accordance with the requirements of the Act of March 16, 1995 on the prevention of marine pollution from ships *(Journal of Laws of 1995 No. 47, item 243, as amended).* In ports, waste and wastewater will be discharged to port reception facilities and managed in accordance with the applicable management plan for port waste and cargo residues of ships [Regulation of the Minister of Infrastructure of December 21, 2002 on management plans for port waste and cargo residues of ships *(Journal of Laws of 2002 No. 236, item 1989, as amended)*].

Given the nature of the offshore part of the OTI that includes submarine cables typically laid at a depth of up to approx. 4 m, no significant environmental impacts associated with its operation are expected at this stage. Potential negative impacts on the environment during the operation stage include:

- electromagnetic field emission (“EMF”),
- heat emission by power cables,
- pollution of sediments with oil derivative substances and anti-fouling agents,
- pollution of sediments with accidentally released municipal waste or domestic sewage,
- pollution of sediments with accidentally released chemicals.

Waste and wastewater generated during the operation phase will be properly stored and protected on vessels and managed in accordance with the applicable regulations. The operation of power cables will involve the generation of electromagnetic field (EMF). The cable design – steel wire reinforcement –

significantly reduces the range and power of the EMF, but does not completely eliminate it. Eddy currents induced by the magnetic field of alternating current in high conductivity shielding materials will form the opposite vector of the magnetic field and additionally increase the partial elimination of the magnetic field from the cable. To significantly reduce the impact of EMF on the marine environment, it is planned to bury cables along the entire route in the marine sediment to a maximum depth of 4 m. The EMF intensity decreases with the distance from the conductor. As analyses have shown, for EHV AC export cables, already at a distance of approx. 1.5 m from the cable, EMF intensity levels are negligible in terms of impact on the marine environment. Burying the cable at this depth or greater will negate the effects of the EMF on benthic and pelagic marine organisms sensitive to EMF.
The electric current flowing in the cable causes its heating due to power losses at resistance in accordance with Joule law. As the cable temperature rises above the ambient temperature, heat is released into the environment surrounding the cable. The sediments heating may lead to a change of the taxonomic composition of the benthos living on and in the seabed in direct proximity of the cables.

After discontinuance of use, it is not planned to dismantle the offshore cable lines – buried power cables will remain in the bottom sediment. This is a common practice in terms of handling the decommissioned power and telecommunication cables to avoid the occurrence of negative environmental impacts, the scope and force of which could exceed the impacts generated during the construction phase, e.g. as a result of the necessity to use pressure pumps (MFE) to dig the cable lines up in the offshore area, which cause strong water turbidity and strong sedimentation.
Taking into account all the stages of project implementation, it should be stated that the construction of the onshore part of the OTI may cause the following emissions into the environment:

- waste,
- wastewater,
- noise,
- electromagnetic fields,
- air pollutants,

and it may be a source of other impacts, in particular on flora, fauna, climate and landscape.
Negative impacts during the construction stage of the onshore part include mainly emissions from means of transport and equipment used for cable laying and construction of the substation, as well as post-installation waste and small amounts of municipal waste generated by the employees involved in the construction of the transmission infrastructure. It is estimated that they will be of a short-term and local nature, limited to the place where the project is implemented.
The implementation of the project may also affect geological and hydrogeological conditions, especially in the coastal area in the submarine cable landfall location.
The operation of heavy construction equipment used during construction will be a source of noise emission, the level of which will vary depending on the project implementation phase and the type of equipment used. Moreover, the noise will be related to the transport of construction materials, equipment and people; it will also concern both the areas of direct construction works and the areas in the vicinity of access routes.
Due to the linear nature of the project and the specificity of performing works in the open air, the noise will occur only in the section where the works are carried out and will subside as the construction works progress. As part of the planned project, trenchless methods will be used, which will constitute an additional source of noise. Then, there is more machinery at the construction site than in the case of execution of the section using the open-cut method. Additionally, these are pumps with an acoustic power of approx. 93 dB, device for drilling fluid recycling and recovery with an acoustic power of approx. 99 dB, mixer for drilling fluid preparation with an acoustic power of 89 dB, and drilling rig with an acoustic power of approx. 108 dB.

Construction works will be carried out with the use of equipment that guarantees as effective protection against noise as possible, and meets the requirements of the applicable legal regulations. The implementation of the planned project will be a source of waste from typical construction works related to the execution of trenches, construction of a customer substation, a 400 kV overhead line and access roads. During the construction phase, earth masses will be managed pursuant to the conditions and in the manner specified in the building permit decision. Trenches made in connection with the implementation of the planned project will be backfilled with previously excavated soil. Any small excess soil will be handed over to specialist companies in accordance with the applicable regulations. The drilling fluid remaining after the drilling process will be collected by a specialized company and managed outside the place of its generation. The Investor allows the use of a biodegradable drilling fluid.

Negative impacts at the operation stage of the onshore part include mainly emissions from means of transport and equipment used for maintenance, as well as “post-maintenance” waste and small amounts of municipal waste generated by employees involved in such works. It is assessed that these will be of a short-term and local nature, limited to the location of the repair works as part of the project.
The operation of both the cable line and the substation will not affect surface water and groundwater under normal operating conditions. However, there is a risk of spill of transformer oil used in the substation.
If transformers, autotransformers and oil reactors are used, the substation will be equipped with oil pits connected to the rainwater pre-treatment system and an additional closure that enables immediate shut-off of the outflow to protect the sewerage system in case of a failure related to oil leakage or fire.
The operating high voltage substation, considered as a noise source, is usually characterized by its relatively high level. The main source of this noise are power (auto)transformers and high-power reactors and, to a much lesser extent, the phenomenon of busing discharge and line entries, if they are made in the overhead technology. The environmental status has a significant impact on the level and conditions of generated noise propagation, and in the case of noise whose source is discharge (busing, overhead high voltage line entries, if any) – weather conditions play a role.
Operation of the cable line will not generate noise. The obtained calculation results clearly indicate that regardless of the line rated voltage (220 kV or 275 kV) and the type of phase conductors used, the permissible value of the sound level determined for residential development areas (45 dB) will not be exceeded in any place under the 4-circuit line and in its vicinity.

Similarly, as in the case of the offshore area, with the discontinuation of the cable line use, the Investor is planning to leave the cables in the ground. It is also not planned to dismantle the customer substation and the 400 kV hardwire overhead line.

Demand for energy, raw materials, and water.
Vessels and equipment involved in offshore works will use electricity generated by the combustion of fuel – diesel oil.
The table below presents average fuel consumption values for different sizes of vessels per hour of their operation, which give a certain concept of fuel consumption during construction works.
Tab. 5: Average fuel consumption values for different sizes of vessels per hour of their operation.

Vessel size	**Intended use**	**Average fuel consumption (diesel oil) [kg-h-1]**	**Nominal daily operation time [h]**
Small vessels	Minor supplies, personnel transport, one-day service,	50-200	8-10

	emergency actions – for each phase		
Medium vessels	Supply, construction works and support for construction works, towing works, stationary multi-day service – for each phase	500-2000	12-18
Large vessels	Construction works, storage – construction phase	2500-5000	12-24

The use of jet trenching technology for burying export cables will involve the use of seawater. The specialized equipment will draw water from the environment and then pump it under pressure into the surface layer of bottom sediment to loosen its structure, which will enable laying the cable in it. During this process, the chemical composition of the water and its temperature will not change. All the water drawn will go back into the environment.
Depending on the equipment used, it is expected that the water flow may range from approx. 800 to approx. 5000 m^3/h. Water will also be used for domestic purposes of crews of vessels involved in construction works. Potable water tanks will be replenished during stops in ports. After consumption, water will be stored in wastewater tanks and handed over for treatment during the next call at the port.

The onshore part of the project, due to its specificity, will be implemented with the use of ready-made construction equipment, elements, and products.
Water will be used for the drilling fluid in the amount of approx. 930,000 L. Water used for the drilling fluid will be treated as waste and handed over for disposal. Water will be used for domestic purposes of the employees in the forecast amount of approx. 4 m^3/day. During the construction phase, diesel oil will be used by the equipment working on the construction site in the forecast amount of approx. 2,500 L/day.

During the operation phase, the energy demand will result only from the planned maintenance works of the offshore part of the BP OWF GCI. As for the construction phase, fuel consumption will be determined mainly by the type and intensity of performed works, wave motion as well as wind force and direction, which determine the manner of vessel maneuvering and load of drive engines. Due to the fact that at this stage the vessels that will participate in the project implementation and weather conditions in which the maintenance works will be performed are not known yet, it is also not possible to estimate the amount of fuel that will be used by the vessels during the operation phase. During the operation phase, water will be used for domestic purposes of service vessel crews. Potable water tanks will be replenished during stops in ports. After consumption, water will be stored in wastewater tanks and handed over for treatment during the next call at the port.

During the operation phase of the underground cable line, there will be no demand for water, raw materials, materials, fuels, and energy. In relation to the operation of the customer substation, the substation will satisfy the demand for electricity by itself with the use of MV/0.4 kV transformers, and it will also use external back-up electricity supplied by MV lines and, in emergency situations, by a power generator set. The demand for thermal energy will be satisfied by electric heaters supplied from the substation auxiliaries system.
Failures.
Types of failures resulting in contamination of the environment.
The project involving the construction, operation and decommissioning of the BP OWF GCI is associated with a period of several dozen years of complex onshore and offshore activities.
The planned project will not be a place of storage of substances determining the classification of the

project as a plant of increased or high risk of occurrence of a major industrial failure in accordance with the Regulation of the Minister of Development of January 29, 2016 on types and volumes of hazardous substances present in the plant, which decide on classification of a plant as a plant of increased or high risk of major industrial failure *(Journal of Laws of 2016, item 138).*

The main environmental hazards that may occur during the construction of the BP OWF GCI will be spills of oil derivative substances, mainly diesel, hydraulic, transformer and lubricating oils from vessels. To a lesser extent, the marine environment may be incidentally endangered by materials containing hazardous substances, if used. In the operation phase, oil spills from service vessels may be the main cause of pollution of sea waters. Both within open sea waters and in the vicinity of the shore, they may pose a problem with long-term effects on fauna, flora, fisheries and beaches subject to contamination. To prevent the hazard, all vessels involved in the entire project should comply with the requirements and comply with the provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), including, in particular, the procedures contained in the "Oil pollution prevention plans".

The volume of oil pollutants may be classified as follows:

- Class I (a small spill of up to 20 m^3) – minor leaks of oil derivative substances, not requiring the intervention of any external forces and measures, possible to be removed with own means. These spills are of a local nature, their removal does not create any particular technical difficulties, and does not pose a significant threat to the marine environment;
- Class II (medium spill of up to 50 m^3) – spills of oil derivative substances, the scale of which requires coordinated counteraction within the marine area under the supervision of the Director of the Maritime Office who decides on the scale of required countermeasures;
- Class III (a catastrophic spill of above 50 m^3) – spills of oil derivative substances posing an extraordinary threat to the environment, the combating of which requires forces and measures at the disposal of more than one Director of the Maritime Office.

Failure pattern with the assessment of potential consequences.

During normal operation of vessels, leakages of various types of oil derivative substances (lubricating and diesel oils, petrol) may occur. It should be assumed that these will be small (class I) spills.

From the perspective of the environment, the most sensitive areas in case of potential spills will be the coastal area approximately between Ustka to the west and Dębki to the east. Taking into account the prevailing western direction of wind and the existing shore currents, the coastline with tourist destinations (Jarosławiec, Rowy) and ports in Ustka and Łeba in the west to the town and port in Władysławowo are subject to hazards.

Protected natural areas, including those designated as Natura 2000 sites, are particularly vulnerable to potential pollution. It should be stressed that it is not so much the magnitude of a spill that is crucial, but the place where it occurred. There are known cases of high mortality of birds after small oil spills to the sea. Extensive oil spills drifting away from the coast, in water regions with very low bird populations, do not entail such high population losses as smaller spills in a place with numerous concentrations of marine avifauna. The area of the planned BP OWF GCI crosses the Natura 2000 site – Coastal Waters of the Baltic Sea (PLB990002), where there are periodically high concentrations of wintering birds. However, it should be emphasized that in the case of class I spills, with proper organization of their prevention and counteraction, the distribution of oil derivative substances threatening protected areas and subjects of protection of these areas is unlikely.

Determination of the actual extent of the spill will be possible only during the event, on the basis of current meteorological data and data on the type and potential amount of pollution. Therefore, at the stage of the project implementation, it is not possible to perform a more detailed assessment of the impact on marine organisms that are exposed the most to the effects of oil spills.

The number of potential leakages is proportional to the number of vessels used to implement and operate the project.

Leakage of oil derivative substances (in emergency situations).
During the construction and operation phase of the BP OWF GCI (the decommissioning phase does not assume any actions), the leakage of oil derivative substances may occur, which will result in pollution of water, bottom sediments and the coast. Leakage may occur as a result of vessel failure or collision, vessel sinking or stranding, and during operational spills and leaks from vessels, oil spills associated with cable line inspections and repairs. In the worst case scenario, at the construction stage, there will be class III spills (catastrophic spills). It has been calculated that the probability of major vessel accidents is very low, ranging from 10-5 (practically impossible – once per 100,000 years) to 10-2 (rare – once per 100 years).
Assuming the worst forecast case scenario and release of several hundreds of liters of diesel oil into the marine environment and taking into account the type, its behavior in sea water, the time during which the oil stain disperses and drifts, it is expected that the extent of pollution will not exceed from 5 to 20 km from the construction area of the BP OWF TI.

Release of municipal waste or domestic sewage.
During the construction of cable lines, waste, mainly municipal waste and other waste not directly related to the construction process, as well as domestic sewage, will be generated on vessels. Waste and wastewater may be accidentally released into the sea e.g. during their collection by another vessel and in the event of a failure, resulting in a local increase in biogenic substance concentrations and deterioration in the quality of water and sediments.
It is estimated that the possible occurrence of the above-mentioned releases will not affect the structure and functioning of marine organism groups in the project area and will not cause their increased mortality.

Emissions of gases to the atmosphere
Gases, which are used as refrigerants in air conditioning systems, may be released as a result of a failure of the customer substation. If GIS switching stations insulated with the SF6 gas, which is used as an insulating medium in the medium voltage and high voltage instrumentation, are used, it is not possible to exclude an emergency situation leading to the gas release into the atmosphere. Moreover, flue gas emissions from the power generator sets used in the substation may occur.

Pollution of water and bottom sediments with anti-fouling agents.
To protect the hulls of vessels against fouling, biocidal substances are used, which may include e.g. copper, mercury and organotin compounds (e.g. tributyltin). These substances may pass into the water and eventually be stored in the sediment. It should be assumed that the emission of these compounds will be insignificant. Among the listed substances, organotin compounds are the most harmful (toxic) to aquatic organisms. The use of tributyltin (TBT) (the most harmful substance) in anti-fouling paints is currently prohibited, but the presence of those compounds in protective coats of older vessels cannot be ruled out. This impact can be reduced by introducing control of the type of protective coats on the vessels that will be used to perform the activities of the construction and operation phase.
It is estimated that the possible occurrence of the above-mentioned releases should not affect the structure and functioning of marine organism groups in the project area and should not cause their increased mortality.

Release of pollutants from anthropogenic items at the bottom

During the preparatory works for the construction process of the BP OWF GCI, including, in particular, the surveys of the seabed cleanliness for the presence of unexploded ordnance and chemical weapons, revealing of anthropogenic objects, the violation of which would result in the release of pollutants contained therein (e.g. containers with chemical substances or unexploded ordnance) cannot be excluded. During geophysical surveys in 2020, the BP OWF GCI construction area was surveyed for the presence of anthropogenic objects on the seabed, including packaging and containers that may contain hazardous chemical substances, and their presence in the area was not demonstrated. Prior to the commencement of construction, the Investor will conduct detailed surveys for the presence of unexploded ordnance (*UXO*) on the seabed.
If any combat agents/unexploded ordnance are found during the survey, the Investor will inform the relevant authorities and institutions and comply with the orders issued by them. To determine how to handle such findings, the Investor will prepare a plan for handling hazardous items, both from the point of view of offshore works (e.g. rules for performing works in the vicinity of potentially hazardous items) and from the point of view of possible removal or bypassing of places where such items are located. The basic assumption of the plan for handling hazardous items is to avoid hazards to human life and health and to avoid the spread of pollutants from such items.

Environmental hazards.
During the construction phase of the BP OWF GCI, the following may be the source of negative environmental impacts:

- leakage of oil derivative substances as a result of vessel collisions in an emergency situation,
- accidental release of municipal waste or domestic sewage,
- accidental release of chemicals,
- pollution of water and bottom sediments with anti-fouling agents,
- soil contamination caused by hazardous substances from leakages from vehicles and equipment involved in construction works.

Events and emergency situations may directly pollute the abiotic environment, especially sea waters and, to a lesser extent, bottom sediments. Indirectly, those events may also have an impact on living organisms that inhabit or otherwise use the seabed, the water column and the sea surface.
The greatest hazard to the environment may come from emergency releases of oil derivative substances into the sea, e.g. as a result of vessel collisions. For a Tier 3 oil spill, the spatial extent of the oil slick will range from 5 to 20 km from the spill site.
During the operation of the BP OWF TI, threats to the marine environment may result from water and, to a lesser extent, sediment pollution by:

- oil derivative substances,
- anti-fouling agents,
- accidentally released municipal waste or domestic sewage,
- accidentally released chemicals.

Waste and wastewater may be generated by persons on service vessels periodically carrying out the BP OWF GCI inspections.
The impacts caused by the occurrence of an emergency situation during the operation phase are partially identical to the impacts that may occur during the BP OWF GCI construction phase. Only the aspect relating to accidental release of chemicals and waste is slightly different. The cable lines will be periodically inspected during the operation phase of the BP OWF GCI. One cannot rule out a possibility that small quantities of waste or operating fluids may be accidentally released into the sea. It is estimated that the possible occurrence of the above-mentioned random events shall not affect the structure and functioning of marine organisms in the project area and shall not cause their mortality. During the

operation, as a result of failures of vessels involved in the operation of the project, harmful chemical substances, mainly fuels, motor oils or hydraulic fluids, may leak into the environment. Their impact on marine organisms can be a significant pathogen and result in increased mortality. However, the probability of such events can be considered low. The implementation of a proper procedure to be followed in the event of collisions and leakages aims at minimizing the impact of such incidents. This hazard can be considered negligible.
Unlike unprotected cable lines laid on the seabed surface and overhead lines, cable lines buried in the bottom sediment and soil are less exposed to adverse environmental factors, but their potential damage is usually permanent and their repair is more costly and time-consuming. However, it should be emphasized that the failure rate of underground cable lines is extremely low, much lower than the failure rate of overhead lines.
During the operation phase, the substation will emit EMF and noise as a result of the operation of power (auto)transformers and high-power reactors and, to a much lesser extent, the phenomenon of discharge. As a result of the failure, the emission of gases to the atmosphere may additionally occur (flue gas from the power generator set activated in emergency situations, refrigerant leaks from the air conditioning system or SF6 insulation gas leaks if a switching station with this gas insulation is used). There is also a risk of electrolytes, extinguishing agents and fuel leaking into the power generator set. Additionally, as a result of a double failure – leakage of the transformer tank or reactor and leakage of the oil pan, oil leakage to the soil may occur, as a result of which soil and surface waters may be contaminated.

