WINDFARM ELLHÖFT-WESTRE

Noise impact report

Grenzstrom Bürgerwind GmbH & Co. KG

Report No.: 10264887-A-5-B
Date: 2024-01-19

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Report Date:	2024-01-19	

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Objective:

Noise impact calculation and report for wind turbines planned in the area of Ellhöft, Schleswig-Holstein, Germany

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Rev. No.	Date	Reason for Issue	Prepared by	Verified by	Approved by
A	2022-08-31	First issue	Jörg Dedert	Klaus Buchmann	Klaus Buchmann
B	2024-01-19	Editorial changes at footnotes for table 2.2	Jörg Dedert	Klaus Buchmann	Klaus Buchmann

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1 INTRODUCTION

The order from Grenzstrom Bürgerwind GmbH & Co. KG dated 2022-05-24 required DNV Energy Systems Germany GmbH (DNV) to determine the noise impact at the relevant points (points of impact IP's) surrounding the planned wind turbines (wind turbine generators or WTG's).

The noise propagation calculations are performed in accordance with ISI-RA-MEA-4610 /5/. The noise propagation calculations documented in this report have been carried out compliant with the Statutory Order on noise from wind turbines, "Bekendtgørelse om støj fra vindmøller" /1/ and assume the emission level from each turbine at the wind speed of 6 m/s and 8 m/s.

2 WIND TURBINES TAKEN INTO ACCOUNT

Grenzstrom Bürgerwind GmbH & Co. KG are planning 8 new wind turbines for the area in question. The planned configuration considers 8 wind turbines of the type Nordex N133/4.8 MW STE with a hub height of 110 m.

The noise emission values at 6 m/s and 8 m/s for each of the planed turbines are based on the respective manufacturers' guaranteed levels as given in Table 2.1.

Table 2.1: Summary of planned WTG's included in the calculations

WEA No.	Manufacturer Type	Hubheight in m	Rated power P_W in kW	Sound power level L_{WA} in dB at 6 m/s	Sound power level L_{WA} in dB at 8 m/s	Impulsivity penalty K_I in dB	Tonality penalty K_T in dB
Planned WTG (additional load)							
GBW20	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW27	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW28	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW29	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW30	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW31	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW32	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]
GBW33	Nordex N133/4.8 MW STE	110.0	4800	106.2 [1]	106.2 [1]	0 [1]	0 [1]

1 Manufacturer's specification 104,5 dB(A) according to Nordex Document F008 272 A19 IN Rev.5, 2022-01-13 /6/ for the power optimized operating-mode "Mode 0" plus 1.7 dB manufacturers uncertainty.

In the assessment of the acoustic situation before the erection of the planned wind turbines, the existing wind turbines given in Table 2.2 have been considered.

The permitted max. noise emission values for each of the existing turbines have been given from the local planning authority (LLUR-Flensburg). If no data for 6 m/s and 8 m/s are available or provided, the values were taken from the EMD-WindPro Database.

