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Subject: Wind Farm Sites and investigation zone around sites

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Introduction

The purpose of this memo is to establish the exact definition for the Wind Farm Sites (kavels) and the zone around each kavel for which investigation results shall be presented in a specific report per Wind Farm Site. The geographical information is based on the data available on October 28th 2014. Please note that the data is not yet complete and that some data presented is subject to (ongoing) decision processes. Updates will be made available at www.rvo.nl (or click [here](#) for direct link).

Borssele Wind Farm Zone

The Borssele Wind Farm Zone is shown below. Within the Wind Farm Zone, 4 Wind Farm Sites have been defined. It is foreseen that at each Wind Farm Site an offshore wind farm of approximately 350 MW will be developed. Concessions to develop the Wind Farm Sites will be tendered together with a permit and grant through a tender which is currently under preparation by the Ministry of Economic affairs.

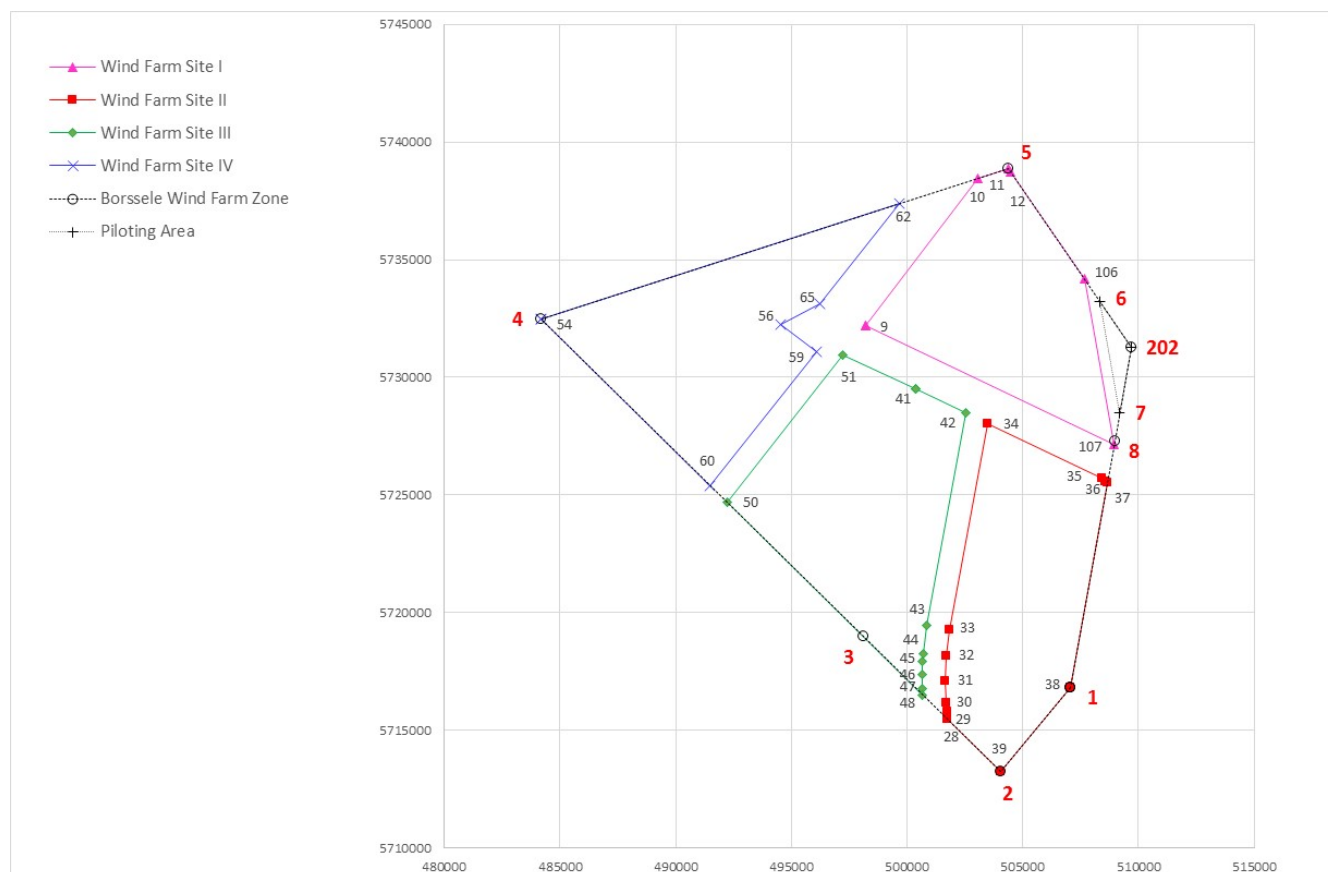


Figure 1 Overview of the Borssele Wind Farm Zone and Wind Farm Sites

The coordinates of the positions that demarcate the boundary of the Borssele Wind Farm Zone are shown in the table below. The numbers show in the first column of Table 1 correspond to the numbers with the red color. The numbers between brackets correspond to the parcel points as specified in Annex A.