The decommissioning phase of the BP OWF GCI will not involve any environmental hazards. After the end of the operation, the power cables will remain buried in the bottom sediment and soil. It is also not planned to dismantle the customer substation and 400 kV overhead line.

The prevention of failures is a set of activities related to the protection of human health and life, the environment and property, as well as reputation of all participants of the processes related to the construction, operation and decommissioning of the BP OWF GCI. The highest risk of a failure resulting in a serious threat to the environment concerns the works carried out in the maritime area. To eliminate or minimize it, various measures will be taken which include but are not limited to:

- the preparation of plans for safe construction and operation of the BP OWF GCI in accordance with the applicable provisions of law for the period of project implementation;
- the development of rescue plans and trainings for crews and personnel, including rules for updating and verification through regular drills, in particular the determination of procedures for the use of own rescue units, external units, including helicopters.
- the preparation of the plan for the prevention of hazards and pollution generated during the construction and operation of the BP OWF GCI;
- the selection of suppliers and certified elements and components of the BP OWF GCI;
- the precise marking of the BP OWF GCI area, its facilities and vessels moving within its area;
- the planning of maritime operations;
- the application of the standards and guidelines of the International Maritime Organization (*IMO*), recognized classification societies, and recommendations of the maritime administration;
- the development of safe navigation plans during the construction phase;
- the provision of adequate navigation support in the form of navigation maps and warnings;
- the provision of direct or indirect navigation surveillance using a surveillance vessel or remote radar surveillance and Automatic Identification System (*AIS*);
- the continuous monitoring of traffic of vessels serving the construction and operation phases;
- the creation of a coordination center to supervise the individual project implementation phases;
- the maintenance of permanent communication lines between the BP OWF GCI coordination center

and the coordinator of offshore works and other coordination centers (Maritime Rescue Coordination Center in Gdynia, maritime administration).

The probability of a serious failure of the onshore part of the BP OWF GCI is lower than that of the offshore section. In case it is necessary to eliminate the emergency oil leakage from vehicles and equipment involved in construction and demolition works, construction and service teams will be equipped with sorbent absorbing oil derivative substances, and construction workers will be obliged to permanently remove any small leakages observed. The used sorbent should then be collected and handed over for recovery or neutralization by specialized companies. Such companies must hold relevant permits in accordance with the provisions of the Waste Act.
During the substation operation phase, to reduce the failure rate of the system in case of using transformers, autotransformers and oil reactors, the substation will be equipped with oil pits connected with the rainwater pre-treatment system and an additional closure, that enables immediate shut-off of the outflow to protect the sewerage system in case of a failure related to oil leakage or fire. Failures will be prevented by regular inspections and service.
Such situations related to equipment failures in substations occur extremely rarely and are of very small scale and local range. In case of failure, procedures to limit the effects by locating the place of failure and controlling it as soon as possible due to the need to secure the uninterrupted operation of the substation will be used.
During the operation of the substation, periodic inspection of the technical condition of the equipment will be carried out to detect irregularities and prevent technical failures that may cause negative environmental impact.
If a switching station with SF6 insulation is used, possible emission of this insulation gas to the atmosphere will be prevented by means of automatic gas density control.
If the sensors detect a gas density drop below the permissible level, the control system of the switching equipment is blocked. Regular periodic inspection of the tightness of housings or detection of discharges using a SF6 gas sensor in the case of suspected leakage will also be carried out.

Design, process and organizational protections planned to be used by the Applicant.
Design, process and organizational protections mainly consist in carrying out navigation risk assessments and developing plans to prevent:

- hazards to human life – evacuation plans, search and rescue plans;
- fire hazards on vessels involved in the construction and operation phases;
- hazards of pollution of the natural environment – plan for prevention of hazards and oil pollution by vessels involved in the construction and operation phases.

Potential causes of the failure taking into account extreme situations and the risk of occurrence of natural and construction disasters.
In the case of the offshore area potentially the greatest hazards will occur in the construction phase; any risk of a disaster is minimal due to the fact that weather conditions and the possibility of their change are always taken into account when planning offshore operations. Each offshore operation has its limitations in terms of visibility, wind speed, sea state or ambient temperature. Adverse weather conditions in the form of too strong wind or too high wave may only result in the extension of the construction cycle and increased energy demand – fuel consumption. It is not expected that extreme situations may occur during the construction and operation phase, which would result in serious damage to export cables or vessels involved in construction and maintenance works. The nature of the project – cable line laying – also excludes the possibility of a construction disaster.
During the operation phase, damage to the underground cable line may result in earthquakes and

landslides, i.e. as a result of a natural disaster within the meaning of the Act of April 18, 2002 on the state of natural disaster (Journal of Laws of 2002 No. 62, item 558, as amended). However, these events are unlikely in the location where the project is planned. In terms of seismic events, the territory of Poland is classified as aseismic (without earthquakes) and penseismic (rare and weak earthquake) areas where earthquakes occur quite rarely and are not strong. The area of the planned project is located outside landslides and areas at risk of mass movements, and there is no risk of flooding for the most part.
The overhead lines whose spans and columns may, in exceptional cases, be broken and tipped over in adverse weather conditions, such as hurricanes and icing, are characterized by a higher probability of damage.
Within the meaning of Article 73 of the Act – Construction Law of July 7, 1994 (Journal of Laws of 2021, item 2351, as amended) the construction disaster is defined as the unintentional, sudden destruction of a civil structure or its part, as well as structural elements of scaffoldings, elements of forming equipment, tight walls and excavation support. In this context, due to its specificity, location and construction of the vast length of the power lines in the form of cable lines buried at a small depth (the average depth of excavations will be 2 m), the planned project will be, to a very small extent, a potential source of construction disasters and threats to the nearest environment, including people present there.
The construction of a short section of the overhead line (up to 270 m in length) will be carried out in a flat area, without trees and shrubs, outside urbanized areas, which will favor its smooth and failure-free implementation minimizing the possibility of a construction disaster.

The risk of occurrence of major accidents or natural and construction disasters, taking into account the substances and technologies used, including the risk of climate change.
The risk of a major failure, natural and construction disasters is minimal. The most serious risk may concern spills of oil derivative substances at sea, which may adversely affect the marine and coastal area environment. If preventive actions are applied as standard and developed for the planned project, the risk of such a spill will be minimal. The probability of events such as ship collisions falls into the category of very rare events (probability of occurrence of once per 100 years). Taking into account the effects in the form of release of 200 m^3 of diesel oil, the level of risk is acceptable. The release of 200 m^3 of diesel oil will cause insignificant damage to the environment as it will be dispersed within 12 hours.

The effects of climate changes observed over the past decades show in particular an increase in temperature and frequency and intensity of extreme phenomena.
In the future, the frequency and intensity of extreme phenomena (heavy rainfall, floods, inundation, landslips, heat waves, droughts, hurricanes, landslides, etc.) resulting from climate change are expected to increase.
Climate changes are not expected to contribute to the occurrence of serious failures or natural and construction disasters in the context of the construction and operation of the planned project. The construction of the grid connection and its maintenance will be carried out in a manner taking into account the possibility of sudden deterioration of weather conditions, which will be particularly important in the case of the offshore area. Procedures for responding to such situations and preventing them will be developed and applied. The construction of the majority of the grid connection in the form of buried cable lines will protect their structures against damage or destruction. The routing of cable lines from the sea to the shore using trenchless methods to bypass the dynamic coastal zone and the shore, which in a perennial perspective will be under the greatest impact of factors resulting from climate changes (erosion processes), will allow for safe and failure-free operation of the planned project throughout the operation period.

Impact on surface waters and groundwaters.

In accordance with the Water Management Plan in the Vistula river catchment published in the Regulation of the Council of Ministers of October 18, 2016, items 1911 and 1958, the planned project is located in the lower Vistula water region, in the area of:

- direct sea catchment with code CWDW1801,
- the catchment of the surface water body with the code PLRW200017476925 and the name of Chełst to the entry into the Sarbsko lake. It is a heavily modified water body of good general condition (good and above good ecological potential, good chemical condition). It is monitored and is not at risk of failure to meet the environmental objectives. The environmental objective for the surface water bodies is good ecological potential and good chemical condition. In the surface water bodies, there are also protected areas intended for the protection of habitats or species referred to in the provisions of the Act of April 16, 2004 on nature protection, for which the maintenance or improvement of water condition is an important factor in their protection, for which environmental objectives were specified in the act that constitutes the legal basis for the area, the planned project is mostly located within the boundaries of the Coastal Protected Landscape Area, the groundwater body with code PLGW200011.
- The groundwater body is characterized by good condition (good quantitative condition, good chemical condition); it is monitored and is not at risk of failure to meet the environmental objectives, which are to maintain good quantitative and chemical condition,
- the groundwater body with code PLGW200013. The groundwater body is characterized by good condition (good quantitative condition, good chemical condition); it is monitored and is not at risk of failure to meet the environmental objectives, which are to maintain good quantitative and chemical condition.

The planned project is located at a significant distance from the areas covered by the direct and indirect protection zone of water intakes and protection areas of terrestrial water bodies. For the most part, the project site is not located in the area of special flood risk, where limitations resulting from the Act of July 20, 2017 Water Law *(consolidated text, Journal of Laws of 2021, item 2233, as amended)* apply.

In the area of the planned project, in the option proposed by the Applicant, there will be two water holes (within the boundaries of the local nature conservation site Peatland in Szklana Huta) at a distance of approx. 20 m from the external (eastern) cable vault at km 33+550 and related watercourses; waterlogged areas in the vicinity of Spacerowa Street at km from 34+400 to 34+800; a waterlogged valley with a system of watercourses that constitute the tributary of the Bezimienna small stream at km from 35+750 to 36+100; ditch R-E upstream the customer substation, that constitutes the tributary of the watercourse from Kierzkowo at km from 39+500 to 39+900; ditch R-E1 in the area of the 400 kV overhead line at km 40+400.

The impact on hydrogeological conditions at the construction phase will be that of earthworks in the form of open-cut trenches and trenchless methods (directional drilling, horizontal jacking). Cable lines will be laid in a dry trench, therefore, in the locations where the groundwater level is above the elevation of the trench bottom, it will be necessary to drain them. In the waterlogged areas, i.e. in the area of Spacerowa Street (km from 34+400 to 34+800), a crossing using an open-cut trench or trenchless method is considered. In the area of the Bezimienna river valley, trenchless methods will be used (km from 35+830 to 36+250), which partially overlap with the place where water is present at the depth of 2–5 m (km from 34+500 to km 35+400). During the construction of the entry and exit pits, it will be necessary to execute a localized excavation, where drain will be probably necessary. Potential drainage of trenches may be carried out by means of e.g. pumps, wellpoints and additional drainage trenches. The type of drainage will be thoroughly analyzed only after the analysis of the soil substrate survey results. Drains should be of local nature, limited to small areas.

Regardless of the selection of the trench drainage technology, the pumped out water will be discharged outside the construction site to the existing watercourses running in the vicinity of the planned project and in accordance with the applicable provisions of law. The drainage works will be performed ahead of a given section until the cable lines are laid and backfilled.
The cable will be laid in trench sections with a length of 1 km. Due to the planned foundation of the transmission infrastructure at the depth of up to 2 m and the depth of deposition of underground waters in the prevailing section at the depth of 10–20 m BGL, no significant impacts on underground waters are expected. The installation of the customer substation foundation and the poles for the 400 kV line will also have no impact on underground waters due to the depth of their deposition in this area (approx. 20–50 m BGL). In the case of shallow deposition of soil water and groundwater, it is anticipated that the execution of deep drainage of trenches may locally (within a few meters from the trench) and temporarily (up to one month) affect the water table level. It is anticipated that the impact in relation to drainage of trenches will be only of short-term nature – limited to the period of performing drainage works. At the stage of installation of cable draw pits, as well as the cables themselves in the ground in the area of the local nature conservation site – the Peatland in Szklana Huta – the construction activities will be aimed at preventing the creation of a depression cone that may cause drying of peats.

Impact on the climate.
The implementation of the planned project will be related to:

- periodic and local increase in greenhouse gas emissions during the project implementation phase (traffic of vehicles and machinery at the construction site, deforestation, waste generation);
- periodic increase in the energy demand for construction purposes, leading to an indirect increase in greenhouse gas emissions;
- greenhouse gas emissions related indirectly to the energy consumption of the project, e.g. in connection with the use of energy for the production of materials, transport, etc.

During the construction phase of the BP OWF GCI, the impact significance of the planned project on the climate and greenhouse gases will be negligible, as there will be no factors that could have any noticeable impact on their change.
The impact on the air quality (flue gas emission from the vessels involved in construction works) will be temporary and will end after the works have ceased. In addition, due to an open space without obstacles, the concentration of pollutants will decrease rapidly. Therefore, the significance of the impact will be of little importance.
During the operation phase, it is planned to perform periodic inspections of power cables laid on the seabed along their entire length. They will take place at least once every 5 years and will be performed by relatively small service vessels. For this reason, no noticeable impact on climate, greenhouse gas emissions, or air quality is to be expected.

Impact on landscape.
During the construction phase of the BP OWF GCI, the potential impact of the project on the landscape, including the cultural landscape, will result only from the traffic of vessels involved in construction works – laying cable lines. It should be noted that navigation using the customary route takes place at a significant distance from the coast – approx. 10 km, and in the case of construction of the nearshore part of cable lines, for short periods large vessels, such as cable-laying vessels, will sail much closer to the shore and will be clearly visible to the observers onshore. However, this will not be a phenomenon significantly different from the existing nature of the water region landscape.
The construction of the BP OWF GCI will not involve the construction of elements raised above the sea

surface, so the impact on the landscape resulting from the presence of vessels participating in the cable line construction will cease immediately after the construction phase completion. Submarine export cables will be routed to the shore using the trenchless method at the section starting onshore at a distance of more than 100 m from the coastline and ending on the offshore area behind the sandbank zone, i.e. at a distance of approx. 1,200–1,300 m from the shore. Thanks to this, there will be no impact on the coastal landscape, including the beach.

The planned project will be located within the Coastal Protected Landscape Area. The applicable legal act is the Resolution No. 259/XXIV/16 of the Local Government of the Pomorskie Voivodship of July 25, 2016 on protected landscape areas in the Pomorskie voivodship which includes provisions resulting from the needs of landscape protection. The Coastal Protected Landscape Area covers mainly the coastal zone represented by sand bars and plains of organogenic accumulation with dunes. This area is characterized by valuable landscape qualities due to the strip arrangement of moraine upland landscapes, extensive coastal plains, dunes, beaches, and seashore. Significant problems of this area include increased tourist traffic, which places an excessive burden on the natural environment, mainly in places of intensive recreational and tourist investment, i.e. in the area of Karwia, Białogóra or Ostrowo. During the project construction phase, the basic impact on the landscape will be the periodical appearance of the construction sites. In the construction phase, forest will be cut and cleared, earthworks will be carried out and vehicle traffic will take place in connection with the transport of materials. Storage yards for storing mechanized equipment and construction materials will be constructed. Waste as well as grey and black water will be generated as a result of construction works. In connection with the implementation of the project within the range of the Coastal Protected Landscape Area, the following will occur:

- permanent transformation of the upper layer of the lithosphere, without changes in the site topography (except for small leveling in the area of cable draw pits – 0.25 ha);
- in the case of shallow presence of the first underground water level, periodic drainage of trenches;
- permanent removal of flora;
- impact on fauna, mainly scaring it away on a periodic basis.

The impact on the Coastal Protected Landscape Area during the construction phase will be mainly related to cutting in:

- the fixed service corridor with a width of 25 m – it will cover not more than 15 ha (permanent cutting);
- the temporary service corridor with a width of 20 m from external cable lines – it will cover not more than 25 ha (temporary cutting).

In total, as a result of the implementation of the BP OWF GCI, tree cutting will be carried out, with the maximum area of 40 ha, whereby after the completion of the construction phase 25 ha will be restored to the condition from before the construction.

As part of the planned project, trenchless methods, where no cutting will be necessary, are planned:

- HDD or HDD Intersect drilling through the coastal zone will be maximum 1.5 km long;
- HDD or HDD Intersect drilling under the Lubiatowo Dune will be approx. 800 m long;
- HDD or HDD Intersect drilling in waterlogged areas will be approx. 420 m long.

These impacts will be local and the construction works will not create a barrier effect within the range of the Coastal Protected Landscape Area.

Impact during the construction phase on the Coastal Protected Landscape Area will be related to construction works, presence of construction machines and equipment, performed trenches and will stop after completion of works, backfilling of cable lines and performance of reinstatement works in the temporary service corridor. The Investor does not plan to perform leveling on the route of underground

cable lines. It is only allowed in places where cable draw pits are founded.
In accordance with the Study of conditions and directions of spatial development of the Choczewo municipality (Resolution No. XXVI11/220/2021 of the Choczewo Municipality Council of January 26, 2021), the planned project does not run through the protection zones of natural and cultural landscape exposure, view corridors, exposure fields or in the vicinity of lookout points. In the area of the coastline, the planned project is directly adjacent to the view corridor.

Due to the nature of the planned project, including above all the underground route, no negative impact on the landscape, including the cultural landscape, is expected due to the mid-forest location of the planned project.
The customer substation will constitute a new anthropogenic element in the agricultural landscape against the background of forests, thus its impact on the landscape will be smaller than in the case of the open space location. The customer substation and 400 kV overhead line planned as part of the project are located outside the boundaries of the Coastal Protected Landscape Area.
The designed 400 kV line will be visible from the nearby municipal road between Osieki Lęborskie and Lublewko and the neighboring buildings of the villages of Osieki Lęborskie and Lublewko. In view of the presence of forests in the area, it will not be visible from Lubiatowo. The impacts of the 400 kV line on the landscape will be significant.
Due to the small intensity of works planned in the operation phase – inspections of cable lines, at least once every five years, and the low probability of cable repair works, it was assumed that during the operation phase, there will be no significant impact of the BP OWF GCI on the landscape, including the cultural landscape.

After operation discontinuation, no export cables are planned to be extracted from the seabed. Therefore, there will be no impact on the landscape, including the cultural landscape.