Table 2.2: Summary of existing WTG's included in the calculations

WEA No.	Manufacturer Type	Hubheight in m	Rated power P_W in kW	Sound power level L_{WA} in dB at 6 m/s	Sound power level L_{WA} in dB at 8 m/s	Impulsivity penalty K_I in dB	Tonality penalty K_T in dB
Existing WTG's (preload)							
S_01, S02 and S04 to S_12	Siemens SWT 3.0-113	92.5	3000	104.2 [1]	105.5 [1]	0 [1]	0 [1]
S_03	Siemens SWT 3.0-101	79.5	3000	104.5 [2]	107.0 [2]	0 [2]	0 [2]
S_21 bis S_25	Nordex N117/3.6MW STE	91,0	3600	103.0 [3]	103.5 [3]	0 [3]	0 [3]
S_28 to S_31	Siemens SWT 2.3-93	93.0	2300	103.8 [4]	105.4 [4]	0 [4]	0 [4]
S_32 to S_34	REpower 6M	100.0	6000	106.8 [5]	107.0 [5]	0 [5]	0 [5]
S_35	Enercon E-101	99.0	3050	102.0 [6]	106.6 [6]	0 [6]	0 [6]
01 to 03	Vestas V112/3.3 MW	94.0	3300	96.3 [7]	104.4 [7]	0 [7]	0 [7]
14, 18, 19	Siemens SWT 3.2 MW-113	92.5	3200	104.1 [8]	105.0 [8]	0 [8]	0 [8]
15	Siemens SWT 3.2 MW-113	115.5	3200	104.6 [9]	105.0 [9]	0 [9]	0 [9]
16	Nordex N133/4.8 MW STE	110.0	4800	106.2 [10]	106.2 [10]	0 [10]	0 [10]
17	Siemens SWT-DD-130	115.0	4300	106.0 [11]	106.0 [11]	0 [11]	0 [11]
Tønder Kommune, DK (preload)							
DK01 to DK03	Vestas V126-3.45MW HTq	87.0	3450	96.3 [12]	101.2 [12]	0 [12]	0 [12]
DK04	Vestas V126-3.45MW HTq	87.0	3450	96.0 [13]	102.2 [13]	0 [13]	0 [13]
DK05 to K06	Vestas V126-3.45MW HTq	87.0	3450	96.0 [14]	102.2 [14]	0 [14]	0 [14]

1 EMD-WindPro Database, Source: Manufacturer, 2016-04-26, Level 0 -Calculated- Std. 105,5 dB(A), scaled to 6 m/s and 8 m/s

2 EMD-WindPro Database, Source: Siemens Rev. 4, 2016-04-26, Level 0 –Calculated– Std. 107 dB(A), scaled to 6 m/s and 8 m/s

3 max. noise level 103,5 dB(A), Manufacturer's specification for the power-optimized operating mode "Mode 0": 103.5 dB(A) acc. to Nordex Doc..: F008_256_A19_IN Rev. 01 of 2020-01-24, scaled to 6 m/s and 8 m/s

4 EMD-WindPro Database, Source: Siemens Rev. 4, 2016-04-27, Level 0 – 105,4 dB(A), scaled to 6 m/s and 8 m/s

5 max. noise level 107,0 dB(A), Source: Report GH-D 10264960-A-3-A, scaled to 6 m/s and 8 m/s

6 max. noise level 106,6 dB(A), Source: ENERCON Dok.: D0467531-0, scaled to 6 m/s and 8 m/s

7 max. noise level 104,4 dB(A), Source: Report GH-D 10264960-A-3-A, scaled to 6 m/s and 8 m/s

8 max. noise level 105,0 dB(A), EMD-WindPro Database, Source: Manufacturer Noise Curve Rev. 0, 2016-04-26, Level 1 (-1dB), hub height 92,5 m – Calculated– 105 dB(A), scaled to 6 m/s and 8 m/s

9 max. noise level 105,0 dB(A), EMD-WindPro Database, Source: Manufacturer Noise Curve Rev. 0, 2016-04-26, Level 1 (-1dB), hub height 115,5 m – Calculated– 105 dB(A), scaled to 6 m/s and 8 m/s

10 Manufacturer's specification 104,5 dB(A) according to Nordex Document F008 272 A19 IN Rev.5, 2022-01-13 /6/ for the power optimized operating-mode "Mode 0" plus 1.7 dB manufacturers uncertainty

11 max. noise level 106,0 dB(A), EMD-WindPro Database, Source: Manufacturer Noise curve Rev. 01, 2018-06-11, Mode 2 (-1dB) -Calculated-

12 max. noise level 103,0 dB(A), EMD-WindPro Database, Source: Manufacturer, Mode SO1, scaled to 6 m/s and 8 m/s

13 max. noise level 104,4 dB(A), EMD-WindPro Database, Source: Manufacturer, Mode 0, scaled to 6 m/s and 8 m/s

14 max. noise level 104,9 dB(A), EMD-WindPro Database, Source: Manufacturer, Mode PO1, scaled to 6 m/s and 8 m/s

The coordinates of the planned and existing wind turbines were supplied by the customer and/or the local planning authority. The planned turbine constellation together with the exact coordinates is given in the appendices. Excepting

those turbines already mentioned above, there are no other wind turbines assumed to be relevant for the assessment of noise impact due to the planned turbines. This, together with the position of the various points of noise impact, was confirmed by the author during a site visit.