PointNr	Geographical coordinates (ETRS89)		UTM (ETRS89, zone 31)	
	Degrees N	Degrees E	Easting	Northing
1 (38)	51,60230	3,10233	507087,05	5716811,66
2 (39)	51,57027	3,05828	504039,56	5713246,09
3 (49)	51,62197	2,97263	498105,40	5718993,72
4 (54)	51,74303	2,77085	484178,55	5732482,80
5 (11)	51,80073	3,06343	504373,70	5738878,38
6 (5)	51,74985	3,12080	508338,99	5733222,40
7 (6)	51,70735	3,13312	509197,84	5728498,93
8 (7)	51,69642	3,12985	508974,49	5727282,45
202(-)	51,73228	3,14055	509706,86	5731271,30

Table 1 Coordinates of boundary points Borssele Wind Farm Zone

The boundaries of the Wind Farm Sites are determined by existing cables and pipelines (including safety corridors) that run through the Wind Farm Zone. The safety corridors are excluded for the development of offshore wind farms. Next to the safety corridors of cables and pipelines, the safety zone of the bordering piloting area (North-East corner) needs to be taken into account. The boundary points of the Wind Farm Sites are presented in Table 2, the coordinates of these points can be found in Annex A.

Wind Farm Site I

Wind Farm Site I is located at the North-East part of the Wind Zone. This Wind Farm Site is enclosed by the safety zone of the piloting area at the North-East corner, the safety zone of the Franpipe at the West side of the Wind Farm Site and by the safety zone of the Farland North cable at the South side of the Wind Farm Site. Further the Wind Farm Site is crossed by the Zeepipe pipeline which runs from North-East to South-West through the area and the SeaMeWe cable which runs from North to South through the area.

Wind Farm Site II

Wind Farm Site II is located at the South-East part of the Wind Zone. This Wind Farm Site is enclosed by the safety zone of the Zeepipe at the West side of the Wind Farm Site and by the safety zone of the Farland North cable at the North side of the Wind Farm Site. The Wind Farm Site is not crossed by cables or pipelines.

Wind Farm Site III

Wind Farm Site III is located at the Mid-South part of the Wind Zone. This Wind Farm Site is enclosed by the safety zone of the Franpipe at the West side of the Wind Farm Site and by the safety zone of the Farland North cable at the North side of the Wind Farm Site and the safety zone of the Zeepipe at the East side of the Wind Farm Site. The Wind Farm Site is crossed by the SeaMeWe cables which runs from NNE to SSW through the Wind Farm Site.

Wind Farm Site IV

Wind Farm Site VI is located at the West part of the Wind Zone. This Wind Farm Site is enclosed by the safety zone of the Franpipe at the East side of the Wind Farm Site. The Wind Farm Site is crossed by the TAT14 cable which cables which runs from NE to SW through the Wind Farm Site and the Farland North cable which runs from SEE to WWN through the Wind Farm Site.

Boundary points	Wind Farm Site			
	I	II	III	IV
	9	28	41	54
	10	29	42	62
	11	30	43	65
	12	31	44	56
	106	32	45	59

Wind Farm Site				
	I	II	III	IV
	107	33	46	60
		34	47	
		35	48	
		36	50	
		37	51	
		38		
		39		

Table 2 Boundary points defining the Wind Farm Sites in the Borssele Wind Farm Zone

Infrastructure

Several cables and pipelines run through the Borssele Wind Farm Zone. On both sides of each cable and pipeline a safety corridor in which no activities may take place without the consent of the owner is projected. The safety corridor for the (telecom) cables is 750 m at each side of the cable. The safety corridor for a pipeline is 500 m at each side of the pipeline. Figure 2 gives an overview of the cables, pipelines and projected safety corridors in the Wind Farm Zone.