Impact on cultural values, monuments and archaeological sites and facilities.
On the basis of the data provided by the Pomorskie Voivodship Heritage Conservation Officer in Gdańsk, the planned project in both options is located within two sheets AZP 2-37 and AZP 3-37 developed as part of the Archaeological Photo of Poland (AZP).
The archaeological monument maps provided were developed or updated in 2019 on the basis of surface prospecting carried out in the years 2017–2018.
The historical elements important from the point of view of the cultural landscape along the route of the planned grid connection and in the area of potential impact (250 m away from the external underground cable lines) are archaeological sites in the form of barrow cemeteries (AZP 2-37/9 and AZP 2-37/8) and traces of settlements (AZP 2-37/11).
The planned project in the form of an underground cable line may pose a potential threat to one archaeological site, i.e. site No. AZP 2-37/9 Kierzkowo 8, which is located directly in the area planned for the execution of the BP OWF GCI at km 36+600 to km 36+977. 10 barrows were found within the site boundaries. An immediate threat to the archaeological site AZP 2-37/9 Kierzkowo 8 is the earthworks connected to the foundation of an underground cable line, which will interfere with the structure of the ground below the utility layer. Conducting construction works will involve irrevocable and irreversible destruction of soil structure and cultural strata. In order to avoid the destruction of the archaeological site, the Investor assumes that trenchless methods shall be used in its location. If this method is used, roads along the underground cable line will not be constructed along the route of the archaeological site crossing. The investor permits the use of open-cut method only if the surveys ordered by the Pomorskie Voivodship Heritage Conservation Officer will not confirm the presence of archaeological objects. In case the project is implemented using the open-cut method, it will be

necessary to prepare a temporary service road (in the form of laid steel or concrete slabs). The road will be dismantled after the project implementation along the section of the archaeological site. In these aspects, the impact of the construction phase will be negligible.

Impact on population, health and living conditions of people.
During the construction phase, temporary difficulties are expected for vessels using the customary route to and from the ports in Gdynia and Gdańsk – there is a need to modify the navigation route due to the presence of vessels involved in the construction of cable lines. However, this will be a minor difficulty and will cease after the completion of the construction phase.
Construction of cable lines will also result in the exclusion of a part of the fishing square surfaces from fishing – to ensure a safety zone for submarine cables. Fishing squares N7, N8, 06, 07 and 08 do not constitute significant commercial species fishing grounds in the entire Polish Maritime Areas and are not intensively used by fishermen.
It is not expected that during the construction phase of the BP OWF GCI there will be an impact on navigation and fishing, which could cause negative impacts on the people and their living conditions.
Restrictions in the use of the water region resulting from the establishment of a safety zone for cable lines by the Director of the Maritime Office in Gdynia will most probably result in the exclusion of this part of the maritime area from bottom fishing of ichthyofauna. Due to the minor significance of this part of the Baltic Sea in commercial fishing and the small expected area of the water region covered by the restrictions, it is expected that the impact of the BP OWF GCI on the people and their living conditions resulting from the limitations on fishing is considered negligible. No impacts on human health are expected.
In accordance with the technical characteristics of the planned project, after ceasing to use the BP OWF GCI, it is not planned to dismantle the submarine cable lines – the buried power cables will remain in the bottom sediment. Therefore, no impacts on people, their health and living conditions will occur.During the construction phase of underground cable lines, customer substation and 400 kV overhead line, the potential impact on people may be related to the periodic nuisance of construction works causing the emission of pollutants to the atmosphere and noise as well as ground vibrations. In view of the course of the planned project outside the settlement units, mostly at significant distances from the rural development areas, the above-mentioned nuisances will not occur. The only temporary nuisances of the construction phase may apply to persons staying on the premises of the rehabilitation and rest center for persons with disabilities, which is located in the direct vicinity of the planned project. In order to limit them, the local authority imposed on the investor the condition that construction works causing the highest noise intensity should be carried out, as far as possible, only during daytime, excluding Sundays and holidays (except for works requiring maintenance of technological continuity, e.g. drilling and customer substation construction) and submission of the schedule of works for information of the center management. Moreover, when planning construction works, the noise-generating equipment should be moved away from the center buildings as much as possible.
Nuisances related to the impact of road transport of construction materials, equipment and people, i.e. pollution of the atmosphere (flue gas and dusting from roads), noise, and ground vibrations will be limited in space (road vicinity) and time (period of construction works).
Due to the moderate scope of construction works and road transport and their execution generally in the daytime, no negative impact on human health is expected.
The most important nuisances related to the operation of the project in question concern the emission of heat, noise and electromagnetic radiation from the 220 or 275 kV underground cable lines, 400 kV overhead line and the customer substation:

- underground 220 or 275 kV cable lines:
  - it will not cause a significant thermal impact – at a distance of more than 10 m from the extreme

cable lines, the thermal impact will be at the level of several degrees above the assumed ground temperature,

- it will not result in exceeding the permissible value of the 50 Hz magnetic field (60 A m-1) for areas accessible to the public, and the expected impact of the electric field intensity (more than 1 kV m-1) will occur within the entire route of the designed line,
- it will improve the functioning of the power system in the region, including its failure-free operation, which will improve the supply of electricity to the facilities of residence and work of people, including ensuring their continuity and, at the same time, improve the living conditions of people;

- 400 kV overhead line:
  - the maximum value of the sound level under the most unfavorable operating conditions of the line (bad weather) will not exceed, in any place under the line (at the height of 4.0 m AGL), the value of 52.8 dB, which means that the admissible value specified in the Regulation of the Minister of the Environment of June 14, 2007 on admissible noise levels in the environment *(Journal of Laws of 2007, No. 120, item 826, as amended)* as 45 dB for residential development areas will be exceeded by 7.8 dB,
  - the area under the aforementioned layout of the parallel 400 kV overhead lines, where the computational analyses indicate the exceeding of the admissible value of 45 dB (for residential development areas), extends (at the height of 4.0 m AGL) to 39 m from the line axis in both directions,
  - in the vicinity of the layout of the parallel 400 kV overhead lines, the construction of residential development, due to the possibility of exceeding the admissible noise level value (45 dB), is not possible in the area with a width of 78 m (2 x 39 m),
  - it will improve the functioning of the power system in the region, including its failure-free operation, which will improve the supply of electricity to the facilities of residence and work of people, including ensuring their continuity and, at the same time, improve the living conditions of people,
- the customer substation will not result in exceeding the admissible noise level determined for nighttime (40 dB) and daytime (50 dB) in the area of the nearest protected development, including the planned and existing residential development.

Impact on the use and development of the water region and tangible property.

The offshore area where the planned project will be located performs various functions resulting from the existing human activity and natural resources present there.

Both during the construction and operation phases of the BP OWF GCI, the impact on the use and management of the water region will result almost exclusively from the establishment by the Director of the Maritime Office in Gdynia of a protection zone for cable lines, within which restrictions on use will apply in order to protect submarine cables against damage or destruction. Among the existing use forms of the water region, the protection zone will limit fishing activities in the scope of using bottom fishing gear. The analysis of commercial fishing and fishing effort in fishing squares N7, N8, 06, 07 and 08 showed that there are no significant commercial fish fishing grounds within their boundaries.

Restrictions on navigation in the water region may result from the presence of vessels involved in works related to the construction of cable lines. The BP OWF GCI area crosses the customary navigation route to and from the ports in Gdynia and Gdańsk. Vessels using this route will have to adjust the navigation route in order to bypass vessels involved in construction works.

It is not expected that the construction of cable lines may generate impacts on other forms of water region development during the construction phase of the BP OWF GCI.

The construction phase of underground cable lines will involve a temporary and local limitation of the tourist function of the forests in this area.

The route of the BP OWF GCI will be related to forest cutting:

- in the fixed service corridor with a width of approx. 25 m and a length of approx. 5 km (no cutting is planned in the area of trenchless crossings) – it covers 56 forest precipitates and a maximum area of 15 ha;
- in the temporary service corridor with a width of 20 m each from the external cable lines and a length of approx. 6.5 km, due to the necessity of deforestation related to the performance of construction works (except for the cutting in the area of drilling through the Lubiatowo Dune) – it covers 63 growing stocks with an area of approx. 20 ha.

The existing forest use will include a new function, namely, the transmission of electricity. In view of the technologies used and the installation of cable lines in the trench, this function will not be visible in the area.

The area where the customer substation and the 400 kV line will be located is currently not developed and is used for agricultural purposes. After the construction of the facilities, it will not be possible to continue agricultural activities in this area. This will reduce the biologically active surface and the infiltration of rainwater into underground waters. The vegetation in this area will be destroyed by removing the vegetation cover and, indirectly, by changing the soil and water conditions. The load of the access road to the substation and line will increase, which will contribute to a negligible increase in emission of dust (vehicle traffic) and flue gas coming mainly from motor vehicles.

The impact on tangible property in the construction phase will concern the use of road infrastructure.

In the operation phase, the planned project in the fixed service corridor with a width of 25 m will be subject to certain limitations related to a necessity to ensure the safe transmission of energy. Above the cables, along the entire length of the 220 kV cable lines, a red perforated cable caution tape will be laid. In the area, if it is possible, the route of the line is marked using marker posts. Paved roads will be constructed along the cable lines to ensure access to the cable lines. The land use in the area of the customer substation and 400 kV overhead line will change from agricultural to industrial.

Impact on access to raw materials and mineral deposits.

The planned project in both options is located entirely in the Żarnowiec license area No. 5/2019/Ł for the prospection, exploration and extraction of hydrocarbons of June 13, 2019, owned by ShaleTech Energy Sp. z o.o.

As the planned project is located at a distance of more than 4 km from the nearest deposit, no impacts of the construction and operation phase on deposits and the availability of mineral deposits are expected.

Impact of the planned project on the natural environment.

Both route options (OPA and RAO) at the offshore section are located between the Baltic Power OWF Area and the land in the area of 160.5 km of the seashore (according to the chainage of the Maritime Office). They cover a part of the seabed with a depth ranging from approx. 41.0 m to 0.0 m a.s.l.

The analyzed surface bottom sediments from the BP OWF GCI area belong to inorganic sediments with an organic matter content expressed by the loss on ignition (LOI) below 10%. The samples of bottom sediments collected during the environmental surveys were analyzed, among others, for the content of biogenic substances, persistent organic pollutants (POP) (i.e. PAH, PCB, TBT, mineral oils) and metals.

None of the tested sediment samples showed exceeded permissible concentrations of metals, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) as specified in the

Regulation of the Minister of Environment of May 11, 2015 on recovery of waste outside systems and equipment *(Journal of Laws of 2015, item 796)*.

The results of tests of individual chemical parameters of water in the BP OWF GCI area, such as reaction, oxygenation, five-day biochemical oxygen demand (BOD5), TOC, biogenic substances, PCBs, PAHs, mineral oil, cyanides, metals, phenols, cesium, and strontium, did not differ significantly from the content typical for waters of the southern Baltic Sea.

For the purpose of this procedure, model tests were carried out to obtain information on the range of propagation and concentration of suspended matter in water as a result of works disturbing bottom sediments. The analysis of the spatial extent and intensity of suspended matter distribution released into the water body during underwater works related to laying the BP OWF GCI cable lines was carried out on the basis of MIKE 21 coupled FM 2020 software developed and improved by DHL.
The following factors were taken into account and defined in the simulations performed:

- sea currents – as the main factor forcing the movement of suspended matter in the water body;
- the process of sediment settlement due to its physical structure – settlement of single and flocculent particles.

The simulations assumed mild to moderate weather conditions, as in fact only in such conditions it is possible to perform works related to laying and burying of power cables. The modeling investigated two technologies used in the construction of cable lines in offshore areas, which have the greatest environmental impact, i.e. jetting and mass flow excavation (*MFE*).
The analysis of the calculation results leads to the following conclusions:

- momentary concentrations of the maximum suspended matter concentration reaching locally 200 mg-l-1 in the jetting method with soil displacement and exceeding 500 mg-l-1 in the mass flow excavation method are significantly higher than natural concentrations present in the surveyed area. The duration of concentrations higher than 100 mg-l-1 is short and does not exceed 16 hours for the first method and 30 hours for the second method. Moreover, these high concentration values are spatially limited to the immediate vicinity of the cable route;
- increasing the speed of equipment burying cables increases the concentration and range of suspended matter impact. Speed is a factor that allows to control, to a certain extent, the disturbing level of the suspended matter impact on the environment;
- the calculated durations of the disturbance of environmental conditions caused by cable burial (exceeding the specified suspended matter concentrations) are short; this impact should be treated as short-term;
- the volume of newly formed sediment layers using the ground jetting method in the area adjacent to the BP OWF GCI may reach 4.5 mm, and the range in which the volume exceeds 1 mm may reach up to 3 km. These parameters are from 3 to 6 times lower than in the case of the mass flow excavation method;
- when using the jetting method for cable burial, the area of disturbed sediment structure with an intensive water stream with a significant capacity is considerably larger than for any other method that may be used. The effect of the stream destroys the sediment binding structure, allowing a significant part of the finest soils to enter the suspended matter condition. In practice, this method is usually used only on limited sections, e.g. at the point of crossing of two linear systems, to reduce the dip level of the previously installed system;
- the cable burial to the level of 3 m below the seabed level is practically the maximum level of burial applied. In each project, this level is adopted depending on the existing ground conditions and the intensity of use of the sea water region. It is very probable that different levels of burying the power cable (smaller) in the area of the offshore part of the BP OWF GCI in the analyzed project will be adopted;

- during the actual design of individual cables of the offshore part of the BP OWF GCI, the results of geotechnical surveys may affect minor corrections of cable routes.

After identification, the ground conditions may enable the use of the plowing technology in which the area of disturbance of the ground structure is smaller and the part transforming into the suspended matter state is much smaller than in the methods analyzed in the submitted EIA report.

Disturbance of bottom sediment related to cable burial or vessel anchoring is a process that favors the transfer of pollutants from sediments to water. During construction works, substances including labile metal forms, POPs, i.e. PAHs and PCBs, biogenic substances (nitrogen and phosphorus compounds) will pass into the water. The most important parameters influencing the impact level are: the length of cable sections and the width and depth of the cable trench, the types and amount of pollutants accumulated in bottom sediments, and the type of rock material forming the seabed.

The passage of pollutants from sediments into water (and thus a change in water quality) and the formation of long-lasting suspended matter depend on the type of sediment. The largest amount of pollutants and biogenic substances will be transferred to water from sediments with an increased organic matter content (e.g. muddy, silty sediments with a higher concentration of metals and POPs). These deposits will also contribute to the formation of more suspended matter, which will remain in the water for a long time (transparency reduction). Intensive resuspension may cause the release of biogenic substances immobilized in the sediment and contribute to eutrophication. In case of sandy deposits with low organic matter content (e.g. coarse sandy sediments), the described processes will be less intensive. These sediments are generally characterized by a small amount of fine-grained fractions and a low concentration of metals and persistent organic pollutants. Therefore, it is estimated that the processes related to the release of biogenic substances and POPs will occur at low intensity in the entire BP OWF GCI area.

It should be emphasized that substances released from the sediment will pass into water. However, within approx. 1 year from the end of the construction activities, these substances will move back into sediments after reaching an equilibrium.

The worst case scenario is the use of the PLB technology both in the RAO and OPA and the use of self-propelled remote-controlled equipment operating in the *water jetting* and *mechanical trenching* technology in construction works. In the case of this technology, the volume of disturbed sediment will be higher than in the SLB technology.

The bottom sediment that will be stirred up during underwater works will only be used to bury the cables and will not be moved to other maritime area or transported onshore. The sensitivity of sea waters was assessed as moderate. The release of pollutants and biogenic substances from bottom sediments during the construction phase is a direct negative impact of a regional range, short-term, reversible or irreversible, repeating during the construction period, of low intensity. The significance of this impact during the construction phase within the OPA was determined as (low) insignificant for sea waters and as (irrelevant) negligible for bottom sediments.

Surveys of phytobenthos carried out in June 2020 showed that in the OPA for the BP OWF GCI, there were no vascular plants in the sandy coastal zone (4.7–6.1 m). However, macroalgae were found: filamentous red algae (probably a species of the *Rhodomelaceae* family) and filamentous brown algae (probably *Pylaiella littoralis* or *Ectocarpus siliculosus)* at the depth range of 20.6–23.3 m. Macroalgae grew on the surfaces of boulders in very scanty quantities (seabed coverage with macroalgae <1%). It should be stressed that the hard seabed (boulders and pebbles) to which macroalgae may attach occupies less than 1% of the total area of the OPA.

Disturbance of the hard substrate present in the construction area of the BP OWF GCI in the form of boulders deposited on the seabed will result in the destruction of macroalgae growing on them. The

impact significance was assessed as moderate. However, due to the scant presence of macroalgae in this area, their loss will not be significant for the ecosystem. The impact of the increase in suspended matter concentration in the water body and thus higher turbidity of water and its resedimentation and redistribution of biogenic substances and pollutants from sediments to the water body will not have a significant impact on the macroalgae condition. The impact significance was assessed as negligible.
If the cable section is laid on the seabed surface and protected against damage or destruction by means of protective measures (e.g. concrete mattresses; stone overlays, concrete shields), the surface of these protections may be overgrown with macroalgae, which, together with periphyton fauna, will form a so-called artificial reef. The protections will be used in the seabed areas covered with boulders, which occur in the OPA at depths exceeding 20 m. Therefore, it can be expected that the structures will be overgrown, in scanty quantities, mainly with red algae, which in the further phase of development of the artificial reef will be displaced by bay mussels and balanus. The introduction into the environment of hard substrate which is potentially overgrown with periphyton fauna should be classified as an impact that is negative/positive, indirect, local and long-term. The magnitude of this impact will be irrelevant because boulder sites on which the protections may be built account for less than 1% of the total area of the OPA, which means that the area potentially overgrown with flora will be small. The sensitivity of macroalgae should be determined as high, as they are characterized by a high potential for development in the presence of hard substrates to which they can easily attach. The impact significance was assessed as negligible.

The results of the surveys showed that the macrozoobenthos community is not unique for this area, it is not outstanding in terms of average values of its size and biomass or special values and is characterized by the average “moderate” state of quality. It is formed by benthic organisms typical of the shallow and medium deep seabed (up to 35 MBSL) of the coastal and open waters of the southern Baltic Sea – the eastern Gotland Basin. On the soft seabed (sandy and gravel sediments), accounting for as much as 99% of the surface in the area of the planned project, 23 macrozoobenthos taxons were identified, among which *Pygospio elegans* and *Marenzelleria sp*. were permanently present. These two taxons also dominated in terms of their population size. The Baltic clam (*Limecola balthica*) had the largest share in biomass. On the other hand, the hard seabed macrozoobenthos (clusters of boulders), constituting a negligible fragment of the BP OWF GCI, i.e. less than 1% (approx. 0.3 km^2) of the surface, located on the course of the OPA corridor at the depth of about 22 m, was formed by up to 14 taxons of benthic macrofauna. Both the size and biomass of this group were strongly dominated by the clams *Mytilus trossulus* (bay mussel) which is a component of the diet of benthivorous birds and fish. This mollusc was also one of the 6 most common species in this community. The quality status of the hard seabed macrozoobenthos communities was rated as very good, since this habitat – apart from the bay mussel aggregation – was formed by other species typical of this community as well as fauna accompanying bay mussels, i.e. bryozoans, hydrozoans, crustaceans and polychaetes. A separate impact assessment of the project on two benthic fauna communities (soft and hard seabed), which differ in terms of their significance and sensitivity in the context of various types of impact, has been carried out. As a result of the analysis of three pressure factors during the construction phase: increase in suspended matter content in water, sedimentation of suspended matter on the seabed and redistribution of pollutants from sediment to water, on the soft seabed and hard seabed macrozoobenthos, these impacts were assessed as negligible. The impact resulting from the disturbance of the bottom sediment structure was assessed as insignificant. The distribution of the quality of macrozoobenthos communities in the BP OWF GCI area indicates that the predominant surface of the planned project area is characterized mainly by the moderate and poor condition of benthic fauna. The most negative impact will be physical destruction of benthic organisms as a result of disturbance of bottom sediments during the burial of cables in the seabed, especially in places where the ecological quality of communities was

higher than moderate, however, occurring only in some places along the route of the OPA corridor, *inter alia*, in the area of the habitat of hard seabed macrozoobenthos and locally on the sandy seabed. Impacts on benthic habitats indirectly cause impacts at higher trophic levels, by reducing the food base for fish and seabirds feeding on benthos (benthophagus). However, there will be no significant change in the qualitative structure of the macrozoobenthos community, as this phenomenon will be reversible and up to several years after the cessation of the impacts, the qualitative structure of macrozoobenthos will be rebuilt and thus the food base for benthophagus will be restored. The overall impact on macrozoobenthos at the construction phase is not significant.
The operation of the BP OWF GCI will cause the following impacts on macrozoobenthos inhabiting this area:

- loss of a fragment of macrozoobenthos habitat;
- emission of EMF;
- heat emission;
- artificial reef effect.