3 OTHER EXISTING NOISE SOURCES

During the site visit agricultural buildings were noticed within the surrounding area of the planned wind farm. During the visit no obtained noise impacted caused by ventilation systems or similar installations could be detected at the relevant residential areas.

4 CHOSEN POINTS OF IMPACT

The points of noise impact (designated in the results as “points of impact” or “IP’s”) chosen for the calculation are those residences or places of frequentation closest to the planned wind turbines.

The coordinates of the IP’s were determined from maps having a scale of 1:5000, which are considered accurate enough to reliably determine the sound levels at the different IP’s.

The wind turbines are being planned on agricultural land. The areas surrounding the turbines where the IP’s lie can be designated as outdoor residential area with dwellings in open countryside according to /1/. In this case the maximum permissible level at a wind Speed of 6 m/s is 42 dB(A) and at 8 m/s it is 44 dB(A).

An overview of the IP’s which were considered can be found in the appendices.

5 METHOD

The amount of noise received from the turbines at the various chosen points of noise impact depends on the geographical position of the WTG’s and the IP’s as well as on local conditions. All this data are entered into the noise propagation calculation software.

The rating noise level at the different IP’s is calculated for a height of 1.5 m above ground considering all the relevant turbines.

The calculation of sound pressure level at the chosen IP’s as well as the calculation of the lines of equal sound pressure is carried out using the computer programme “WindPro” supplied by EMD International A/S. The version used here was Version 3.5.584 /2/.

The calculations are based on *BEK nr 135 af 07/02/2019* /1/. They are carried out for both, the sound pressure level L_{pA} and the low frequency sound pressure level L_{pALF}.

Each WTG is treated as a point source, which is positioned at a height above ground equivalent to the specified hub height of the turbine. The total sound pressure level at each of the IP’s results from the energetic addition of each of the frequency dependant effective noise levels resulting from each of the separate noise sources.

The ground surfaces surrounding the sources and the IP’s as well as those lying between source and IP are, due to the predominance of crop and pastureland, assumed to be made up of porous soil. According to /1/ a constant surface damping factor of A_{gr} = -1.5 dB was used in the calculations.

A lessening of the noise level by applying the meteorological correction factor c_{met} was not carried out here, i. e. there were no site-specific meteorological data like probability distributions of wind direction or wind speed used in the calculation at hand. In calculating the noise level at each IP it is assumed that each of the turbines is standing upwind of the IP in question, which means that there is no reduction of the emission value of each of the respective turbines due to the IP not being directly downwind of each sound source. This can lead to a higher value for sound pressure being

calculated at some of the chosen points of noise impact for certain wind directions than what would be expected in practice.

The altimetric profile is determined by digitising the height contours, insofar this is relevant for the calculation.

A lessening of noise due to a further damping in relation to foliage or buildings is not considered in this calculation. This, along with the points mentioned above, increases the probability that any measured sound pressure values at any critical IP's do not exceed the calculated values given in this report. This gives local government authorities an assurance that the nearby residents will not be unduly affected by the planned wind turbines. This also gives future operators an assurance that the planned turbines will not need to be run noise-reduced at night if later measurements determine that the maximum permissible noise levels are being exceeded at these critical IP's.

6 RESULTS

The detailed results are given in the appendices.

After verification of all the map and contour data, coordinates and emission values of the relevant noise sources, the maximum possible noise level at all the chosen points of noise impact was determined.

For this report the noise levels before and after the erection of the planned wind turbines were determined.