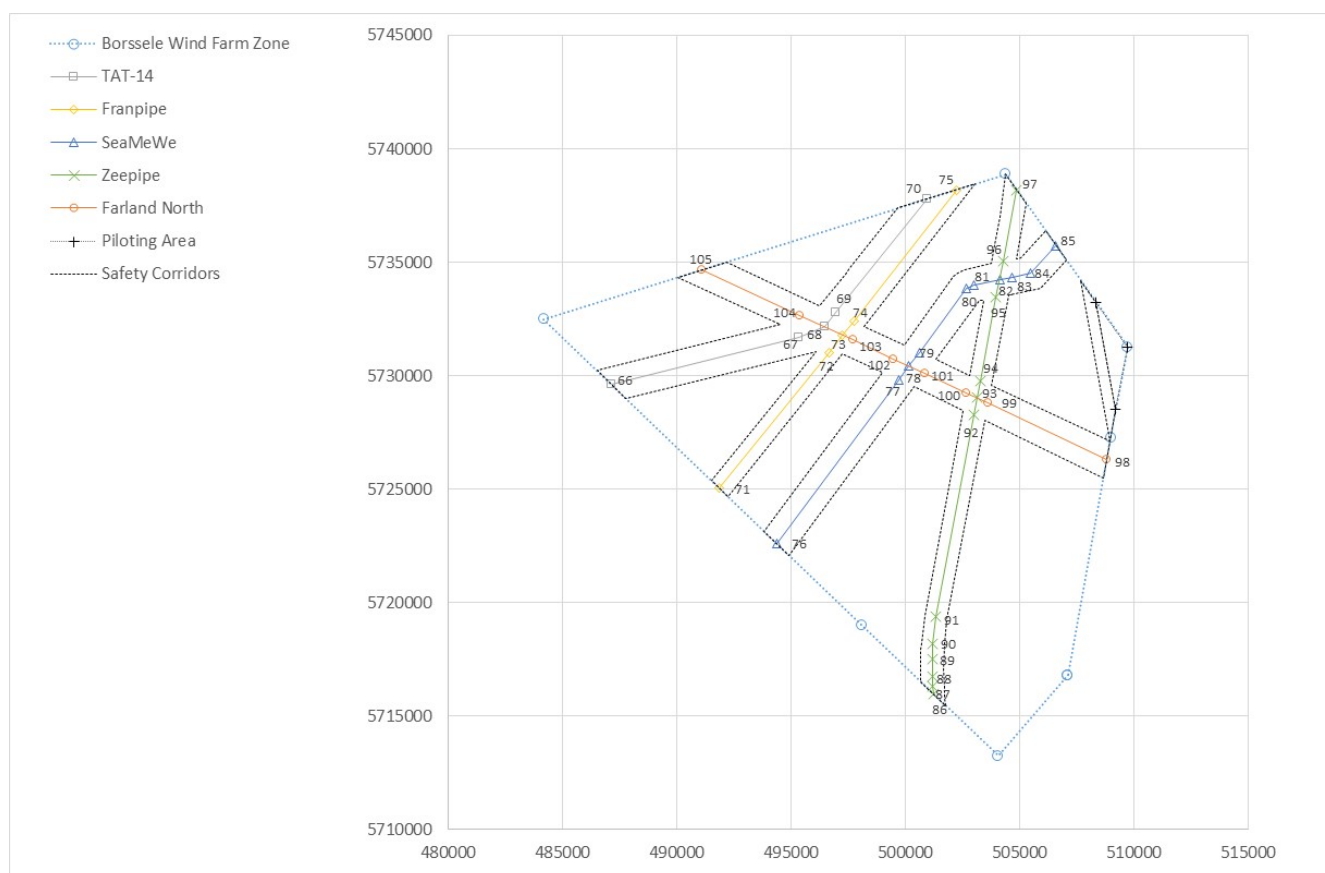


Figure 2 Existing infrastructure at the Borssele Wind Farm Zone

	Cable / Pipeline				
	TAT-14	Franpipe	SeaMeWe	Zeepipe	Farland North
Position points	66	71	76	86	98
	67	72	77	87	99
	68	73	78	88	100
	69	74	79	89	101
	70	75	80	90	102
			81	91	103
			82	92	104

	TAT-14	Franpipe	Cable / Pipeline SeaMeWe	Zeepipe	Farland North
			83	93	105
			84	94	
			85	95	
				96	
				97	

Table 3 Position points defining the cables and pipelines in the Borssele Wind Farm Zone

Wind Farm Sites and Parcels

Within the Wind Farm Sites different parcels can be distinguished, the boundaries of the parcels are determined by the safety corridors of the pipelines and cables that cross the Wind Farm Sites. Figure 3 shows the different parcels and the numbering of the boundary points of each parcel. The boundary points of the parcels that have been defined in the different Wind Farm Sites are presented in Table 4. A graphical representation of the different parcels in the Wind Farm Sites parcels is given in Figure 3.