The impact assessment of the BP OWF GCI during the operation phase was carried out separately on:

- soft seabed macrozoobenthos;
- hard seabed macrozoobenthos.

The analysis performed shows that during the operation phase of the BP OWF GCI, in principle, there will be no significant changes, all the more an increase in biodiversity in terms of the structure of the benthic habitat of the seabed, as the cables are planned to be buried in the seabed. The possible destruction of hard seabed macrozoobenthos within the OPA corridor in a very small area of less than 0.3 km^2 will be compensated by the concrete material protecting the cable laid in this location on the seabed being overgrown with an artificial reef, thanks to which the project, in the short-term, will not result in a change of the status of biodiversity of benthic habitats.

Surveys of ichthyofauna in the OWF GCI area aimed at determining the species composition, abundance and distribution of ichthyofauna, the structure and biological characteristics of the existing fish species, including the species composition and abundance of ichthyoplankton. Ichthyofauna surveys were carried out on an annual basis, taking into account 5 survey cycles covering all the seasons. In the course of ichthyoplankton surveys carried out in the BP OWF GCI area, eggs of one fish species and larvae classified into 12 taxons were caught. During pelagic research surveys at sea, apart from the herring and the sprat, sparse individuals of the garfish, the three-spined stickleback, the great sand eel, the mackerel, the European flounder, the lesser sand eel and the sea trout were caught. The outcome of seabed research surveys at sea using set gillnets in the BP OWF GCI area is fish classified into 15 taxons. The European flounder and the codfish were dominant, while other species were a small bycatch (great sand eel, plaice, shorthorn sculpin, mackerel, perch, zander, turbot, sprat, herring, lumpfish, lesser sand eel, vivaparous eelpout, whiting). Fish classified into 19 taxons were caught using beach seine net. The surveys at sea were dominated by the lesser sand eel, followed by the herring, the great sand eel, the European flounder, and the perch.
All the survey equipment in the BP OWF GCI area caught fish classified into 31 taxons.
The qualitative and quantitative composition of ichthyofauna of the BP OWF GCI area is typical of the southern Baltic Sea waters, with a clear predominance of the codfish and the European flounder in seabed surveys at sea and the herring and the sprat in pelagic surveys at sea.

Breeding and feeding migration routes of the herring, the sprat and the codfish run through the surveyed area. The planned project area is a seasonal habitat of adult European flounder specimens. The European flounder does not spawn directly in the surveyed area as the salinity here is too low to enable

effective insemination. Shallow waters (up to 1 m deep) at the very shore are a place where the European flounder fry occurs and feeds. The BP OWF GCI area is also a habitat of the sandeel and freshwater species periodically migrating from inland waters, such as the roach, the common bream, the perch, and the zander. The presence of larvae of the sandeel, the shorthorn sculpin, the long-spined bullhead, the rock gunnel, and the turbot was found in the BP OWF GCI area, which suggests that these taxons may spawn in the coastal part of the area.

In summary, out of the 31 taxons observed during ichthyofauna surveys carried out for the purposes of the planned project, four are of particular economic importance, being the subject of industrial fishing. These are: the sprat, the herring, the codfish, the European flounder. During exploratory fisheries, no salmon or eel were observed (lack of standardized survey methods, low density), but these two species are present in fish catches.

In the exploratory fisheries carried out in the BP OWF GCI area, the most numerous were: the sprat, the herring, the codfish and the European flounder, which are the core of industrial fishing. Three taxons of fish, the common seasnail, the straightnose pipefish and representatives of the gobies family, belong to species partially protected in accordance with the Regulation of the Minister of the Environment of December 16, 2016 on the protection of animal species *(Journal of Laws of 2016, item 2183, as amended)*.

In order to assess the significance of the BP OWF GCI area with respect to ichthyofauna, its following values were considered: taxonomic diversity, presence of protected and endangered and commercial species, feeding or spawning grounds, and migration routes. Based on the aforementioned functions, natural values of this area were assessed as medium. The assessment was made on the basis of an expert evaluation.

In order to assess the impact on marine ichthyofauna in the construction phase of the BP OWF GCI, the impact of noise and vibration emissions, increase in the concentration of suspended matter, release of pollutants and biogenic substances from sediments into water and change of the habitat was analyzed.

Fish have acoustic stimulus receptors and their sensitivity to sound depends on the receptor structure. Fish without swim bladders (e.g. the adult flatfish) or fish with a bladder far from the ear (e.g. the salmon) are only capable of receiving the movement of water molecules. This involves a narrow range of audible frequencies (usually up to approx. 500 Hz) as well as a higher audibility threshold. For fish with swim bladders near or directly connected to the ear (e.g. the codfish and the Clupeidae), the audibility threshold is lower and the range of recorded frequencies may reach 3,000–4,000 Hz (Popper A.N. et al., 2003).

The range of noise impact depends, on the one hand, on the aforementioned construction of the auditory apparatus and, on the other hand, on the sound intensity. Environmental factors influencing sound propagation, such as seabed morphology or salinity, also play an important role. Fish can receive anthropogenic sounds even from a distance of several dozen kilometers. Depending on the intensity of noise and the distance from its source, the impact can have various effects ranging from behavioral changes to the death of fish.

Depending on the intensity of the noise and the distance from its source, a number of effects may occur:

- behavioral changes – disturbance of normal activities such as feeding, spawning, formation of shoals, migration, displacement from preferred areas, avoidance reaction;
- masking of important biological acoustic signals from the environment, including from other individuals;
- auditory system damage – hair cell damage, temporary (TTS) or permanent hearing threshold shift (PTS);
- tissue damage, physiological disturbance – e.g. internal hemorrhage, damage to gas-filled organs such as a bladder, and to surrounding tissues;

- death as a result of injuries caused by exposure to noise.

The process of laying cables on the seabed will involve noise emission. It will be caused both by the traffic of vessels participating in the construction and by the operation of underwater equipment used for making the trench in which cable is laid.

Very little information on noise emitted by equipment jetting or flushing out trench sediment is available in literature. According to Nedwell and Howell (2004), the level of noise generated during cable trenching by the plow was 178 dB re 1 pPa2s at a distance of 1 meter from the sound source. Those authors assessed the potential impact of the noise level, taking into account the audibility thresholds of fish of various species: the codfish, the salmon and the common dab.

For none of the taxons mentioned was it found that the level of emitted sound at a distance of 100 m from the noise source exceeded the audibility threshold by more than 75 dB. That value, according to Nedwell and Howell (2004), is the limit above which a moderate behavioral response, e.g. an avoidance reaction, should be expected. A higher level of noise, amounting to 187 dB re 1 pPa2s, generated during works is specified by Taormina et al. (2018). Model simulations carried out on the basis of those values indicate that an increased noise level (120 dB re 1 pPa) will be present in an area of 400 km^2 from the sound source. A detailed analysis of the potential impact of noise generated during the planned laying of the high-voltage cable through the Strait of Georgia (Canada) has shown that the expected noise level during works will not differ from the one currently existing in the area of the planned project (Jasco Research Ltd, Vancouver Island Transmission Reinforcement Project. Atmospheric and Underwater Acoustics Assessment. Report prepared for British Columbia Transmission Corporation 2006).

According to the project description, for vessels, noise will come from a running engine, the sound of the propeller, and the operation of the steering engines. Large vessels equipped with DP systems, such as cable-laying vessels, generate noise with low frequencies in the band from 30 Hz to 3 kHz and with acoustic pressure from 100 to 197 dB re 1 pPa at a distance of 1 m from the source. The operation of underwater equipment involved in the construction of cable lines also involves the generation of noise to the environment. The highest noise levels will be generated by underwater vehicles operating in the *mechanical trenching* technology, which emit sounds with acoustic pressure from 172 to 185 dB re 1 pPa at a distance of 1 m from the source. Therefore, the impact of noise and vibration on adult fish will be: negative, direct, short-term and local.

The sensitivity of the codfish, the herring and the sprat to the impact was assessed as very high, and for the European flounder, the sand goby, the common seasnail and the straightnose pipefish as high.

The significance of the impact was assessed as negligible for all the surveyed fish species. With regard to protected fish, only larval stages were found during the surveys, and for them the impact will be local in nature.

While burying cable in the sediment, the concentration of suspended matter in sea water will increase. It will depend on a number of factors related both to the process technology (size of the trench, tools used) and environmental conditions (physical properties of sediment, seabed morphology, water dynamics). According to Taormina et al. (2018), suspended matter concentrations during the construction of the BP OWF GCI may reach several dozen mg 1-1.

The impact of suspended matter on ichthyofauna may result in a whole range of negative effects, starting from avoidance reaction, by slowing down the rate of growth and reducing the success of reproduction up to an increase in mortality.

The intensity of the impact of increased concentration on fish will depend on both physical factors, such as sediment characteristics (grain size distribution, mineral composition, adsorption and absorption capacity), salinity, temperature and oxygen concentration in sea water, as well as biological factors related to fish condition, their development stages, method of reproduction and mode of life. The impact is also closely related to the concentration of suspended matter, the range of an increased level of that factor and the time of ichthyofauna exposure to the impact.

The development stage of an organism is a primary factor determining the intensity of the suspended matter impact. A concentration causing a lethal effect in early stages of development (larvae and eggs) is 100 to 1,000 times lower than that necessary to cause that effect in young and adult fish. The higher sensitivity of the earliest development stages is an effect of their high metabolism resulting in high oxygen demand. Therefore, suspended matter particles entering larval gills may hinder breathing and increase larval mortality.

A high concentration of sediment particles in water may also have an indirect impact on fish larvae by limiting visibility. An effect may be reduced ability of larvae to see and get food as their range of vision in many cases does not exceed their body length. Also, high turbidity (80 JTU) had a negative impact on the ability of herring larvae to find food. On the other hand, the limited visibility may have an indirectly positive effect on the survival rate of larvae by reducing the predation pressure. The increased sensitivity of larvae compared to adult fish also results from much lower mobility of those development stages and, consequently, limited ability to leave the impact area.

A negative impact of increased suspended matter concentrations on fish eggs was also observed. It mainly consists in limiting gas and metabolite exchange caused by suspended matter particles adhering to the egg coat 4.

Sedimentation of suspended matter particles on the surface of pelagic eggs may result in a decrease in its buoyancy, causing eggs to fall down to deeper water layers or to the seabed, where it encounters worse oxygen conditions. Under such unfavorable conditions, predation pressure from benthic organisms and mechanical and physiological stress also increase.

The impact of increased suspended matter concentrations on demersal eggs is probably less intense than it is in the case of pelagic eggs.

Due to the possibility of actively avoiding areas with a high suspended matter concentration in the case of adult fish stages, sublethal rather than lethal impacts should be expected.

It is assumed that the construction phase (laying of up to 4 cable lines and cable landfall) will be implemented in the shortest possible time and will be completed within a maximum of 12 months of its commencement. The date of commencement of construction works will not depend on the season of the year.

It is not going to be necessary to perform seabed leveling along the cable line routes. The bottom sediment that will be stirred up during underwater works will only be used to bury the cables and will not be moved to other maritime area or transported onshore. It is anticipated that some of the stirred up sediment will resuspend to the water column and re-sediment at some distance from the underwater works site.

A comparison of the results of modeling the spread of suspended matter in the BP OWF GCI area with information on the impact of different values of its concentrations on fish indicates that for adult demersal fish stages, only an avoidance reaction should be assumed. A concentration level exceeding momentarily 500 mg/dm^{-3}, expected in the least favorable option (cohesive soils, velocity of 5 km/d., ground fluidization method) may be harmful to pelagic fish, however, the areas affected by that impact will be very limited in space. Given the possibility of actively avoiding adverse conditions, the hazard should not be significant.

For larval stages of fish, suspended matter concentrations exceeding 500 mg/dm^{-3} may slow down the growth of herring larvae, but the momentary and spatially limited nature of this impact should not be significant. However, the concentration range in a prevailing area with the disturbance predicted by the model (up to 150 mg/dm^{-3}) should not, according to most publications on this subject, affect larvae or pelagic eggs.

At the same time, the results of modeling of the spread of suspended matter in the BP OWF GCI area indicate that an increase of its content in water will be short-term and local.

The impact related to the increase of suspended matter content will be negative, direct, local, and short-

term.
The sensitivity to the impact for the codfish, the European flounder, the common seasnail, the sand goby, the sprat and the straightnose pipefish was assessed as moderate, and for the herring as high. The significance of the impact is assessed as negligible for all the surveyed fish species.
During the performance of works in the construction phase, there may be a temporary significant reduction in the availability of the project area to fish. During the works, some benthic organisms, especially infauna, i.e. organisms living under the sediment surface, will be physically destroyed. It may result in a reduction in the food base of benthivorous fish and may cause a reduction in their abundance. However, taking into account the linear pattern and width of the area (determined on a scale of tens of meters) where disturbances will occur, it seems that for fish as organisms actively seeking food it should not be a major problem.
The BP OWF GCI area is neither a codfish spawning ground nor a deep-water spawning ground of the European flounder or the sprat, dominant in the area. Herring spawning may occur in the surveyed area, however, it may be assumed that any disturbances in the reproductive process will not affect the recruitment of this species at the population level. The presence of sparse larvae of the sandeel larvae, the shorthorn sculpin, the long-spined bullhead, the rock gunnel and the turbot in the samples taken indicates that these taxons may spawn in the coastal area. This is confirmed by literature data indicating shallow coastal areas with seabed covered with sandy or gravel sediments as a natural environment favoring the reproduction of these fish. However, cable landfall using a trenchless method will enable to avoid an adverse impact in the zone up to the isobath of 13 m, and a disturbance of spawning in the zone between 13 and 20 m will not affect the recruitment of these species at the population level due to the wide spawning areas along the entire coast.
The impact related to the change of habitat will be negative, direct, temporary and local.
The sensitivity to the impact for the codfish, the European flounder, the common seasnail, the sand goby, the sprat, the herring and the straightnose pipefish was assessed as high. The significance of the impact is assessed as negligible for all the surveyed fish species.
Harmful chemical substances may be emitted when laying cables. They may be caused by pollutants deposited in sediments. A number of toxic substances may penetrate into water, such as heavy metals (cadmium, chromium, copper, lead, mercury, nickel, zinc, arsenic), chlorinated biphenyls, organochlorine and organophosphorus pesticides, TBT and its decomposition products, the sum of hydrocarbons, polychlorinated dibenzodioxins, polychlorinated dibenzofurans and PCBs. Previous surveys of sediments in the Polish maritime areas did not show the presence of high concentrations of those substances. The concentrations of PCBs, organochlorine pesticides and heavy metals (copper, zinc, cadmium, lead, mercury) found in sediments from different locations of the Polish maritime areas were too low to cause harmful effects on organisms. Also, the concentrations of DDT, HCB, and PCDD/F in sandy sediments of the area remain at a level that does not cause a toxic effect on marine organisms. Low concentrations of heavy metals in sediments of the Polish part of the southern Baltic Sea are indirectly confirmed by the results of the Polak-Juszczak surveys during which no significant accumulation of harmful substances in tissues of the European flounder living a demersal life was found. Also, the results of surveys carried out in the BP OWF GCI area in 2019–2020 showed low concentrations of harmful substances in sediment.

The sensitivity of fish to harmful substances depends on the development stage, sex and species. Maturing females, embryos and early larval stages are particularly sensitive. High concentrations of certain harmful substances in the gonads of spawning fish may cause high mortality of their offspring. The exposure of fish to toxic substances may cause morphological changes such as abnormal development of reproductive organs, deformations of the lower jaw and the eyes, anomalies of the spine and a reduced size of larvae at incubation. Those effects were observed in surveys in the North Sea in

species such as the common dab, the European flounder, the codfish and the herring. Physiological changes such as decrease in heart rate and hormonal disorders, including impaired spawning performance, may also occur.
The concentrations of persistent organic pollutants (i.e. PAH, PCB, TBT) and harmful substances such as metals and mineral oils were low in the BP OWF GCI area and did not differ substantially from the literature data for sandy sediments in the southern Baltic Sea. The surveyed sediments were also characterized by low concentrations of the radioactive element ^{137}Cs, typical of sandy sediments.
The impact related to releasing pollutants and biogenic substances from the sediments to the body of water will be negative, direct, temporary and local.
The sensitivity to the impact for the codfish, the European flounder, the common seasnail, the sand goby, the sprat, the herring and the straightnose pipefish was assessed as moderate.
The significance of the impact is assessed as negligible for all the surveyed fish species. The conducted assessment of impacts occurring during the operation phase (noise and vibration, electromagnetic field, release of harmful substances) indicates that they will not be significant. Therefore, they are not going to have an effect on biodiversity. However, a possible impact on the biodiversity of ichthyofauna may be assumed due to the presence of structures protecting cables in areas where, due to the type of the seabed, it is not going be possible to bury them in the sediment. Structures such as rock fills and concrete structures will constitute a substrate for the creation of an artificial reef. This may result in the presence of a higher number of some fish species nearby and a possible increase in some biodiversity indicators. However, it should be emphasized that this phenomenon will have a very local impact, taking into account the probably small area where it will be necessary to build such structures.

There are 4 species of marine mammals in the Baltic Sea: the gray seal (*Halichoerus grypus*), the harbor seal (*Phoca vitulina*), the ringed seal (*Pusa hispida*) and the porpoise (*Phocoena phocoena*).
In the area of the BP OWF GCI, in the period from April 2020 to March 2021, passive acoustic monitoring of marine mammals was carried out and marine mammals were observed along the shore.
Out of four species of marine mammals present in the Baltic Sea, during the monitoring carried out in the survey area, the occasional presence of porpoises (8 DPD) and one-time observation of the harbor seal were found.
Results of acoustic monitoring of the porpoise, aerial visual observations, and additional marine mammal observations from vessels, carried out as part of seabird surveys, indicate that porpoises and seals are sparse in the survey area, which is consistent with the general conclusions reached in the SAMBAH and “Pilot implementation of monitoring of marine species and habitats in 2015–2018” projects.
As a result of the project implementation, the following impacts on marine mammals were determined:

- noise;
- occurrence of suspended matter;
- occurrence of pollutants;
- changes in the habitat;
- disturbances on the water surface.