The lines of equal sound pressure superimposed onto maps of the area in question show the results of the spatial distribution of noise brought about by the planned and/or existing wind turbines and/or additional noise sources. The area to be calculated was split into a fine grid of equally spaced horizontal and vertical lines and then the sound pressure level calculated for each intersection of these lines using the abovementioned method. Regarding the maps included in the appendices of this report, the resulting contours of equal sound pressure having the values

32, 37, 42, 47 and 52 dB(A) for the wind speed of 6 m/s
34, 39, 44, 49 and 54 dB(A) for the wind speed of 8 m/s

relate to the noise level at the reference height of 1.5 m above ground.

The results of the calculations for the specified turbine configurations are given in the appendices. A result is given for each of the chosen points of noise impact.

6.1 Result for the actual noise impact situation (existing WTG's)

The planned variant leads to none of the maximum permissible noise levels being exceeded. Table 6.1 shows the detailed results for all observed IP's.

Table 6.1: Summary of results for preloaded noise impact caused from the existing WTG's

No.	Name	Wind speed [m/s]	Noise limit [dB(A)]	Noise impact from WTG's [dB(A)]	Noise limit exeeded? Yes/No
IP_01	IP 01 Bremsbolvej 2 (DK)	6	42	37.4	No
		8	44	38.7	No
IP_02	IP 02 Bremsbolvej 3 (DK)	6	42	38.1	No
		8	44	39.5	No
IP_03	IP 03 Bremsbolvej (DK)	6	42	38.4	No
		8	44	39.7	No
IP_04	IP 04 Sændholm (1) (DK)	6	42	37.6	No
		8	44	40.5	No
IP_05	IP 05 Karlsminde (DK)	6	42	35.3	No
		8	44	36.9	No
IP_06	IP 06 Karlsmindevej 1 (DK)	6	42	34.4	No
		8	44	35.4	No
IP_07	IP 07 Lydersholmvej 13 (DK)	6	42	34.5	No
		8	44	35.2	No

No.	Name	Wind speed [m/s]	Noise limit [dB(A)]	Noise impact from WTG's [dB(A)]	Noise limit exeeded? Yes/No
IP_08	IP 08 Vindvedvej (DK)	6	42	36.9	No
		8	44	37.6	No
IP_09	IP 09 Hovmosevej 1 (DK)	6	42	36.1	No
		8	44	36.6	No
IP_10	IP 10 Hovmosevej 15 (DK)	6	42	35.4	No
		8	44	35,8	No
IP 11	IP 11 Sonderlogumlandvej 9 A/B (DK)	6	42	40.4	No
		8	44	41.8	No

6.2 Result for the additional noise impact (8 x Nordex N133/4.8 MW STE)

The additional noise impact, caused by the planned WTG's, leads to none of the maximum permissible noise levels being exceeded.

Table 6.2 shows the detailed results for all observed IP's.

Table 6.2: Summary of results for the additional noise impact caused by the planned WTG's

No.	Name	Wind speed [m/s]	Noise limit [dB(A)]	Noise impact from WTG's [dB(A)]	Noise limit exeeded? Yes/No
IP_01	IP 01 Bremsbolvej 2 (DK)	6	42	23.6	No
		8	44	33.6	No
IP_02	IP 02 Bremsbolvej 3 (DK)	6	42	24.5	No
		8	44	24.5	No
IP_03	IP 03 Bremsbolvej (DK)	6	42	26.1	No
		8	44	26.1	No
IP_04	IP 04 Sændholm (1) (DK)	6	42	34.6	No
		8	44	34.6	No
IP_05	IP 05 Karlsminde (DK)	6	42	34.2	No
		8	44	34.2	No
IP_06	IP 06 Karlsmindevej 1 (DK)	6	42	32.8	No
		8	44	32.8	No
IP_07	IP 07 Lydersholmvej 13 (DK)	6	42	31.9	No
		8	44	31.9	No
IP_08	IP 08 Vindvedvej (DK)	6	42	34.0	No
		8	44	34.0	No
IP_09	IP 09 Hovmosevej 1 (DK)	6	42	30.1	No
		8	44	30.1	No
IP_10	IP 10 Hovmosevej 15 (DK)	6	42	27.6	No
		8	44	27.6	No
IP 11	IP 11 Sonderlogumlandvej 9 A/B (DK)	6	42	28.9	No
		8	44	28.9	No

6.3 Result for the total noise impact (existing & planned WTG's)

The total noise impact, caused by the existing and planned WTG's together, leads to none of the maximum permissible noise levels being exceeded.