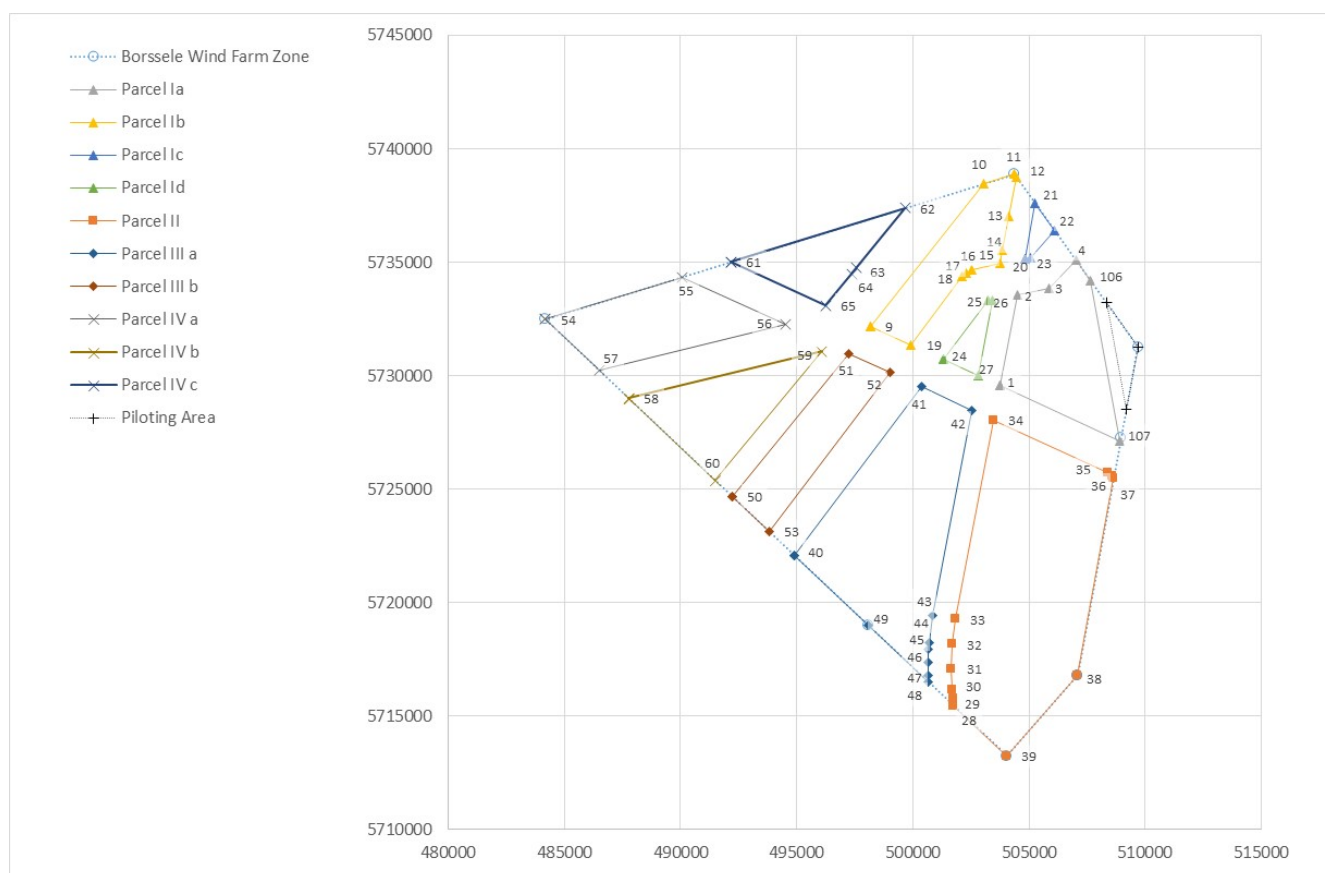


Figure 3 Parcels in the Wind Farm Sites

	Parcel									
	Ia	Ib	Ic	Id	II	IIIa	IIIb	IVa	IVb	IVc
Boundary points	1	9	20	24	28	40	50	54	58	61
	2	10	21	25	29	41	51	55	59	62
	3	11	22	26	30	42	52	56	60	63
	4	12	23	27	31	43	53	57		64
	106	13			32	44				65
	107	14			33	45				
		15			34	46				
		16			35	47				
		17			36	48				

Parcel									
Ia	Ib	Ic	Id	II	IIIa	IIIb	IVa	IVb	IVc
	18			37	49				
	19			38					
				39					

Table 4 Boundary points of the parcels in the different Wind Farm Sites

Tender Zones

The Wind Farm Sites at the Borssele area will be tendered in two separate tenders of which the first will open in 2015 and the second in 2016. In each tender, 2 Wind Farm Sites will be put out for tender. Zone A including Wind Farm Site I and II will be part of the tender of 2015. Zone B which includes Wind Farm Site III and IV will be part of the tender of the 2016. A graphical representation of the Tender Zones is given in Figure 4.