Porpoises have exceptionally good hearing within the range of ultrasounds from 10 kHz to 160 kHz. On the other hand, seals do not hear well above 50 kHz and have much better hearing than porpoises at lower frequencies.
Porpoises use sounds, very high frequency clicks for echolocation and communication. Due to the high frequency (above 100 kHz), those sounds wane quickly with the distance, and the maximum range of communication for porpoises is less than 1 kilometer. Seals also vocalize underwater, but at the opposite end of the frequency spectrum from porpoises. They emit rough grunts or barks with the main energy of about several hundred Hz. The use of those sounds is probably limited to attracting females or

competition among males.
When swimming on the water surface, seals may reduce their exposure to underwater sounds as sound pressure levels (SPLs) are often lower just below the surface than they are further in the depths. Seals can adapt physiologically so that they can switch between the maximum sensitivity to sounds from the air or water. This may mean that hearing sensitivity to underwater sounds is lower when swimming on the water surface (when hearing may focus on sounds from the air) than when swimming in the depths. In extreme cases, occurring at a short distance from high-intensity impulsive noise, animals may sustain physical injuries, including damage to organs (not only the organ of hearing) or death caused by the same. Another effect of exposure to loud sound is temporary or permanent hearing damage known as a temporary threshold shift (TTS) and a permanent threshold shift (PTS). It can last from a few minutes to a few hours, or even days. Although a TTS is reversible and is generally considered to have minor direct effects on an animal, it is known that repetitive TTSs will eventually lead to a PTS that may affect the ability to communicate, move and feed.
For the purposes of the EIA report, underwater noise modeling was performed and a comparison of mammal audiograms with frequency ranges generated by the operation of vessels and equipment at sea was presented.
When compared with the hearing thresholds of marine mammals, it can be seen that noise generated by both large vessels with DP2, smaller vessels and underwater equipment for cable laying is detectable by marine mammals. Since sound sources are going to be mobile, when moving at different depths, and as the conditions of propagation of sounds being generated are going to change dynamically, it is not possible to determine the exact impact ranges, however, it is known that their range will be local, at a distance of several hundred meters from the sound source.
A potentially negative impact in the immediate vicinity of the noise source, which may result in a temporary or permanent threshold shift (TTS, PTS) or other injuries is very unlikely as porpoises and seals temporarily avoid areas where noise-generating works are carried out – in the case of measurements taken in Germany while a dredger operated, porpoises avoided them at a distance of 600 m. If mammals do not spend too much time near a dredger, they will not be physically injured as a result of a noise impact. The impact on marine mammals is moderate for porpoises and insignificant for seals.
An impact on marine mammals due to an increased concentration of sediments in the form of suspended matter, which occurs as a result of construction works, may cause visual disorders and behavioral reactions, such as avoiding suspended matter plumes. However, all three species of marine mammals show low sensitivity to suspended matter, as hearing (porpoises), hearing and sensing (seals) are the main senses used to identify the environment. The occurrence of construction-related suspended matter is local around the construction site and short-term; in worst case scenarios, suspended matter in high concentrations will be present at a distance of up to 1.3 km from the construction works site and will remain in the depths for up to 11 hours. The presence of marine mammals in the area of increased suspended matter concentration is very unlikely as they avoid areas where noise-generating works are carried out. The impact of suspended matter on marine mammals during the construction phase is negligible.
An increase in pollution level may be caused by increased vessel traffic or releasing pollutants from seabed sediments. However, on the basis of the surveys conducted, it is assumed that the implementation of the project will result in releasing small amounts of harmful chemicals from the seabed.
Increased vessel traffic during construction may result in an increase in the discharge of pollutants into water, and the risk of an oil leakage as a result of a vessel collision increases, too, however, the likelihood of such occurrences is low, and vessels are subject to legal requirements aimed at preventing sea pollution.

Due to the small scale of the impact and the low sensitivity of marine mammals, the occurrence of pollutants during construction will be negligible.

Laying electric cables will change the seabed along the BP OWF GCI route. Physical destruction of the seabed may result in the loss of benthic fauna habitats (soft seabed species) and temporary loss of benthic biomass, including spawning ground disturbances. Cable landfall using the trenchless method will enable to avoid an adverse impact in the zone up to the isobath of 13 m, and the spawning disturbance in a deeper zone will not affect individual fish species at the population level. The cable depth in the seabed causes local damage only, and the recolonization of the soft seabed takes place relatively quickly. Temporary loss of demersal fauna biomass may have an indirect negative impact on marine mammals due to the destruction of spawning grounds of fish being food for mammals, however, this impact has been assessed as negligible for all the surveyed fish species, it has a local range and is short-term. The significance of the impact of habitat changes on marine mammals is negligible.
Physical disturbances related to the performance of construction works above water may constitute potential negative impacts for seals (but not porpoises), although those animals are in general not considered a species sensitive to disturbances. During reproduction and molting periods, seals are sensitive to onshore physical disturbances in the vicinity of colonies, but as there are no known seal colonies in Polish waters and construction works will not be carried out close to known colonies in waters, the impact on seal reproduction and molting is negligible.
A potential negative impact of the project that may affect marine mammals is scaring away by noise generated by vessels and underwater equipment used during maintenance or repairs of systems. However, due to the local and short-term nature of this impact, a lack of evidence of high importance of the area for individual species of marine mammals and their sporadic presence, the impact was assessed as insignificant.

The survey of avifauna in the BP OWF GCI area was carried out in the period from October 15, 2018 to November 26, 2019. The survey site consisted of 8 research transects, 4 of which partially crossed the Coastal Waters of the Baltic Sea Natura 2000 site (PLB990002). In total, 41 research campaigns were carried out.
In the project area, a total of 30,091 birds sitting on water were found during the survey, of which 95.8% were the velvet scoter (17,872 individuals – 59.4%) and the long-tailed duck (10,946 individuals – 36.4%). A share of more than 1% was also reached by the European herring gull (528 individuals) and the razorbill (326 individuals). The share of all other species is only 1.2%.
The southern part of the offshore area of the planned project with a length of 11.1 km crosses the eastern part of the Coastal Waters of the Baltic Sea Natura 2000 site (PLB990002) in the north-south axis.

According to the Standard Data Form (update: March 2022), the species subject to protection in the Coastal Waters of the Baltic Sea PLB990002 Natura 2000 site are: the razorbill *Alca torda*, the black guillemot *Cepphus grylle*, the long-tailed duck *Clangula hyemalis*, the European herring gull *Larus argentatus*, the velvet scoter *Melanitta fusca* and the common scoter *Melanitta nigra*.
No conservative measures plan has been established for the Coastal Waters of the Baltic Sea PLB990002. However, it should be stressed that works are in progress to establish it.
During the construction phase, the main sources of impact on seabirds being the subject of protection of the Coastal Waters of the Baltic Sea PLB990002 site in the planned project area will be: traffic of vessels involved in the construction of cable lines which causes bird scaring; noise and vibration which cause scaring of fish being food for ichthyophagi (the razorbill); resuspension of bottom sediments resulting in water turbidity and hindering the feeding of ichthyophagi (the razorbill); destruction of benthic communities along the line of the transmission cable. It may lead to a reduction of the area of feeding

grounds of bentophagi (the velvet scoter, the long-tailed duck, the common scoter) and ichthyophagi (the razorbill).
However, it appears from the documentation submitted that the range of these impacts will be local and short-term. To minimize the project impacts on bird species subject to protection in the aforesaid Natura 2000 site, a responsibility has been imposed on the Investor to intensify the pace of construction works in the offshore part from April through September when the number of birds in the Baltic Sea is the lowest. Moreover, the need to limit sources of strong upward light at night was indicated, in particular during bird migration periods, i.e. from March to May and from the end of July to mid-November, to minimize the lighthouse effect. Due to the short-term, local and reversible range of the impact and taking into account the conditions imposed, it was considered that the project in question would not have a significant negative impact on the subjects of protection of the Coastal Waters of the Baltic Sea PLB990002 Natura 2000 site.
On the basis of results collected, the density of seabirds was modeled in the area of the two options of the cable line routes being considered.
The results obtained clearly indicate that the area covering the RAO is used more intensively by seabirds compared to the option proposed by the Applicant. This applies in particular to the long-tailed duck and the velvet scoter. For the razorbill and the European herring gull, no differences were found between the options in terms of bird density. Therefore, it can be concluded that the implementation of the option proposed by the Applicant will have a smaller impact on seabirds than it is for the rational alternative option.
An analysis of possible impacts resulting from the operation of the BP OWF GCI indicates that their effects in terms of changes in seabird biodiversity will be only local and short-term and will mainly involve temporary loss of habitats. Those impacts were assessed as insignificant for marine avifauna.

In the onshore area, the route of the planned project in both options is characterized by significant variety in terms of site topography; starting from the beach and a wide spit strip with the Lubiatowo Dune, passing through the forefield of the upland with the valley of the Bezimienna river to the undulating moraine upland in the area of the customer substation.
For the purposes of preparing the EIA report, a wildlife survey was carried out, covering an area of 38.2 km^2.
The presence of fungi in the area of the planned project in both options is quite sparing and concentrates only in the northern part of the area. The fungus species present here are quite frequent and widespread, characterized by a high degree of natural value in the lowland forest areas. The environmentally valuable species in OPA include: the red ring rot, the yellow knight, the zoned cork hydnum and the dune brittlestem.
The OPA route passes through two areas characterized by significant abundance and diversity of lichen, including a major share of valuable species (protected, rare, endangered), with approx. 36 species present here, among others: the powdered wrinkle lichen, the bristly beard lichen, the zwackhia viridis, the reindeer lichen, the gray reindeer lichen, the lecanora intumescens, the eagle’s claws, the cartilage lichen, the even-topped branch-moss, and the farinose cartilage lichen.
Along the entire OPA route there are common terrestrial species of coniferous forests, some of which are under partial protection. The following moss and Marchantiophyta species present here should be mentioned: the pincushion moss, the glittering woodmoss, the pointed spear-moss, the Bruch's pincushion, the hair moss, the bog groove-moss, the red-stemmed feathermoss, blunt-leaved moss, the red bog-moss, and the wavy broom moss.
The vegetation of the area in both options includes communities of strips of white dunes, then gray dunes as well as coastal forests and coniferous forests, turning into fresh pine coniferous forests and fresh mixed coniferous forests.

8 species of environmentally valuable plants have been found along the OPA route: the Rhododendron tomentosum, the black crowberry, the one-flowered wintergreen, the broad-leaved helleborine, the lesser rattlesnake plantain, the sand sedge, the stiff clubmoss, and the cross-leaved heath. The survey of natural habitats showed the presence of four natural habitats: 2120 – coastal white dunes, 2130 – coastal gray dunes, 2180 – mixed forests and coniferous forests on coastal dunes and 9110 – acid beech forests.

The main impacts of the construction phase on the above will be related to:

- execution of open-cut trenches in connection with laying the cable, construction of cable draw pits and entry and exit pits at the sections planned to be crossed by means of trenchless methods;
- leveling works related to levelling of the area for the customer substation, 400 kV overhead line poles and cable draw pits.

In such cases, the species site will be removed. As a result of the assessment, it has been found that for fungi, these impacts will be insignificant, for lichens and vascular plants – significant, and for mosses and Marchantiophyta – negligible.

The planned project in both options is located within the boundaries of the Choczewo Forest District. The forest district areas are dominated by potential natural vegetation of the complex of communities being acidophilic oak forest (*Fago-Quercetum*) and acidophilic lowland beech forests (*Luzulo pilosae-Fagetum*). The forests health condition in the case of pine and mixed tree stands with their share is good. Tree stands are characterized by a good quality and health.

In the northern part of the planned project, in the option proposed by the Applicant, in km 33+550 to 33+730, there are protective (soil-protecting) fresh mixed coniferous forests in which the pine is the dominant species. The age of the species is estimated at 81–106 years. Subsequently, in km 33+800 to 34+100, there are fresh coniferous forests, also soil-protecting ones, with the pine being the dominant species, aged 76–91. In km 34+100 to 34+400, there is a soil-protecting dry coniferous forest, 71 years old, followed by a small fragment of a fresh coniferous forest having a soil-protecting function. The section from km 34+500 to km 34+610 is occupied by wet coniferous forests with the pine being the dominant species, aged 136. In km 34+610 to 34+800, there are soil-protecting fresh mixed coniferous forests, with the pine being the dominant species, aged 136, and younger species aged 18–30. In km 34+800 to 35+000, there are soil-protecting fresh coniferous forests, aged 100, with pine dominance. In km 35+000 to 35+850, there are soil-protecting fresh mixed coniferous forests, with the pine being the dominant species,aged 136–166, and younger species aged 35–46, with a small fragment of a fresh coniferous forest having a soil-protecting function. Then, in km 35+850 to 36+200, there is an alder-ash forest with a share of an alder forest, the beech and the spruce. They are water-protecting forests aged 16–86. Behind this complex, there is a small fragment of fresh mixed coniferous forest. In km 36+270 to 36+450, there is a fresh mixed forest, aged approx. 100, with pine dominance. This is a cultivated forest. Then, in km 36+450 to 37+920, there is a large complex of a fresh mixed coniferous forest, aged 44–77, intersected by a complex of cultivated fresh coniferous forests aged 56. Km 37+920 to 39+400 is occupied by cultivated fresh coniferous forests, aged 44–53, and in km 38+200 to 38+310, there is a small complex of cultivated fresh mixed coniferous forests, aged 63. Then, in km 39+400 to 45+500, there are cultivated fresh mixed forests, aged 96–111, with a small complex of a fresh mixed coniferous forest. The route of the BP OWF TI will be related to forest cutting:

- in the fixed service corridor with a width of approx. 25 m and a length of approx. 5 km (no cutting is planned in the area of trenchless crossings) – it covers a maximum area of 15 ha;
- in the temporary service corridor with a width of 25 m from the external cable lines and a length of approx. 5 km, in connection with carrying out construction works (except for the cutting in the drilling area) – it covers a maximum area of 25 ha.

In the fixed service corridor, the largest area is occupied by fresh coniferous forests (62%) and fresh

mixed coniferous forests (13%), in which the pine is the dominant species. More than 66% of forest areas are cultivated forests. There are also protective forests in the following categories: soil-protecting and water-protecting ones. A very similar structure is present in the service corridor.
The impacts of the planned project related to cutting will be negative, direct, simple, irreversible, local, permanent. Due to the scale of the planned cutting, the impact will be significant.

The onshore part of the project is located in the direct vicinity of the Białogóra PLH220003 Natura 2000 site. According to the Standard Data Form (update: March 2022), the species subject to protection in the Białogóra PLH220003 Natura 2000 site are the following natural habitats: initial stages of coastal white dunes (2110), coastal white dunes *(Elymo Ammophiltum)* (2120), coastal gray dunes (2130), coastal crowberry heaths *(Empetrion nigri)* (2140), mixed forests and coniferous forests on coastal dunes (2180), moist coastal inter-dune depressions (2190), moist heaths with the cross-leaved heath *(Ericion tetralix)* (4010), active raised bogs (7110), depressions on peat substrates of the *Rhynchosporion* (7150) swamp coniferous forests and forests *(Vaccinio uliginosi Betuletum pubescentis, Vaccinio uliginosi Pinetum, Pino mugo-Sphagnetum, Sphagno girgensohnii- Piceetum)* and birch and pine swamp boreal forests (91 DO). The threats to the area include, among other things: camping and caravaning, paths, walking trails, cycling trails, works related to the protection against marine activity and coastal protection, dikes, storms and cyclones.
For the Białogóra PLH220003 Natura 2000 site, a conservation measures plan was established (Order of the Regional Director for Environmental Protection in Gdańsk of April 30, 2014, amended by the Order of March 15, 2016) (*Official Journal of the Pomorskie Voivodeship of 2014, item 1916 as amended).* The aforesaid document indicates the following threats and objectives of conservation measures for the individual subjects of protection in the Natura 2000 site in question:

- For natural habitat 2110 – initial stages of coastal white dunes, the existing threat is: trampling, excessive use. On the other hand, erosion is a potential threat. The purpose of conservation measures is to: maintain the overall protection status of the habitat at the existing level (FV), including to maintain the natural dynamic of dune-forming processes. According to the assessment of the project impact on the Natura 2000 site, the analyzed habitat is located at a distance of approx. 140 m from the temporary service corridor where construction works will take place, and approx. 100 m from the access road to the well area, to be used for traffic of construction vehicles and machines. Due to the significant distance, the planned project will not pose an indirect or direct threat to habitat 2110.For natural habitat 2120, coastal white dunes *(Elymo-Ammophiletum)*, the existing threats include: trampling, excessive use, erosion. On the other hand, potential hazards include: erosion, other types of development, garbage and solid waste. The purpose of conservation measures is to maintain the overall protection status of the habitat at the existing level (FV), including to maintain the natural dynamic of dune-forming processes. According to the assessment of the project impact on the Natura 2000 site, the analyzed habitat is located at a distance of approx. 75 m from the temporary service corridor where construction works will take place, and approx. 65 m from the access road to the well area, to be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not cause an indirect or direct threat to habitat 2110. Due to a significant distance, the planned project will not cause an indirect or direct threat to habitat 2120. No impacts will occur during the operation phase, therefore, there is no need to introduce mitigation measures or monitoring proposals.
- For natural habitat 2130, coastal gray dunes, the existing threats include: erosion; trampling, excessive use, biocenotic evolution, succession. On the other hand, potential hazards include: erosion, foreign invasive species, garbage and solid waste. The objectives of conservation measures include maintaining the overall protection status of the habitat at least at the existing

level (U1), including maintaining the natural dynamic of dune-formation processes, maintaining the indicator values of the habitat structure and function parameter, which were assessed at FV, and reaching the indicator value of the structure and function of the presence of self-sown trees at the FV level of U1. It follows from the "Monitoring of species and natural habitats with particular emphasis on special areas of conservation of Natura 2000 habitats" (General Inspectorate for Environment Protection, 2018) that the analyzed habitat is located at a distance of approx. 3.8 km from the access road to be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not pose any indirect or direct threat to habitat 2130; therefore, there is no need to implement mitigation measures or monitoring proposals.