Table 6.3 shows the detailed results for all observed IP's.

Table 6.3: Summary of results for total noise impact caused by the existing and planned WTG's

No.	Name	Wind speed [m/s]	Noise limit [dB(A)]	Noise impact from WTG's [dB(A)]	Noise limit exeeded? Yes/No
IP_01	IP 01 Bremsbolvej 2 (DK)	6	42	37.5	No
		8	44	38.9	No
IP_02	IP 02 Bremsbolvej 3 (DK)	6	42	38.3	No
		8	44	39.6	No
IP_03	IP 03 Bremsbolvej (DK)	6	42	38.7	No
		8	44	39.9	No
IP_04	IP 04 Sændholm (1) (DK)	6	42	39.3	No
		8	44	41.5	No
IP_05	IP 05 Karlsminde (DK)	6	42	37.8	No
		8	44	38.8	No
IP_06	IP 06 Karlsmindevej 1 (DK)	6	42	36.6	No
		8	44	37.3	No
IP_07	IP 07 Lydersholmvej 13 (DK)	6	42	36.4	No
		8	44	36.9	No
IP_08	IP 08 Vindvedvej (DK)	6	42	38.7	No
		8	44	39.1	No
IP_09	IP 09 Hovmosevej 1 (DK)	6	42	37.1	No
		8	44	37.5	No
IP_10	IP 10 Hovmosevej 15 (DK)	6	42	36.0	No
		8	44	36.4	No
IP 11	IP 11 Sonderlogumlandvej 9 A/B (DK)	6	42	40.7	No
		8	44	42.0	No

7 REFLECTIONS

Due to the geometry of the buildings in relation to the WTG's the author does not expect any increase in noise level due to reflections.

8 UNCERTAINTIES

In accordance with *BEK nr 135 af 07/02/2019* /1/ the uncertainties in the noise propagation calculation are reported as follows.

8.1 Estimated uncertainty in the calculation of the sound pressure level L_{pA}

The uncertainty of the calculated sound pressure level (L_{pA}) by use of the method according to /1/ is ± 2 dB.

8.2 Estimated uncertainty in the calculation of the low frequency sound pressure level L_{pALF}

The uncertainty of the calculated low frequency sound pressure level (L_{pALF}) by use of the method according to /1/ is ± 2 dB.

9 ASSESSMENT OF RESULTS

In the opinion of the author and with respect to the *BEK nr 135 af 07/02/2019* /1/ the possibility of the surrounding residents being unduly affected by the planned WTG's can be ruled out for the planned configuration, if the emission levels given for the turbines are not exceeded.

To provide an assurance for the surrounding residents the future wind farm operators in the area of Schleswig-Holstein are, according to the regulations from /8/, bound to carry out a noise emission measurement for each of the new installed turbines according to the FGW guideline /7/ after commissioning of the planned turbines.

10 BIBLIOGRAPHY

/1/ "Statutory Order on noise from wind turbines" English translation of BEK nr 135 af 07/02/2019, "Bekendtgørelse om støj fra vindmøller", Ministerium: Milijø-og Fødevareministeriet

/2/ EMD International A/S, Aalborg, DK, "WindPro", Vers. 2.5.584.

/3/ DIN ISO 9613-2, Attenuation of sound during propagation outdoors – Part 2: General method of calculation. *(Dämpfung des Schalls bei der Ausbreitung im Freien - Teil 2: Allgemeine Berechnungsverfahren)*, 1999-10.

/4/ DIN EN 61400-11 Ed. 2.1, Wind turbine generator systems Part 11: Acoustic noise measurement techniques. (*Windenergieanlagen, Teil 11: Schallmessverfahren*), 2007-03-01.