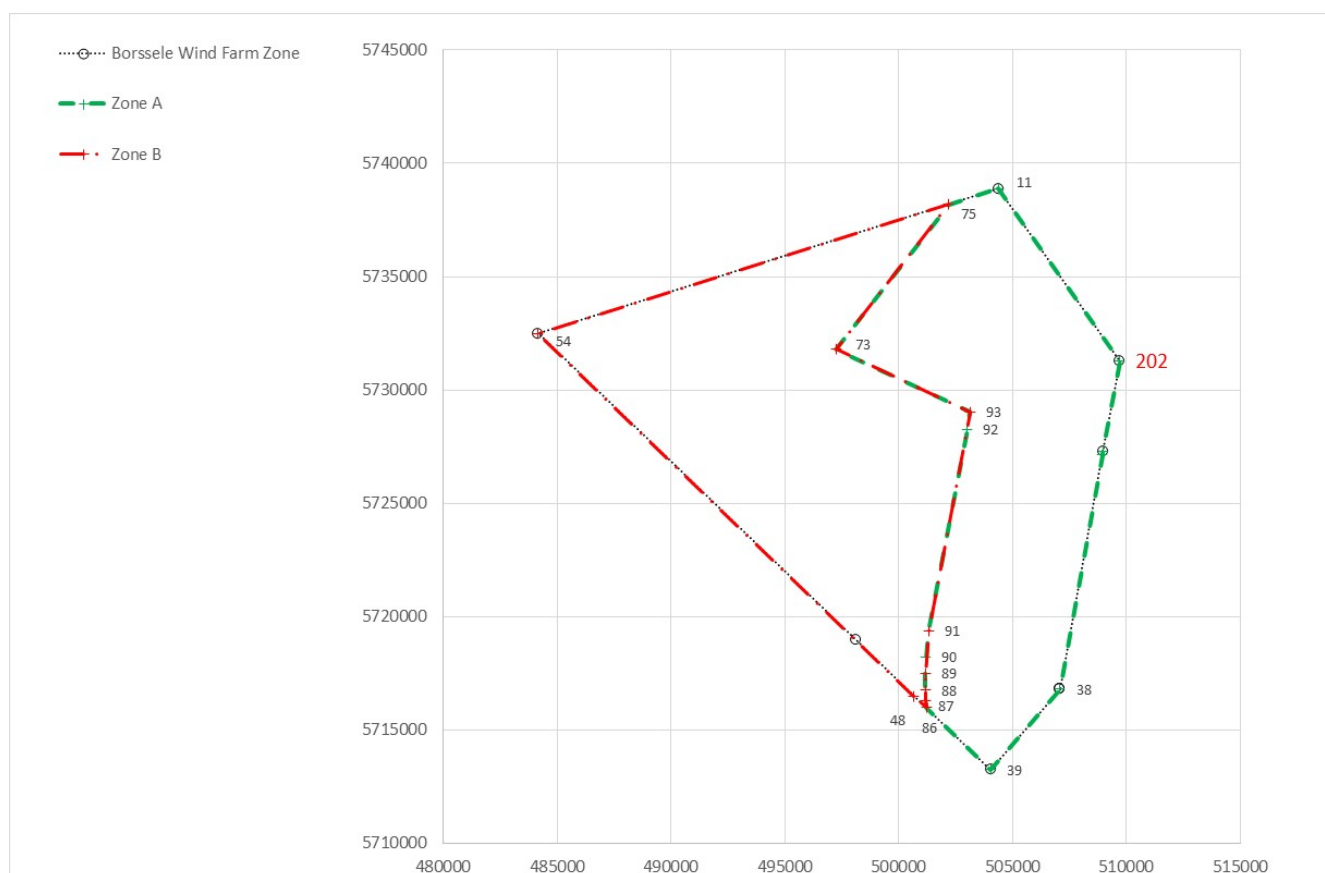


Figure 4 Overview of the Tender Zones at the Borssele area

Tender Zone		
Boundary points	A	B
	11	48
	202	54
	38	75
	39	73
	86	93
	87	91
	88	89
	89	88
	90	87
	91	86
	92	