- For natural habitat 2140, coastal crowberry heaths *(Empetrion nigri)*, the existing threats include: trampling, excessive use, biocenotic evolution, succession. On the other hand, potential threats include: erosion, afforestation of open areas, biocenotic evolution, succession. The objectives of conservation measures include maintaining the overall protection status of the habitat at the existing level (FV), including maintaining the natural dynamic of dune-forming processes – the possibility of formation of crowberry heaths, and reaching the indicator value of the parameter for the structure and function of the presence of self-sown trees at the FV level of U1. It follows from the "Monitoring of species and natural habitats with particular emphasis on special areas of conservation of Natura 2000 habitats" (General Inspectorate for Environment Protection, 2018) that the analyzed habitat is located at a distance of approx. 2.7 km from the access road to be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not pose any indirect or direct threat to habitat 2140, therefore, there is no need to implement mitigation measures or monitoring proposals.
- For natural habitat 2180, mixed forests and coniferous forests on coastal dunes, the existing threats include: garbage and solid waste, trampling, excessive use, foreign invasive species, removal of dead and dying trees. On the other hand, potential hazards include: roads, forest management not adapted to the requirements of habitat protection, land backfilling, drainage and drying. The objectives of conservation measures include maintaining the overall protection status of the habitat at least at the existing level (U1), maintaining the indicator values of the habitat structure and function parameter, which were assessed at FV, and reaching the indicator value of the parameter for the structure and function of other deformations (e.g. trampling, littering) at the FV level of U1. It appears from the assessment of the project impact on the Natura 2000 site and from the expert opinion for the purposes of complementing the knowledge of natural habitats: 2180, 4010, 7110, and 7150 within the Białogóra PLH220003 Natura 2000 site, as part of project POIS.02.04.00-00-0191/16 titled "Survey of valuable natural habitats of the country, species present within their boundaries and the creation of a Natural Resources Data Bank (so-called Data Bank) (prepared by *Paludella* Pracownia Środowiska Katarzyna Kiaszewicz, 2019) that the habitat under analysis is located in the direct vicinity of an access road which will be used for traffic of construction vehicles and machines, to the well area. During the construction phase, the following impacts may occur: pollution as a result of accidental leakages from machines and vehicles, air pollution from the combustion of fuels in engines of construction machines, and noise generated by construction machines and vehicles. In view of the above, conditions have been imposed on the Investor to minimize the identified impacts.
- For natural habitat 2190, moist inter-dune depressions, the existing threats include: (natural) eutrophication and biocenotic evolution. However, potential hazards include: pollution of groundwater, roads, land backfilling, drainage and drying; afforestation of habitat patches may lead to losing their area. The objectives of conservation measures include maintaining the overall protection status of the habitat at least at the existing level (U1) and maintaining the indicator values of the habitat structure and function parameter which were assessed at FV. It follows from

the “Monitoring of species and natural habitats with particular emphasis on special areas of conservation of Natura 2000 habitats” (General Inspectorate for Environment Protection, 2018) that the analyzed habitat is located at a distance of approx. 2.7 km from the access road to be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not pose any indirect or direct threat to habitat 2190, therefore, there is no need to implement mitigation measures or monitoring proposals.

- For natural habitat 4010, moist heaths with the cross-leaved heath *(Erica tetralix)*, the existing and potential threats or pressures are unknown; no hazards were identified as the habitat was not found in the area. The objective of conservation measures includes full identification of natural habitat resources and updating the status of the subject of protection in the area. As appears from the expert opinion for the purposes of complementing the knowledge of natural habitats: 2180, 4010, 7110, and 7150 within the Białogóra PLH220003 Natura 2000 site, as part of project POIS.02.04.00-00-0191/16 titled “Survey of valuable natural habitats of the country, species present within their boundaries and the creation of a Natural Resources Data Bank (so-called Data Bank) (prepared by *Paludella* Pracownia Środowiska Katarzyna Kiaszewicz, 2019), habitat 4010 was not found in the Natura 2000 site in question. Therefore, there is no need to introduce mitigation measures or monitoring proposals.
- For natural habitat 7110, active raised bogs, the (intense) existing hazards or pressures are unknown; no hazards were identified as the habitat was not found in the Natura 2000 site covered by the scope of the conservation measures plan. On the other hand, potential hazards include: an unknown hazard or pressure, land backfilling, drainage and drying, and forest management. The objectives of conservation measures include: full exploration of natural habitat resources, update of the status of the subject of protection in the area, and maintaining the indicator of the hydration structure and function parameter at the current FV level (assessment of the protection status concerning patches located in the area excluded from the conservation measures plan). It appears from the expert opinion for the purposes of complementing the knowledge of natural habitats: 2180, 4010, 7110, and 7150 within the Białogóra PLH220003 Natura 2000 site, as part of project POIS.02.04.00-00-0191/16 titled “Survey of valuable natural habitats of the country, species present within their boundaries and the creation of a Natural Resources Data Bank (so-called Data Bank) (prepared by *Paludella* Pracownia Środowiska Katarzyna Kiaszewicz, 2019), habitat 7110 is only present in the “Babnica” reserve which is located 1.7 km from an access road which will be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not pose any indirect or direct threat to habitat 7110, therefore, there is no need to implement mitigation measures or monitoring proposals.
- For natural habitat 7150, depressions on peat substrates of the *Rhynchosporion*, the existing and potential threats or pressures are unknown; no hazards were identified as the habitat was not found in the area. The objective of conservation measures includes full identification of natural habitat resources and updating the status of the subject of protection in the area. As appears from the expert opinion for the purposes of complementing the knowledge of natural habitats: 2180, 4010, 7110, and 7150 within the Białogóra PLH220003 Natura 2000 site, as part of project POIS.02.04.00-00-0191/16 titled “Survey of valuable natural habitats of the country, species present within their boundaries and the creation of a Natural Resources Data Bank (so-called Data Bank) (prepared by Paludella Pracownia Środowiska Katarzyna Kiaszewicz, 2019), habitat 7150 was not found in the Natura 2000 site in question. Therefore, there is no need to introduce mitigation measures or monitoring proposals.
- For natural habitat 91 TO, swamp coniferous forests and forests (*Vaccinio uliginosi Betuletum pubescentis, Vaccinio uliginosi Pinetum, Pino mugo-Sphagnetum, Sphagno girgensohnii-Piceetum*) and birch and pine swamp boreal forests, there are no threats existing in the Natura

2000 site covered by the scope of the conservation measures plan. On the other hand, potential hazards include: land backfilling, drainage and drying. The objective of conservation measures includes maintaining the indicator of the hydration structure and function parameter at the current FV level (assessment of the protection status concerning patches located in the area excluded from the conservation measures plan). It follows from the "Monitoring of species and natural habitats with particular emphasis on special areas of conservation of Natura 2000 habitats" (General Inspectorate for Environment Protection, 2018) that the analyzed habitat is located at a distance of approx. 1.7 km from the access road to be used for traffic of construction vehicles and machines. Due to a significant distance, the planned project will not pose any indirect or direct threat to habitat 91 DO, therefore, there is no need to implement mitigation measures or monitoring proposals.

Due to the proximity of the area of construction works to the patches of natural habitat 2180, the Investor was obligated to fence off the site along the eastern side of the access road, at km from 33+550 to 33+740 of the project route, by means of a solid fence, made of e.g. sheet metal, before the commencement of construction, and to place information boards on it to prevent trampling and running down the habitat area. In addition, the fence layout will allow to minimize the penetration of pollutants into the area of the above-mentioned natural habitat. To duly comply with the conditions minimizing the potentially negative impact of the project on natural habitats, the Investor was obligated to perform construction works under the supervision of a botany specialist. Moreover, an obligation was imposed to equip the construction site with sorbents, mats or biopreparations neutralizing oil spills and an obligation to store materials and raw materials in a manner that prevents their penetration into groundwater or contamination of the adjacent area, to protect the nearest natural habitats, including the Lubiatowo Dune area against a potential negative impact of construction works.

The EIA report specifies that it is planned to use trenchless technologies in the area of the Lubiatowo Dune, 160.5 km from the seashore, in the form of directional drilling to limit the interference with the structure, stability and layout of habitats. In the opinion of this Authority, the above solution will also allow to minimize the potentially negative impact of works being performed on the Białogóra PLH220003 Natura 2000 site. In view of the above, it has been decided to include this condition in this opinion.

As appears from the above-mentioned environmental expert opinion to complement the knowledge and from the "Monitoring of species and natural habitats with particular emphasis on special areas of conservation of Natura 2000 habitats" (General Inspectorate for Environment Protection, 2018), other natural habitats: 2110, 2120, 2130, 2140, 2190, 4010, 7110, 7150, and 91DO are located at a significant distance from the planned project. Therefore, it is not envisaged that the implementation and operation of the project may generate significant negative direct or indirect impacts on those habitats or prevent the implementation of the conservation measure objectives designed for them.

Due to the short-term and local range of the impact and taking into account the conditions imposed, it was considered that the project in question would not have a significant negative impact on the subjects of protection of the Białogóra PLH220003 Natura 2000 site.

At a distance of up to 5 km (2.1 km) from the planned project, there is also the Choczewo Lakes PLH220096 Natura 2000 site. According to the standard data form (update: March 2022), the subject of protection in the area includes the following natural habitats: 3110 – lobelia lakes, 3160 – natural dystrophic water reservoirs. The threat to this area is agriculture, (natural) eutrophication, modification of the functioning of waters, other sports and recreation complexes, trampling and excessive use, other interference and disturbances caused by human activity, roads and motorways, motor vehicles, angling, other types of sport and active leisure, and dispersed development.

No conservative measures plan has been established for the Choczewo Lakes PLH220096

Natura 2000 site.

Due to its nature and distance from the protected area in question, the planned project will not affect the objects of protection of the above-mentioned area.

It follows from the environmental impact assessment carried out, including under Article 6.3 of the Habitats Directive, that after implementing, at the construction stage, of the mitigation measures set forth herein, the project planned to be implemented will not have a significant negative impact on the subjects of protection of the above-mentioned Natura 2000 sites. There are also no grounds to presume that the implementation of the proposed project may result in the loss or fragmentation of habitats of species for which the above-mentioned Natura 2000 sites were designed. In the opinion of this Authority, the objectives of conservation measures for natural habitats and habitats of species subject to protection in the Białogóra PLH220003 Natura 2000 site, as indicated in the Conservation Measures Plan, have been maintained and the implementation of the proposed project, while meeting the conditions of this approval, will not pose a threat to the above-mentioned subjects of protection of this area.

In the area of a potential impact of both options, the following species of invertebrate animals have been found, for which there is additional evidence of their existence in a given area, e.g. nests, feeding grounds, presence of larvae, gathering of individuals in a given area, etc.: the blue-winged grasshopper and the European paper wasp.

The main impacts of the construction phase on the fauna of invertebrates will be related to:

- execution of open-cut trenches in connection with laying the cable, construction of cable draw pits and entry and exit pits at the sections planned to be crossed by means of trenchless methods;
- levelling works related to levelling of the area for the customer substation, 400 kV overhead line poles and cable draw pits.

In these cases, invertebrates will be scared away and nests will be potentially destroyed. In view of the presence in this area of insect species commonly found on the coast, these impacts may be considered negligible, which will not lead to the removal of the species site. Moreover, the impacts will concern eolian erosion and possible pollution of open-cut trenches with greases, oils, etc., which may have a negative impact on nests of bumblebees.

Due to very low water levels observed for many years, the surveyed watercourses, despite the presence of potential hiding places, shading, diversification of the bottom, etc., were characterized by negligible diversity. The following species of fish and lampreys were found in the surveyed watercourses: the three-spined stickleback, the nine-spined stickleback, and the brook lamprey. No impact on ichthyofauna is envisaged during the project implementation phase.

In the analyzed area, 2 species of amphibians were found: the common toad and the common frog, as well as three species of reptiles: the sand lizard, the viviparous lizard and the slowworm. All amphibian species found on the surface, pursuant to the Regulation of the Minister of the Environment of December 16, 2016 on the protection of animal species (*Journal of Laws of 2016, item 2183 as amended*), are subject to legal protection in Poland.

The impacts in the construction phase will consist mainly in transforming the environment, which will be caused by partial destruction of habitats, e.g. deforestation of the fixed service corridor and the buffer zone, excavations, occupation of the area for the customer substation, high voltage poles etc., and in habitat fragmentation by the creation of a treeless 120 m wide service corridor intersecting forest areas. This will be a permanent and long-term impact. Reptiles occupying various micro-habitats which are going to be destroyed during the construction of the project will be the most exposed to works related to the construction phase.

It has been assessed that most impacts will be insignificant. Tree cutting is of moderate significance.

In the analyzed area, a number of bird species were found – both in the hatching season and in periods of dispersion, migration and overwintering.
Field surveys were carried out in accordance with standard methodological assumptions for surveying individual bird species and the methodology included in the methodological manual designed for the Pomeranian ornithological atlas. The breeding criteria were adopted following the Polish ornithological atlas.
The presence of 63 bird species was found in both options in the potential impact area of the planned project.
The materials gathered during the annual surveys indicate that in the area covered by the survey there are areas of high importance for several species of breeding birds. The common redpoll (*Acanthis flammea*) was a particularly valuable species in the survey area – the breeding sites were located on the Lubiatowo Dunes, and it is one of the few breeding sites of the species in northern Poland. Valuable species also include the European nightjar (*Caprimulgus europaeus*) and the woodlark (*Lullula arborea*) with relatively high densities, as well as the black woodpecker (*Dryocopus martius*), a keystone species, the presence of which determines or facilitates the presence of a number of other bird species. The key habitats of breeding birds were the Lubiatowo Dunes and older tree stands, especially those over 110 years, and tree stands with common beech admixtures. Above the survey area, there was a fragment of one of the most important migratory routes of birds in central Europe, the East Atlantic Flyway connecting breeding grounds in northern Europe with overwintering areas located in southern and western Europe, Africa, and for a small number of the species also Asia. A huge stream of migrating birds flew over the northern part of the survey area, heading west during the autumn migration and east during the spring migration. No larger bird groupings/concentrations were found in the survey area either in the dispersion period or in the overwintering period.
The implemented project will have the greatest impact on two groups of birds: 1) breeding avifauna, 2) migratory avifauna. In the case of breeding avifauna, the impact will be rarely exerted on a point/place with a nest, it will rather apply to a wider area related to the breeding territory of individual bird species. Such territories can be very large, and in many cases they will only catch on the planned project.
Both in the case of the breeding avifauna and migratory avifauna, the forecast high collision rate of birds with the overhead line in the operation phase will be of the greatest importance. The impacts in the construction phase will consist mainly in transforming the environment, which will be caused by partial destruction of habitats, e.g. deforestation of the fixed service corridor and the buffer zone, excavations, occupation of the area for the customer substation, foundation of high voltage poles etc., and in habitat fragmentation by the creation of a treeless 120 m wide zone intersecting forest areas and those of new access roads. This will be a permanent and long-term impact. Breeding bird species occupying various habitats which will be partially destroyed during construction works will be the most exposed to works related to the construction phase. Most of the impacts of the construction phase on birds will be of a moderate or small scale, and the impact will be insignificant and moderate.

During the operation phase of the 400 kV overhead line connecting the customer substation with the PSE substation, significant negative impacts may occur mainly in unfavorable weather conditions and related to birds lowering flight heights. According to the results of the annual survey of abiotic and biotic resources of the BP OWF GCI survey area, the area of farm fields was not a place of concentration for any bird species, also in periods of harvest and plowing, in which birds often use easily accessible food resources exposed during field works. However, the stream of birds in migration periods concentrates along the Baltic Sea coast, forest areas and above farm field areas. In this context, frequent collisions of birds with the planned high voltage line are forecast, and those impacts will be significant. To minimize the expected negative impact on birds, this Authority has imposed an obligation on the Investor to install bird deterrents, e.g. of the FireFly type, on the 400 kV line connecting the customer substation with the

PSE substation.
In addition, the Investor was obligated to perform post-development monitoring. Having performed post-development monitoring, it will be possible to assess the actual impact of the project on birds by verifying the assessment of the potential impact of this project, prepared at the pre-investment stage, and an analysis of the actual effects of the impact of the operation of the planned 400 kV line on birds. The methodology and scope of monitoring have been adopted in accordance with the surveys conducted before the implementation of the project.
For the reasonable alternative option, for which 5.2 km of an overhead power line is assumed, during the operation phase, along the entire length of the project, the space will be dominated by high voltage poles and line. There will be a spatial obstacle that does not exist at present. It will be a long-term impact, significantly negative and permanent for birds. In the case of migratory birds, the impact will also be significant in terms of the continental scale. The impacts will be significant.

In the area of potential impact of the planned project in both options, mammals are represented by species quite common throughout the country. Most of them adapt very well to changes in the environment. Except for small mammals related to a specific habitat, other animals living in the analyzed area use large areas and many habitats, are not assigned to a single site. The impacts in the construction phase will consist mainly in transforming the environment, which will be caused by partial destruction of habitats, e.g. deforestation of the fixed service corridor for excavations and of the temporary service corridor, construction of new access roads, occupation of the area for the customer substation and 400 kV overhead line poles, and in insignificant habitat fragmentation by the creation of a treeless 25 m wide zone intersecting forest areas and those of new access roads. This will be a permanent and long-term impact. Small mammals occupying various micro-habitats which are going to be destroyed during the construction of the project will be the most exposed to works related to the construction phase. Apart from the construction phase and deforestation of the service corridor and new roads, the project will generally not be visible in the area at the forest section. After the construction works are ceased, the site will be subject to succession processes, new habitats will be created to be used by animals, which will reduce the results of transformation and fragmentation of the site. The project, in the long-term, will not cause negative impacts for mammals.
Most of the impacts of the construction phase on mammals will be of a moderate or small scale, and the impact will be insignificant. The greatest impacts on mammals will be related to tree cutting and vehicle traffic. These will be impacts of a moderate scale and medium significance.
In the project operation phase, potential impacts on mammals may be related to scaring them away during maintenance works. After the construction works are ceased, the site will be subject to succession processes, new habitats will be created to be used by animals, which will reduce the results of transformation and fragmentation of the site. The project, in the long-term, will not cause negative impacts for mammals.

Cumulative impact of the Baltic Power OWF GCI with other projects.

In the assessment of the cumulative impact arising from the implementation of the Baltic Power OWF GCI in connection with other projects, projects that are in progress, completed or planned, have been taken into account.
In connection with the planned construction of offshore wind farms, a need has arisen to extend the power grid to export the power generated in those farms. Currently, the construction of the OWF is being planned by subsidiaries of PGE Polska Grupa Energetyczna S.A. (Elektrownia Wiatrowa Baltica 2 Sp. z o.o., Elektrownia Wiatrowa Baltica 3 Sp. z o.o., Elektrownia Wiatrowa Baltica 1 Sp. z o.o.), Orlen S.A. (Baltic Power Sp. z o.o.) and C-Wind Polska Sp. z o.o.

Due to the proximity of the construction sites of other investors and the possibility of them laying and burying cables in the seabed at the same time, the phenomenon of impact cumulation may occur in the context of noise emission, increase in suspended matter concentration in the water depths and its sedimentation.

In the offshore part, the construction area of the BP OWF GCI is located in an exclusive economic zone, the territorial sea and internal waters. To the west of the construction site of the BP OWF GCI, it is planned to construct the grid connection infrastructure with the Baltica 2 and 3 OWFs, whereas to the west, the construction of the grid connection infrastructure with the BC-Wind OWF is planned.

For the Baltica OWF GCI, the assumed length of a single cable line will be maximum 89 km, and for the BC-Wind OWF GCI, maximum 33 km. In the exclusive economic zone, the routes of all the three construction sites will be located within the area of the offshore wind farms. In the territorial sea, their routes will be approaching each other. At a distance of approx. 7 km from the coastline to the drilling locations, those areas will run parallel to each other. In the onshore part, in accordance with the arrangements made with the Choczewo Forest District, the route of transmission infrastructures from the OWFs in a cable plate was prepared, minimizing negative environmental impacts as much as possible by:

- minimizing the tree clearing area as a result of routing the OWF investors' grid connection infrastructure in a common cable plate;
- avoiding environmentally valuable areas indicated by the Choczewo Forest District at the stage of making arrangements;
- applying a cable technology and directional drilling the least harmful for the environment.