/5/ DNV GL Management System, "ISI-RA-MEA-4610, Noise Impact Assessment", Revision A, 2017-03-01. (This document is part of the DNV GL quality management documentation. It is possible to view this document at DNV GL.)

/6/ Oktace sound power levels / Oktav-Schallleistungspegel Nordex N133/4.8, Nordex Energy SE Co. KG, Doc.-No.: F008_272_A19_IN Revision 05 issued 2022-01-13

/7/ Fördergesellschaft Windenergie e.V., "Technische Richtlinie für Windenergieanlagen Teil 1: Bestimmung der Schallemissionswerte, Revision 19 ", 2021-03-01.

/8/ Ministerium für Energiewende, Landwirtschaft, Umwelt, Natur und Digitalisierung des Landes Schleswig-Holstein, „Einführung der aktuellen LAI-Hinweise zum Schallimmissionsschutz bei Windenergieanlagen in Schleswig-Holstein", 2018-01-31

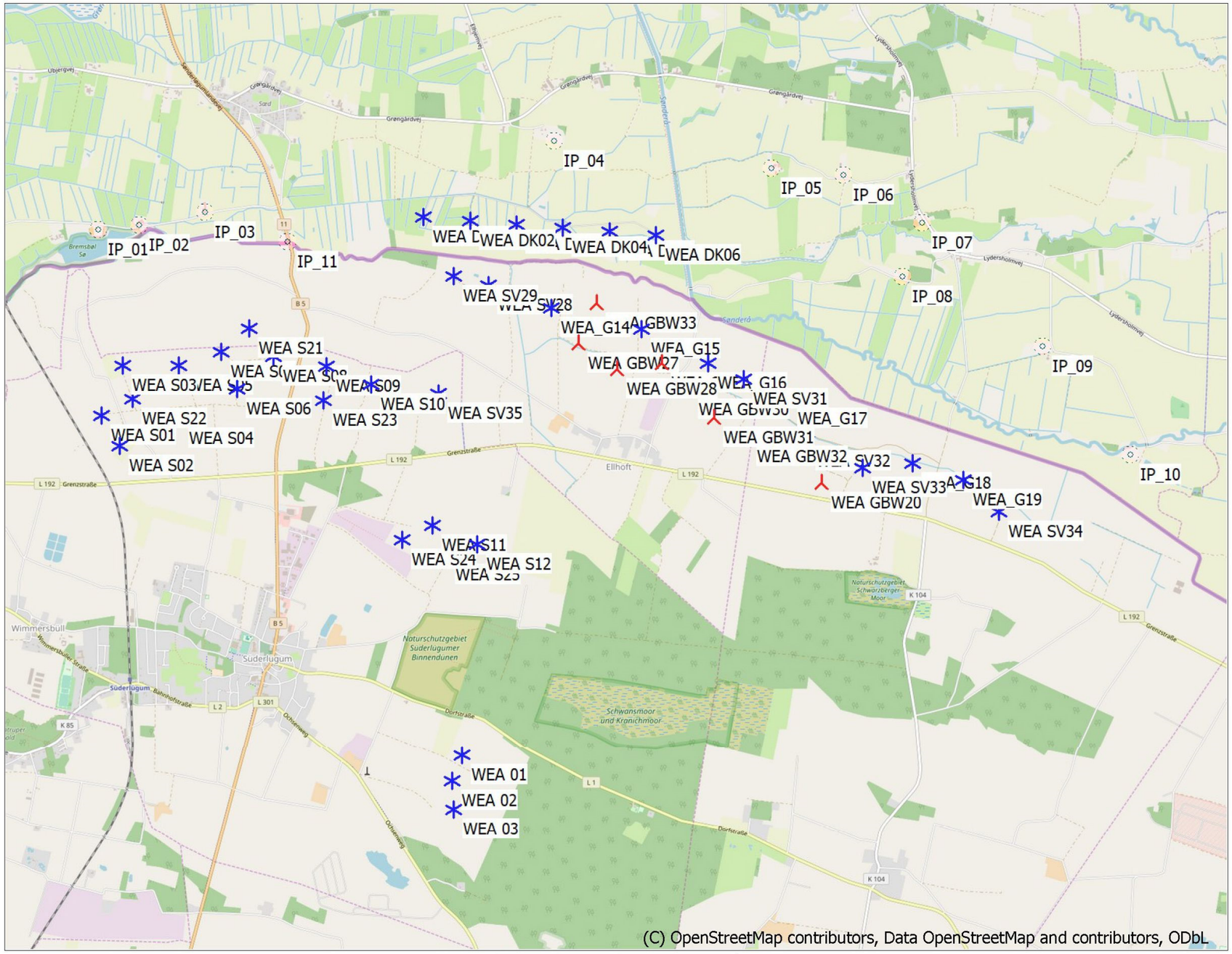
11 LIST OF ABBRAVIATIONS

Abbraviation	Description	Unit
A	Octavo – damping factor	dB
A_{div}	geometric propagation	dB
A_{atm}	air absorption	dB
A_{qr}	ground effect	dB
A_{bar}	covering	dB
A_{misc}	other effects	dB
C_{met}	meteorological correction	dB
d	projected distance between noise source and point of impact	m
d_0	reference distance (d_0 = 1 m)	m
D_C	directivity correction	dB
D_I	gage of directivity	dB
EQ	noise source	-
GE	business area	-
GI	Industrial area	-
h	mean height of noise source and point of impact	m
h_m	mean height of spreading way above ground	m
$h_S = h_N$	height of source = hub height (above ground)	m
h_e	height of source above mean sea level	m
h_i	height of point of impact above mean sea level	m
$h_0 = h_r$	height of point of observation above ground	m
IP	point of impact	-
K_0	solid angle extend	dB
K_{TN}	tonality penalty at the near-field acc. to EDIN 45681 /5/	dB
K_T	tonality penalty acc. to EDIN 45681 /5/	dB
K_{IN}	impulsivity penalty at the near-field acc. to DIN 45645 T1 /6/	dB
K_I	impulsivity penalty acc. to DIN 45645 T1 /6/	dB