Tender Zone	
A	B
93	
73	
75	

Table 5 Boundary points of the Tender Zones A & B

Areas to be included in the investigations

For the Borssele Wind Zone, several investigations are currently in execution. The whole Borssele Wind Zone will be investigated in these investigations, however, (not all) the results of these investigations shall be presented for the whole Borssele area, but focus on the specific Wind Farm Sites. The boundaries of the Wind Farm Sites for which the results of the investigations shall be presented in these studies shall include (parts of) the safety zones of the neighbouring cable(s) or pipeline(s).

Taking into account the above, the following Investigation Areas (IA) have been defined in Table 6. The numbering used in this table is presented in Figure 5.

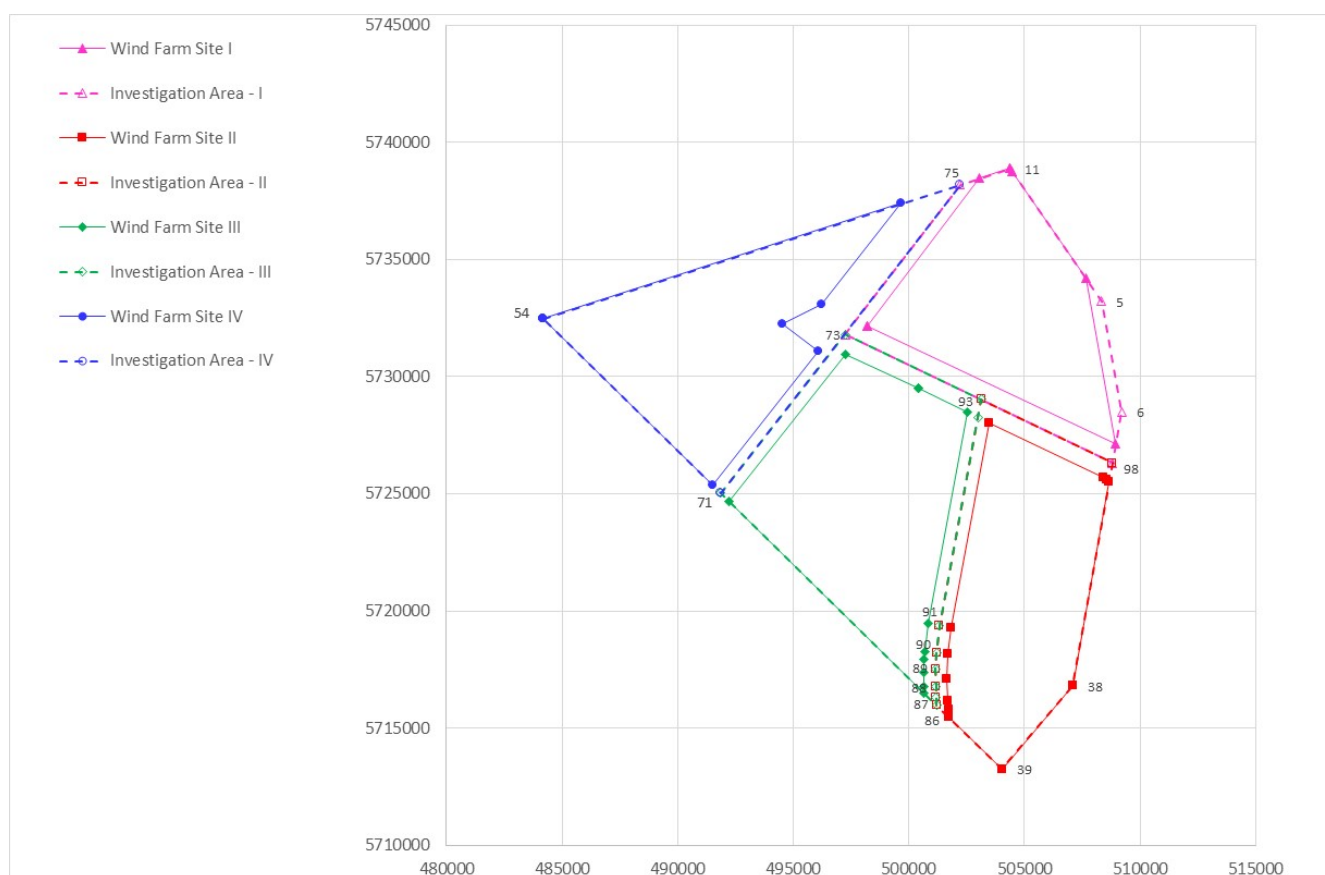


Figure 5 Overview of the Wind Farm Sites and Investigation Areas that have been defined