The grid connections of the individual investors are in different project phases. Cable line construction works will be carried out in different periods. The construction of the Baltica 2 and 3 OWF GCI may be an exception. According to the information obtained, the construction of the Baltica 2 and 3 OWF GCI may coincide with the construction of the BP OWF GCI.
The construction area of the Baltica 2 and 3 OWF GCI is located in the northern part at a distance of approx. 1.8 km to the west of the BP OWF GCI. From km 35+300 of the BP OWF GCI, the projects run along a common corridor. In this case, there may be a cumulation of negative impacts related to the construction phase: the operation of machines and equipment used for construction and their traffic on the road between Osieki Lęborskie and Lubiatowo. It should be noted that the excavation under the BP OWF GCI will be routed on 1 km long sections, and its opening time will not exceed 1 week, which will reduce the possible presence of construction teams in the same sections at the same time. Due to the location of the planned projects in a forest area and far away from inhabited areas, these impacts will not cause a nuisance to the local residents. The construction phase of the Baltica 2 and 3 OWF GCI and the BP OWF GCI will involve a temporary and local limitation in the tourist function of the forests in this area.

The construction area of the BC-Wind OWF GCI in the southern part is adjacent to the BP OWF GCI in the east. Within the scope of the project, it is planned to construct: approx. 33 km of a submarine cable line in the areas of internal sea waters, the territorial sea and an exclusive economic zone, and 8.5 km of an underground cable line together with the necessary service route, and an onshore transformer station (hereinafter referred to as the Onshore TS), together with an approx. 1.5 km long access road in the municipality of Choczewo. At the same time, the planned project includes the construction of an overhead line section constituting a 400 kV grid connection between the onshore transformer station

and the grid connection point at the substation owned by Polskie Sieci Elektronergetyczne (hereinafter referred to as PSE S.A.).
Due to the lack of data at the current project stage, it is not possible to assess the cumulative impacts in the context of electromagnetic fields and thermal impacts in the common cable plate, or make an analysis of the cumulative impact on the Białogóra (PLH220003) and the Coastal Waters of the Baltic Sea (PLB990002) Natura 2000 sites. However, it should be emphasized that the planned grid connections and customer substations will be located outside the Białogóra (PLH220003) Natura 2000 site.

The planned project at its final section in the form of an overhead 400 kV line enters the PSE substation that will be used for transmission and distribution of electricity. This substation is located south of the BP OWF TI, at an area of approx. 0.3 km^2, on a part of plot No. 25/5 (Kierzkowo cadastral district, Choczewo municipality, Wejherowski district, Pomorskie voivodeship), on agricultural land and on wooded and shrubbery agricultural lands.
The investor of the planned project is the State Treasury company Polskie Sieci Elektroenergetyczne S.A. On February 18, 2022, the local authority issued a decision on environmental conditions for the project named: “Construction of the 400 kV Choczewo substation”.
In the direct vicinity of the PSE substation, there will be substations owned by the connected entities (OWF intermediate stations).

In the case of the onshore part of the BP OWF GCI, in the context of cumulative impacts, the impacts of the project‘s involving the construction and operation of the first nuclear power plant in Poland with electric power output of up to 3,750 MWe in the area of the municipalities of: Choczewo or Gniewino and Krokowa.
The following decisions (https://sipam.gov.pl/geoportal) were issued by the Director of the Maritime Office in Gdynia for the project in question:

- Decision No. 7/19 of August 8, 2019 for laying and maintaining cables and pipelines for the NPP cooling system in the area of the territorial sea for the “Lubiatowo-Kopalino” location;
- “Decision No. 6/19 of August 8, 2019 for laying and maintaining cables and pipelines for the NPP cooling system in the area of the territorial sea for the “Żarnowiec” location.

The Lubiatowo-Kopalino option is located at a distance of approx. 5 km west, whereas the Żarnowiec option is located at a distance of approx. 15 km east of the planned project. However, it is difficult to determine whether and when the nuclear power plant will be constructed and in what option and how long the construction stage will last. If the Lubiatowo-Kopalino option is selected with simultaneous construction of a nuclear power plant and the BP OWF GCI, the accumulation of impacts may take place in relation to:

- climate and air quality – accumulation of impacts related to emission of pollutants into the air may result from increased traffic of vehicles involved in construction works and transport of materials. It is assumed that the accumulation of impacts in relation to air and climate will not be permanent and will not significantly deteriorate the condition of air and the local climate due to the distance of both projects (approx. 5 km from each other) and good air circulation. These will be medium-term, regional impacts;
- population and living conditions – there may be a situation in which vehicles of both projects use the same access roads as the residents of neighboring areas.

However, it should be noted that the construction of the BP OWF GCI in the onshore part is proceeding quite quickly and is being implemented in sections – the accumulation of impacts will occur in the medium-term and locally. The cumulative impacts of the nuclear power plant in the Lubiatowo-Kopalino option with the BP OWF GCI will be limited to the construction stage, as the operation stage of the BP

OWF GCI is practically maintenance-free, limited to maintenance works that will take place once a year. These will be medium-term impact with regional and local range.

Underwater noise. The range of noise impact is relatively small for individual vessels, but in the case of occurrence of two or several noise sources resulting from simultaneous implementation of similar projects, the increase in noise intensity may be significant, especially in the area located between them. Noise generated by vessels used for construction and operation of the planned projects, although it increases noise in the environment, has a small range, significant only at a distance of several hundred meters from the sound source. However, the scale and range of this impact increases with the increase in the number of vessels involved in the construction of all planned cable connections, and consequently the noise in a larger area increases and impact duration is extended. The accumulation of underwater noise may cause this phenomenon to cover a larger water region than in the case of activities carried out by one investor.
Given the specificity of the project construction stage, including in particular its linear nature, the increased levels of underwater noise will include, as the works progress, further water regions around the operating vessels, at the same time removes impacts from the areas where the cable has already been buried or laid on the seabed. Due to the safety of underwater works, vessels used for laying and burying cables will have to operate at significant distances from each other, which will additionally reduce the potential accumulation of underwater noise.
Given the above, including the important issue of the possibility for sea mammals and fish to avoid water regions with temporarily increased level of underwater noise, it can be assumed that this cumulative impact will be short-term (in the context of the entire southern part of the offshore connection infrastructure construction areas), of local range, and the significance of this impact will be moderate.

Suspended matter. The results of modeling the distribution of suspended matter generated as a result of the cable laying and burying works indicate that there will be short-term changes both in terms of increase in suspended matter in the water column and its sedimentation on the seabed. In the northern routes of transmission infrastructure, the distances between the areas of works carried out by various investors are so large that even simultaneous performance of works will not result in accumulation of an increase in suspended matter in the water column. There will also be no accumulation of sedimentation on the seabed.
A different situation may occur in the southern part of the routes of the connection infrastructure construction sites. The maximum width of the corridor in which the cables of all three investors are planned to be laid is approx. 3.4 km. In the case of simultaneous performance of works within the impact range, there may be accumulation of impacts, especially in the context of increased suspended matter concentration in the water column. Such a situation, depending on the choice of the cable burial method, prevailing hydrodynamic conditions during the performance of works and the type of bottom sediments, may last up to several dozen hours (with the ground fluidization method) from the time of seabed interference.
Given the different progress of projects at individual investors, opportunities for offshore power cable deliveries, order of contracting specialized vessels and equipment used for cable burial, the situation of simultaneous implementation of these projects is unlikely. The actual execution of works of different investors will also result from the issue of safety of underwater works at sea and the necessity to designate safety zones around the sites of these works. Therefore, despite the theoretical possibility of accumulation of impacts related to the increase in suspended matter concentration in the water column and its subsequent sedimentation, the actual accumulation will be a short-term, reversible phenomenon of local range, and the significance of this impact will be moderate at most.

Noise. As a result of implementation of two projects in the onshore part, i.e. the Baltic Power OWF customer substation and the PSE substation, accumulation of noise impacts may occur, both during the construction and operation phases.
Construction works at the PSE substation are planned from August 2023 to May 2026 and may accumulate with the planned project at the section of the access road from Osieków Lęborskie to the substation. The construction of the PSE substation, similarly to the BP OWF GCI, will be related to the operation of machines and equipment used in the construction industry, i.e. excavators, dozers, lifting equipment, self-propelled graders and means of transport delivering construction materials – self-dumping trucks. Although the construction phase involves relatively high noise emission to the environment, it should be kept in mind that its duration is short-term, and the condition of the acoustic climate will return to its original condition after completion of the construction works.
To sum up: the accumulation of noise emission impacts may result from increased traffic of vehicles involved in construction works and transport of materials. During the construction stage of the customer substation and PSE substation, there may be a situation in which vehicles of both projects will use the same access roads as the residents of the neighboring areas. However, it should be noted that the construction of the onshore part of the project is proceeding quickly and the accumulation of impact will only be short term and local.

For the operation phase, cumulative sound level calculations covering the designed customer substation and the PSE substation were performed as part of this procedure. The acoustic data for the substation were entered into the calculation program on the basis of the Project Information Sheet entitled: “Construction of the 400 kV Choczewo Substation”. 32 noise sources with a power output of 64.1 dB were introduced – elements of busing and power output lines located in accordance with the design assumptions at a height of 14 m.
Cumulative noise level calculations show that the admissible values of noise at nighttime (40 dB) and daytime (50 dB) for single-family development will not be exceeded in any observation points at the boundary of the planned residential development.

Cross-border impact. The smallest distance between the construction site of the planned project – Baltic Power OWF Grid Connection Infrastructure – and the onshore border of the Republic of Poland is approx. 117 km, and from the offshore border, i.e. the Polish Exclusive Economic Zone, it is approx. 61.5 km. Due to the location, scale and manner of implementation of the planned project, it is not expected that its implementation, at any stage, will cause the occurrence of cross-border impacts on most environmental compartments.
Given the above, it should be stated that significant cross-border environmental impact in connection with the implementation of the Baltic Power OWF GCI is not possible.

Analysis of potential social conflicts.
The planned project will be implemented in offshore and onshore areas, which will cause various potential social conflicts.
In view of the existing and planned use of the maritime space, the analysis of the location of the planned project showed that fishermen may raise their concerns about the continued and unchanged operation of the activity. This situation may occur in particular in the case of designation of safety zones for cable lines on the basis of the decision of the Director of the Maritime Office in Gdynia. This conflict seems unlikely due to the small significance in the general fishing of the fishing squares where the project will be located and the general small significance of the fishing grounds in these squares in the context of fishing in the entire Polish maritime areas.
Potential conflicts in the maritime area may also result from the identification of e.g. cultural heritage

objects (e.g. historical wrecks) or objects hazardous to the environment and humans (unexploded ordnance, unconventional warfare agents) in the construction area of the planned project. In such a situation, the Investor shall notify relevant state institutions and shall closely cooperate with them on solutions protecting newly discovered cultural heritage objects and the environment and humans against exposure to post-war warfare agents.
The analysis of the existing use and future development of the water region where the planned project is planned does not indicate that it is probable that there will be social conflicts other than those indicated above as a result of the construction and operation of the BP OWF GCI.

In the onshore area, the planned project will be located in a mid-forest environment, far from residential, service and tourist development of Lubiatowo and Osieki Lęborskie villages, on lands owned by the Choczewo Forest District, within the Coastal Protected Landscape Area. Such project location causes that potential social conflicts may concern:

- protest of land owners against the occupation of plots for the location of the customer substation (conflicts of economic origin);
- protest of residents of residential, residential and service and/or tourist facilities in the surroundings, due to fear of EMF emitted by underground cable lines and of EMF and noise emitted by the customer substation (conflicts with a sociological background);
- protest of residents or non-governmental environmental organizations against the BP OWF GCI location within the forms of nature protection and the Lubiatowo Dune (conflicts with an ecological background).

Given, on the one hand, the necessity to locate the transmission infrastructure and, on the other hand, the tourist potential of the municipality, the Investor carried out from the beginning a number of activities aimed at familiarizing the residents and municipalities with the nature of the project and, at the same time, at significantly reducing the risk of social conflicts.
The community of the Choczewo municipality, as well as its local authorities, was involved in the information process on the project already at the initial design stage.
To this end, a number of meetings were held with both the authorities and the residents of the Choczewo municipality. The construction of the customer substation on arable land of class IVb and V, outside of the boundaries of forms of nature protection and at an appropriate distance from residential development in Osieki Lęborskie (approx. 900 m) eliminates nuisances such as noise or reduction of landscape values and also removes the residents' concerns about the acoustic impact and electromagnetic fields on human health and living conditions.
According to the analyses of electromagnetic field distribution, there are no objective health reasons for social conflicts for this reason. Also in terms of the forecast noise level, there are no objective health reasons for social conflicts.
Current forest use and large-area felling related to the planned project within the boundaries of the Coastal Protected Landscape Area may be the basis for conflicts with the ecological background. Protests of non-governmental environmental organizations against project implementation are possible. Given the existing biodiversity and significant value of this area, including the Lubiatowo Dune for tourists, it is planned to take a number of actions aimed at avoiding, preventing, limiting or compensating negative environmental impacts. Therefore, the bases of possible social conflicts in this respect have been minimized.
Formal consultations were conducted during this environmental impact assessment procedure. No comments or proposals were made by the public in the consultations.

Having analyzed the EIA report, given the specificity of the place where the project will be executed, the scope of planned works, the presence of the protected areas, and following the

precautionary principle, the authority has determined with this decision the conditions to be applied at the project implementation and operation stage.

Conditions and obligations specified in point 1.2 of this decision were imposed based on the conclusions and recommendations of the submitted EIA report and opinions of the cooperating authorities. The conditions specified for the project implementation phase were formulated subject to the following obligations:

- to ensure economical use of the area during project preparation and implementation (Article 74 section 1 of the Act of April 27, 2001 – Environmental Protection Law (Journal of Laws of 2021, item 1973, as amended), hereinafter referred to as the "EPL",
- to comply with the environmental protection on the area of works, in particular protection of soil, vegetation, natural topography and water conditions (Article 75 section 1 of the EPL),
- to use and transform natural elements during the construction works only to the extent to which it is necessary in connection with performance of a specific project (Article 75 section 2 of the EPL),
- to conduct waste management in a manner ensuring protection of human life and health and the environment, in particular in such a way that waste management does not cause a threat to water, air, soil, plants or animals (Article 16 point 1 of the Waste Act of December 14, 2021 (consolidated text: Journal of Laws of 2022, item 699)).

The above requirements were specified taking into account the most important of all the identified emissions the lack of management of which could be the source of negative impact on the environment, including human health or, in extreme cases, could lead to hazard to the environment. The provided conditions include both the supervisory and preventive actions and technical means of emissions management. The conditions specified for the building permit design constitute a direct guideline for the design engineer and are aimed at ensuring an economic use of environmental resources, minimization of emissions, proper management of emissions. The basis of the above guidelines include among other things:

- principles of prevention, caution and incurring costs of environmental impacts, resulting from Article 6 and 7 of the EPL;
- prohibition of causing deterioration of the condition of the environment to a large extent or hazard to human life or health (Article 141 section 2 of the EPL);
- the obligation to comply with environmental quality standards and emission standards (Article 141 section 1 and Article 144 section 1 of the EPL);
- prohibition of operation of the plant resulting in introduction of gases or dusts to the air, noise emission and generation of electromagnetic fields to the extent causing exceeding of the environment quality standards outside of the area, to which the plant operator has the legal title (Article 144 section 2 of the EPL);
- prohibition to undertake activities which may, separately or as combined with other activities, significantly negatively affect the objectives of protection of the Natura 2000 site (Article 33 section 1 of the EPL).

Due to the necessity to assess the effectiveness of the applied prevention and mitigation measures, the obligation was imposed on the applicant to monitor changes in the environment caused by implementation of the project and operation of the plant in the scope specified in point II.2 of this decision. Pursuant to Article 82 section 1 point 5 of the EIA Act, the applicant was obligated to submit a post-execution analysis. The post-execution analysis will allow to confront, on the basis of the results of the conducted monitoring, the effects on the environment in relation to the arrangements and recommendations included in the report prepared in this procedure. The timing and scope of the post-execution analysis were linked with the obligations imposed on the applicant in terms of the environmental monitoring, at the same time including the period necessary to collect reliable data to

enable the potential planning of any further measures aimed at reducing the negative environmental impact.

Pursuant to Article 135 section 1 of the EPL, the creation of a limited use area is permissible provided that, in total: 1) the project concerns or concerned a wastewater treatment plant, municipal waste landfill, composting plant, transport route, airport, power line and substation, and radio communication, radio navigation and radio location systems; with this list being exhaustive; 2) the environmental review or the assessment of the project environmental impact or the post-execution analysis shows that despite the use of available technical, technological and organizational solutions, the environmental quality standards cannot be met outside of the area of the plant or other facility. The limited use area can be created only for power lines and substations in the event of exceeding the standards concerning electromagnetic fields or noise in the environment. As part of the project, underground power lines as well as the substation and 400 kV overhead line to the NPS will be constructed. The analysis of magnetic fields shows that there will be no failure to meet the environmental quality standards in this respect. Similarly, in the case of a substation, it is not expected in a noise analysis that the above mentioned situation will occur. Therefore, there is no need to create a limited use area for this project.

In accordance with Article 3 section 23, 24 and 48 of the EPL, the term major failure means an event, in particular emission, fire or explosion, taking place during an industrial process, storage or transport, in which one or more hazardous substances occur, leading to the immediate hazard to life or health of people or to the environment or the delayed occurrence of such a hazard. A major industrial accident means a major failure in a plant. A plant means one or more systems together with the land to which the operator holds a legal title and with the equipment located thereon.

In accordance with Article 248 section 1 and section 2 of the EPL, a plant posing a hazard of a major industrial accident, depending on the type, category and quantity of hazardous substance in the plant, is considered a plant with an increased risk of an accident or a plant with a high risk of an accident, depending on the expected quantity of hazardous substance that may be present therein.
The criteria for plant classification to one of the listed categories are specified in the Regulation of the Minister of Development of January 29, 2016 on types and volumes of hazardous substances present in the plant, which decide on classification of a plant as a plant of increased or high risk of major industrial accident *(Journal of Laws of 2016, item 138)*. At the same time, it should be noted that in accordance with Article 2 section 4 of the EPL, the principles of sea protection against pollution by vessels and administration authorities competent for such protection are determined in separate regulations. However, due to the relatively small quantities of hazardous substances, offshore transmission infrastructure is not classified into any of these categories.

Having analyzed the scope of the planned project and identified its impacts on the environment and their scale, it was found that the planned project will not cause a cross-border environmental impact. Such impacts, taking into account the recommended actions in case of emergency situations, will not be caused by the identified possible unplanned situations. For these reasons, in this case it was not necessary to conduct the procedure on cross-border impact as referred to in Article 104 of the EIA Act, or to specify the conditions related to such impact in the contents of this decision.

Prior to the issue of the decision, by virtue of letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.25 of May 11, 2022, the parties to the procedure were informed pursuant to Article 10 of the CAP that the evidence gathering was completed, the case files were available for review and the parties could provide its comments on the gathered evidence and materials. At the same time, by way of announcement, the

above-mentioned notification was published in the Public Information Bulletin of the Regional Director for Environmental Protection in Gdańsk and on the notice board of the authority on May 13, 2022 and, at the request of the authority, it was published in the Public Information Bulletin of the Choczewo Municipal Office and on the notice board of the authority on May 17, 2022. No comments or requests were received within the specified deadline.