Investigation Area				
Boundary points	I	II	III	IV
	73	98	71	54
	75	38	73	75
	11	39	93	71
	5	86	92	
	6	87	91	
	98	88	90	
		89	89	
		90	88	
		91	87	

Investigation Area			
I	II	III	IV
	93	86	

Table 6 Coordinates of boundaries of the Investigation Zones

ANNEX A - OVERVIEW COORDINATES PARCEL POINTS

Location	Point	Geographical coordinates (ETRS89)		UTM (ETRS89, zone 31)	
		Degrees N	Degrees E	Easting	Northing
Parcel I a	1	51,71706	3,05425	503747,98	5729571,28
Parcel I a	2	51,75286	3,06510	504493,40	5733553,10
Parcel I a	3	51,75562	3,08528	505886,23	5733861,05
Parcel I a	4	51,76670	3,10182	507026,10	5735095,07
Parcel I a	5	51,74984	3,12080	508338,99	5733222,40
Parcel I a	6	51,70736	3,13311	509197,84	5728498,93
Parcel I a	7	51,69642	3,12985	508974,49	5727282,45
Parcel I a	8	51,69504	3,12945	508946,79	5727128,77
Parcel I b	9	51,74053	2,97387	498195,61	5732179,90
Parcel I b	10	51,79699	3,04427	503052,90	5738460,10
Parcel I b	11	51,80074	3,06343	504373,70	5738878,38
Parcel I b	12	51,79959	3,06473	504463,61	5738750,14
Parcel I b	13	51,78399	3,05994	504134,55	5737015,25
Parcel I b	14	51,77073	3,05596	503861,53	5735540,39
Parcel I b	15	51,76532	3,05431	503747,98	5734937,96
Parcel I b	16	51,76309	3,03696	502550,86	5734689,23
Parcel I b	17	51,76177	3,03329	502297,43	5734542,91
Parcel I b	18	51,76038	3,03057	502109,51	5734388,39
Parcel I b	19	51,73319	2,99903	499933,11	5731363,59
Parcel I c	20	51,76722	3,07014	504839,79	5735150,31
Parcel I c	21	51,78933	3,07631	505263,12	5737609,74
Parcel I c	22	51,77828	3,08877	506123,85	5736382,01
Parcel I c	23	51,76762	3,07329	505057,19	5735195,83
Parcel I d	24	51,72733	3,01913	501321,18	5730711,44
Parcel I d	25	51,75061	3,04670	503224,07	5733301,78
Parcel I d	26	51,75099	3,04975	503434,54	5733344,75
Parcel I d	27	51,72100	3,04080	502818,17	5730008,13
Parcel II	28	51,59018	3,02533	501754,86	5715458,97
Parcel II	29	51,59326	3,02490	501724,83	5715801,34
Parcel II	30	51,59645	3,02445	501693,71	5716155,97
Parcel II	31	51,60485	3,02395	501658,62	5717090,63
Parcel II	32	51,61450	3,02445	501692,76	5718163,04
Parcel II	33	51,62454	3,02626	501817,78	5719280,64
Parcel II	34	51,70332	3,05029	503475,25	5728042,11
Parcel II	35	51,68239	3,12174	508416,71	5725720,51
Parcel II	36	51,68118	3,12388	508564,67	5725586,88
Parcel II	37	51,68046	3,12517	508654,27	5725505,95
Parcel II	38	51,60230	3,10233	507087,05	5716811,66
Parcel II	39	51,57027	3,05829	504039,56	5713246,09
Parcel III a	40	51,64983	2,92633	494903,44	5722095,03

Location	Point	Geographical coordinates (ETRS89)		UTM (ETRS89, zone 31)	
		Degrees N	Degrees E	Easting	Northing
Parcel III a	41	51,71650	3,00570	500393,44	5729507,48
Parcel III a	42	51,70729	3,03669	502535,07	5728483,83
Parcel III a	43	51,62607	3,01201	500831,20	5719450,19
Parcel III a	44	51,61535	3,01007	500697,23	5718257,76
Parcel III a	45	51,61236	3,00970	500671,65	5717925,78
Parcel III a	46	51,60744	3,00947	500655,94	5717378,08
Parcel III a	47	51,60212	3,00951	500658,88	5716785,88
Parcel III a	48	51,59963	3,00968	500670,75	5716509,01
Parcel III a	49	51,62196	2,97263	498105,40	5718993,72
Parcel III b	50	51,67318	2,88747	492218,64	5724695,43
Parcel III b	51	51,72964	2,96012	497245,60	5730968,94
Parcel III b	52	51,72220	2,98561	499006,34	5730141,70
Parcel III b	53	51,65921	2,91073	493825,18	5723139,39
Parcel IV a	54	51,74303	2,77085	484178,55	5732482,80
Parcel IV a	55	51,75991	2,85597	490059,36	5734345,19
Parcel IV a	56	51,74109	2,92076	494528,58	5732245,45
Parcel IV a	57	51,72287	2,80457	486500,85	5730233,50
Parcel IV b	58	51,71182	2,82302	487772,20	5729002,11
Parcel IV b	59	51,73068	2,94326	496081,24	5731086,30
Parcel IV b	60	51,67945	2,87703	491497,54	5725393,86
Parcel IV c	61	51,76594	2,88648	492166,47	5735012,48
Parcel IV c	62	51,78738	2,99531	499676,28	5737390,76
Parcel IV c	63	51,76364	2,96475	497567,00	5734751,25
Parcel IV c	64	51,76126	2,96183	497365,84	5734486,31
Parcel IV c	65	51,74880	2,94566	496248,58	5733101,40
TAT - I	66	51,71735	2,81379	487136,52	5729617,80
TAT - II	67	51,73589	2,93201	495304,91	5731665,88
TAT - III	68	51,74040	2,94872	496459,20	5732167,05
TAT - IV	69	51,74587	2,95578	496947,05	5732774,40
TAT - V	70	51,79104	3,01392	500959,72	5737797,21
FP - I	71	51,67632	2,88225	491858,09	5725044,65
FP - II	72	51,73016	2,95169	496663,42	5731027,62
FP - III	73	51,73708	2,96013	497247,17	5731796,85
FP - IV	74	51,74248	2,96716	497732,33	5732397,56
FP - V	75	51,79459	3,03202	502208,11	5738192,56
SMW - I	76	51,65452	2,91853	494364,31	5722617,21
SMW - II	77	51,71935	2,99566	499699,89	5729824,59
SMW - III	78	51,72484	3,00211	500145,96	5730434,94
SMW - IV	79	51,73026	3,00908	500627,14	5731037,52
SMW - V	80	51,75550	3,03864	502666,79	5733845,08
SMW - VI	81	51,75704	3,04336	502992,70	5734016,99
SMW - VII	82	51,75909	3,05970	504120,69	5734245,53
SMW - VIII	83	51,76004	3,06762	504666,59	5734351,71
SMW - IX	84	51,76162	3,07928	505471,71	5734528,44
SMW - X	85	51,77249	3,09529	506574,97	5735738,54

Location	Point	Geographical coordinates (ETRS89)		UTM (ETRS89, zone 31)	
		Degrees N	Degrees E	Easting	Northing
ZP - I	86	51,59490	3,01751	501212,81	5715983,99
ZP - II	87	51,59769	3,01721	501191,85	5716293,61
ZP - III	88	51,60194	3,01696	501174,83	5716767,02
ZP - IV	89	51,60861	3,01683	501165,14	5717508,21
ZP - V	90	51,61492	3,01726	501194,99	5718210,40
ZP - VI	91	51,62531	3,01913	501324,49	5719365,41
ZP - VII	92	51,70530	3,04349	503005,16	5728262,97
ZP - VIII	93	51,71218	3,04545	503140,24	5729028,16
ZP - IX	94	51,71903	3,04753	503283,07	5729789,70
ZP - X	95	51,75193	3,05742	503963,97	5733448,93
ZP - XI	96	51,76627	3,06222	504293,88	5735044,14
ZP - XII	97	51,79446	3,07052	504863,36	5738179,94
FN - I	98	51,68775	3,12731	508800,53	5726317,36
FN - II	99	51,71019	3,05227	503611,62	5728806,70
FN - III	100	51,71414	3,03874	502676,62	5729245,98
FN - IV	101	51,72191	3,01241	500857,31	5730109,46
FN - V	102	51,72770	2,99232	499469,72	5730752,65
FN - VI	103	51,73508	2,96699	497720,60	5731574,42
FN - VIII	104	51,74495	2,93321	495388,58	5732673,43
FN - IX	105	51,76293	2,87123	491112,91	5734678,83
500 m	106	51,75861	3,11092	507655,72	5734196,99
500 m	107	51,69514	3,12913	508924,84	5727139,08