On June 21, 2022 and June 24, 2022, the Investor submitted to this authority clarifications of the contents included in the EIA report. In view of the above, the Regional Director for Environmental Protection, by letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.28 of June 28, 2022, once again notified the parties to the procedure in accordance with Article 10 of the CAP about the completion of the collection of evidence and the possibility of getting acquainted with the case files and commenting on the collected evidence and materials. At the same time, by way of announcement, the above-mentioned notification was published in the Public Information Bulletin of the Regional Director for Environmental Protection in Gdańsk and on the notice board of the authority on June 29, 2022 and, at the request of the authority, it was published in the Public Information Bulletin of the Choczewo Municipal Office and on the notice board of the authority on July 5, 2022. Choczewo Forest District expressed its opinion on the collected evidence materials within set deadline with letter of July 11, 2022, ref. No. ZZ.2215.3.2022. The Investor replied to the position of the Choczewo Forest District in the letter of July 21, 2021.

The local authority replied to the party's letter in the decision on environmental conditions.

On July 22, 2022, the Investor submitted a letter to the local authority to correct the typographical error included in the EIA report. In view of the above, the Regional Director for Environmental Protection, by letter ref. No. RDOŚ-Gd-WOO.420.16.2021.AJ.33 of July 25, 2022, once again notified the parties to the procedure in accordance with Article 10 of the CAP about the completion of the collection of evidence and the possibility of getting acquainted with the case files and commenting on the collected evidence and materials. At the same time, by way of announcement, the above-mentioned notification was published in the Public Information Bulletin of the Regional Director for Environmental Protection in Gdańsk and on the notice board of the authority on July 27, 2022 and, at the request of the authority, it was published in the Public Information Bulletin of the Choczewo Municipal Office and on the notice board of the authority on August 1, 2022. No comments or requests were received within the specified deadline.

The implementation of the project pursuant to this decision and the subsequent operation of the facilities resulting from the project does not absolve the Investor from the following obligation, regardless of the provisions of this decision:

- to follow the regulations concerning the technical conditions laid down under Article 7 of the Act of July 7, 1994 – Construction Law (consolidated text: Journal of Laws of 2021, item 2351, as amended);
- to obtain the required permits, opinions and approvals;
- to perform the obligations resulting directly from the law, including in particular the obligations related to proper management of water defined in the provisions of the Act of July 18, 2001 – Water Law (consolidated text: Journal of Laws of 2021, item 2233, as amended);
- with respect to correct operation of the equipment specified in the provisions of the Act of April 27, 2001 – Environmental Protection Law *(consolidated text: Journal of Laws of 2021, item 1973, as amended);* waste management specified by the provisions of the Act of December 14, 2012 *(Journal of Laws of 2022, item 699);* such obligations, as existing and binding by law, are not subject to repeated imposition and disclosure in the decision.

Therefore, it shall be decided as stated in the introduction herein.

The decision is subject to announcement on publicly accessible data list.

Pursuant to Article 127 § 2 and 129 § 1 of the CAP, in conjunction with Article 127 section 3 of the EIA Act and Article 76 section 3 of the POWF Act, a party may appeal against this decision to the General Director for Environmental Protection through the Regional Director for Environmental Protection in Gdańsk, ul. Chmielna 54/57, 80-748 Gdańsk, within 14 days from the date of delivery of the decision to the party or within 30 days from the date of announcement or delivery of the notification of the decision.

Pursuant to Article 76 section 4 of the POWF Act, the appeal against the administrative decision shall contain objection to the decision, shall specify the essence and scope of the request being the subject of the appeal and shall indicate the evidence justifying the request.

For the issuance of this decision, a stamp duty in the amount of PLN 205 was paid (part I, item 45 of the Appendix to the Act of November 16, 2006 on stamp duty *(Journal of Laws of 2021, item 1923, as amended)*.

The decision on environmental conditions does not replace the permit issued pursuant to Article 56 of the Environmental Protection Act. Any possible destruction of habitats of species, specimens of species, nests of species, their scaring or relocation of protected species shall be subject to a permit pursuant to Article 56 of the Environmental Protection Act.

Regional Director for
Environmental Protection in
Gdańsk

Radosław Iwiński

To be received by

1. Baltic Power Sp. z o.o. through the representative, Mr. Radosław Opioła, Maritime Institute of the Gdynia Maritime University, ul. Długi Targ 41/42, 80-830 Gdańsk
2. Parties to the procedure by means of a notice
3. to files

To the attention of:

1. Director of the Maritime Office in Gdynia, ul. Chrzanowskiego 10, 81-338 Gdynia
2. State Border Sanitary Inspector in Gdynia, ul. Kontenerowa 69, 81-155 Gdynia
3. National Water Management Authority WODY POLSKIE, Basin Area Management Authority in Gdańsk, Al. Grunwaldzka 184, 80-266 Gdańsk,

REGIONAL DIRECTOR
FOR ENVIRONMENTAL
PROTECTION IN
GDAŃSK

Appendix No. 1
to Decision No. RDOŚ-Gd-WOO.420.16.2021.AJ.36

CHARACTERISTICS OF THE PROJECT

The planned project consists in the construction and operation of electricity transmission lines together with the customer substation and accompanying infrastructure. The purpose of the planned project is to connect the BP OWF to the National Power System (NPS).
The designed Grid Connection Infrastructure of BP OWF will enable the transmission of electricity generated by the Baltic Power OWF to the NPS. Electricity shall be transmitted via a multi-circuit EHV AC cable line with an operating voltage of 220 kV or 275 kV. Export cables will connect the OWF with the customer substation, which in turn will be connected to the PSE substation by means of a 400 kV overhead line.

The project will consist of the following elements:

- extra high voltage power cable lines located in the offshore area within the boundaries of the Exclusive Economic Zone, territorial sea and internal sea waters;
- cable draw pits located onshore, in which offshore and onshore cable lines will be connected;
- extra high voltage power cable lines located in the onshore area in the Choczewo municipality (Wejherowo district, Pomorskie voivodship), including fiber optic cables;
- customer substation;
- 400 kV overhead power line connecting the customer substation with the PSE substation;
- access roads with a length of approx. 5 km.

The list of the most important parameters of the Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm in the option proposed by the Applicant is presented in Table No. 1:

Tab. 1: Parameters of the Grid Connection Infrastructure of the Baltic Power Offshore Wind Farm in the option proposed by the Applicant.

Parameter	**Value/Description**
Length of the power connection in the offshore area (assuming the routing of export cables from each of up to three substations of the Baltic Power OWF)	approx. 46.8 km

Length of the trenchless routing of power cables in HDD technology from the offshore area to the onshore area (includes a part of the offshore route and a part of the onshore route)	approx. 1.5 km
Length of the power connection in the onshore area	approx. 6.5 km
Operating voltage of power cables	220 kV or 275 kV
Maximum number of cables in the offshore area	4 single cable lines
Maximum number of cable lines in the onshore area	12 cables laid in four circuits, three cables per one circuit
Method of routing cable lines from the offshore area to the onshore area	trenchless method, e.g. horizontal directional drilling (HDD or HDD Intersect)
Method of laying power cables in the offshore area	burial in the seabed or laying on surface of the seabed with a protection
Method of laying power cables in the onshore area	burial in the ground
Method of connection of the customer substation with the PSE substation	wired overhead line
Length of the wired overhead line	up to 270 m

The project will consist of the following elements:

- EHV power cable lines located in the offshore area within the boundaries of the Exclusive Economic Zone, territorial sea and internal sea waters;
- crossing the coastline in the area of 160.5 km of the seashore (according to the chainage of the Maritime Office) using the trenchless method;
- cable draw pits located onshore, in which offshore and onshore cable lines will be connected;
- extra high voltage power cable lines located in the onshore area in the Choczewo municipality (Wejherowo district, Pomorskie voivodship), including fiber optic cables and access roads;
- customer substation;
- 400 kV overhead power line connecting the customer substation with the PSE substation.

The starting point of the planned project (km 0+0) will be transformers on three export platforms located at a maximum distance of approx. 30 km to the shore. The interface between the offshore part and the onshore part, i.e. the cable line landfall, is represented by plots No. 3/7 and 3/6, Kierzkowo cadastral district, Choczewo municipality (Wejherowo district, Pomorskie voivodship) (km 33+400). The corridor in which the BP OWF GCI from the offshore part enters the onshore area will be located in the vicinity of 160.5 km of the seashore (according to the chainage of the Maritime Office). Pursuant to the Act of March 21, 1991 on maritime areas of the Republic of Poland and maritime administration (Journal of Laws of 1991, No. 32, item 131, as amended), the planned project will be implemented within the boundaries of the waterside strip. The route of the underground cable line will run through forests managed by the Regional Directorate of State Forests (RDLP) in Gdańsk within the boundaries of the Choczewo Forest District.

The final part of the BP OWF GCI will be the connection to the customer substation with an input voltage of 220 kV or 275 kV and an output voltage of 400 kV (km 40+0). The substation to be designed is located on plot No. 17/134, Kierzkowo cadastral district, Choczewo municipality. The customer substation will be connected to the PSE substation by means of an overhead 400 kV line. The terminal point of the planned project is the feeder clamps at the PSE substation (km 41+0).

Cable lines in the offshore area.
Electricity will be output from the Baltic Power OWF by up to four submarine EHV power cables operating in the alternating current technology with an operating voltage of 220 kV or 275 kV. Three-core power cables with a circular cross-section will be used with the necessary telecommunication infrastructure to enable communication with the Baltic Power OWF infrastructure.
A typical EHV submarine power cable consists of three conductors, properly insulated and screened, reinforced with steel wires and plastics, covered with a durable plastic sheath. A fiber optic cable is placed inside of the cable to measure the cable temperature and to communicate with the wind farm infrastructure. The most common insulating material used in extra high voltage power cables (up to 500 kV) is cross-linked polyethylene (XLPE), which has a high main conductor temperature of up to 90 °C.
It is planned to construct up to four offshore cable lines to output electricity from the Baltic Power OWF to the shore. Each line will consist of one three-core submarine cable. From up to 3 substations located in the Baltic Power OWF area, up to 4 export offshore power cables will be routed. In the OWF area, the cable corridors will be routed at a distance of approximately 1.45 km from each other. Outside the OWF boundary, up to the depth of approx. 22 m, measured from the water table to the seabed, the cable lines will be laid at a distance of approx. 200 m from each other. Then, after breaking the route, the cables will be routed towards each other to the distance of approx. 100 m, up to the isobath of approx. 13 m. At the section from substations to the isobath of approx. 13 m, the cables are planned to be buried in the bottom sediment at the depth of up to 4 m. An exception may be the seabed areas with a compact bottom sediment structure or covered with a large number of boulders (stony areas), which will prevent burying of cables at the sections crossing such areas. In this situation, the cables will be laid on the seabed surface and properly protected against damage.

Technologies for cable laying in the seabed.
The burial of the power cable in the seabed can be performed using two basic technologies:

- SLB (Simultaneous Lay and Burial) – simultaneous laying and burying of the cable in the bottom sediment;
- PLB (Post *Lay Burial)* – burying the cable after it has been laid on the seabed.

In SLB technology, only one vessel is typically used to lay the cable line – the cable lay vessel (CLV). The equipment (usually cable plough) pulled by a vessel will bury the cable in the seabed, without the necessity of prior excavation and subsequent burial of the cable in it. The rate of cable laying depends mainly on weather conditions and seabed characteristics. It ranges from about 1 km to a maximum of 9 km per day.
PLB technology requires the use of at least two vessels to lay the cable. One is a CLV or towed barge that lays the cable on the seabed. The second vessel is usually a service vessel or another multi-purpose vessel equipped with a device for burying the cable laid earlier on the seabed in the seabed sediment.

The first method requires a sufficiently long period of favorable weather conditions, which makes it possible to construct the entire cable line without interruptions, which are not recommended for this technology; in the second method, it is possible to separate the process of cable line construction, which is beneficial, e.g. in case of short periods with favorable weather conditions.
In addition, other vessels not directly involved in the process related to the laying of power cables may participate in offshore operations, such as: patrol, service (SOV), support (W2W) vessels and hotel vessels where persons involved in the construction phase may be accommodated.

The choice of cable line construction technology, resulting from the seabed type, determines the equipment types used to lay cables in the seabed. In the SLB technology, the most commonly used

device is cable plough, which makes it possible to simultaneously lay and bury the cable in the bottom sediment.
Laying the cable with a plough is the most common method of laying export cables due to the economics of this method (one operating vessel, relatively short laying time) and the possibility of its use in a wide range of bottom sediment types – from sands to loose loams. Some ploughs are equipped with additional accessories, the purpose of which is to loosen the substrate structure and thus facilitate cable burial.
Other equipment often used in the construction of offshore cable lines are vehicles moving on the seabed with equipment enabling pumping of sea water under pressure (water jetting) into the sediment to the required depth. Water pumped under pressure into the sediment causes short-term fluidization of cohesive sediments, i.e. fine-grained sand and clays. A cable lying on the surface of the fluidized sediment collapses in it under its own weight and is automatically buried. For this reason, this equipment is most often used to bury a cable lying on the seabed and not to create a trench in which the cable will be laid later.
Earlier excavation in soft sediments is very rarely performed using high-performance mass flow excavators (MFEs). The use of MFEs causes significant amounts of bottom sediment to be agitated into the water column, which leads to periodic strong turbidity of water and sediment re-sedimentation in a large area of the seabed. These effects are most often unfavorable for the environment, so the use of MFEs for cable trenching is occasional.
If the seabed is made up of compact clays or rocks, self-propelled equipment with e.g. cutting wheels or chains (ROV mechanical trencher) is used to make the cable trench. This equipment is most often used to make a trench before a cable is laid, less frequently during its laying, due to the high risk of its damage.
The selection of the appropriate cable line construction technology and equipment depends mainly on:

- technical parameters of the cable to be laid;
- complexity of the cable line route;
- seabed type and depth;
- cable burial depth;
- natural or anthropogenic obstacles located along the cable line route;
- availability of appropriate vessels for cable line construction;
- other logistics conditions;
- economic conditions.

Routing cable lines from the offshore area to the onshore area

Cables will be routed from the sea to the shore using the HDD trenchless method (making it possible for the cable line to be routed under obstacles, starting from the ground level, so that it does not require deep trenches) or HDD Intersect (which assumes execution of the pilot drilling from two ends of the section). Each of the up to 4 offshore cable lines will be routed through separate drilling, which will be performed from the land side or in exceptional cases from both the land and sea sides. Boreholes on land will be located at a distance of up to 210 m from the coastline and at a distance of approximately 20 m from each other. Each of up to 4 trenches will be up to 1.5 km long. Cable landfall locations in the maritime area will be located outside the coastal zone at a depth of approximately 13 m measured from the water table to the seabed. The distance between the bottom drilling exits will be approximately 100 m. The maximum depth of drilling will be approximately 50 m BGL.
After construction and protection of the excavations, the offshore cables will be routed to the shore and connected to onshore cable lines and fiber optic cables in cable draw pits. Cable draw pits are rectangular structures with a side length of a maximum of several meters at a depth of approx. 2 m. The operation of cable draw pits is caused by the necessity to adapt the structural parameters of the offshore

cable to the onshore conditions. A submarine cable is characterized by stronger armoring due to more difficult environmental conditions and higher risk of damage. In cable draw pits, submarine cables with three live wires will be connected with onshore cables with one live wire and with a fiber optic cable. Each cable draw pit will be equipped with inspection and maintenance manholes. Cable draw pits will be designed so as to ensure safe access to the equipment located therein.

Cable lines in the onshore area.
As part of the planned project, power cables with the voltage of 220 kV or 275 kV, including fiber optic cables, will be laid in 4 cable circuits, 3 cables in each circuit. There are four methods of construction of the extra high voltage cable line in the onshore area:

- underground cable lines;
- cable lines laid in cable conduits;
- cable lines laid in a cable duct;
- cable lines laid in a cable circuit/tunnel.

In practice, two options of laying underground cable lines are used:

- trefoil formation,
- flat formation.

As part of the planned project, it is planned to lay cables in a flat formation, which is characterized by more favorable conditions of heat transfer to the ground, which allows to use smaller cables with the same transmitted current in relation to the trefoil formation.
As part of the planned project, a total of 12 cables will be located onshore. The cable lines will be laid in parallel, mainly in the form of an open-cut trench, at a minimum depth of 1.3 m and, if necessary, directional drilling will be used (after arrangements with the competent authorities). Due to differences in the topography (e.g. dunes), cable burial depth may locally exceed 2 m. The width of the cable corridor (fixed service corridor) in which permanent deforestation will take place will be maximum 25 m wide. In the area of cable draw pits, the corridor width will be up to 80 m. At the sections where the cables will be laid in the ground using trenchless methods, it will not be necessary to remove phanerophytes.
In the direct vicinity of the cables, bentonite (mixture of sand and cement) will be used, which increases the current carrying capacity of the cables placed in the circuits and stiffens their laying. Then, composite or concrete slabs will be placed on the upper layer of bentonite. Perforated foil or plastic mesh will be placed above the plates. The remaining trench part will be backfilled with native soil.
In areas of natural value and difficult to cross with an open-cut trench, as well as due to the presence of watercourses and other natural obstacles, trenchless types in the form of directional drilling and horizontal pushing (jacking) are planned. In the remaining area, an open-cut trench is planned and, if necessary, a directional drilling will be used.

Customer substation.
As part of the planned project, a customer substation with an input voltage of 220 kV or 275 kV and an output voltage of 400 kV will be located.
The customer substation will consist of:

- 400 kV switching station;
- 400/220/15 kV or 400/275/15 kV autotransformers or transformers;
- 220 kV switching station or 275 kV switching station.

Auxiliary systems include:

- MV switching stations;
- MV/0.4 kV transformers;
- equipment to improve electricity quality;

- power generator set.

The switching stations will be equipped with standard switching, measuring and protection equipment meeting the relevant technical, environmental and Transmission Grid Operator requirements.
The accompanying components will comprise:

- buildings: process part of the 400 kV GIS switching station, 220 kV or 275 kV GIS switching station, two STATCOM buildings, fire water pumping station, MV/0.4 kV auxiliaries;
- cable ducts;
- on-site circulation system;
- access road;fire water tank.

Water will be supplied from the nearest water supply network or local water intake on the substation premises. Wastewater will be discharged to an external sewer network or to a tight sump tank. It is planned to install a drainage system for the substation area.

400 kV power line.
The customer substation will be connected by a short, maximum 270 m section of the 400 kV overhead power line to the PSE substation.
Preliminary technical parameters of the 400 kV power line:

- number of circuits: two circuits of three three-conductor bundles each (18 wires in total);
- design operating temperature of phase conductors +80°C;
- ground wires;
- line’s service corridor width: 70 m (35 m per line axis side).

The terminal point of the planned project is constituted by the feeder clamps at the PSE substation.

Regional Director for Environmental Protection in Gdańsk

Radosław Iwański