L_W	Octavo – sound power level of noise source	dB
L_T(DW)	Octavo – continuous sound pressure level at upwind direction	dB
$L_{eq} = L_{AT}$(DW)	equivalent A-weighted continuous sound pressure level at upwind direction	dB
L_r	assessment level at point of observation	dB
MI	mixed residential area	-
RW	reference value	dB
ü.NN	above mean sea level	m
WA	common residential area	-
WR	pure residential area	-
Xe	X-coordinate of EQ	m
Xi	X- coordinate of MP	m
Ye	y- coordinate of EQ	m
Yi	y- coordinate of MP	m

12 INDEX OF TABLES

13 ANNEX

13.1 Site map



0 500 1000 1500 2000 m

Karte: EMD OpenStreetMap , Maßstab 1:50.000, Mitte: UTM (north)-ETRS89 Zone: 32 Ost: 496.979 Nord: 6.082.145

Neue WEA Existierende WEA Schall-Immissionsort

13.2 Main result for the preload (existing WTG's)

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Main Result

Calculation: Preload (existing WTG)

Noise calculation model:
Danish 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
WEA 01	495.686	6.079.791	10,0	WEA 01 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA 02	495.610	6.079.576	12,4	WEA 02 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA 03	495.624	6.079.335	15,0	WEA 03 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA DK01	495.371	6.084.317	1,4	WEA DK01 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK01 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK02	495.762	6.084.286	1,9	WEA DK02 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK02 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK03	496.153	6.084.255	2,5	WEA DK03 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK03 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK04	496.544	6.084.224	2,5	WEA DK04 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK04 Vestas V126/3.45MW Mode 0	6,0	96,0	8,0	102,2
WEA DK05	496.935	6.084.193	2,5	WEA DK05 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK05 Vestas V126/3.45MW Mode PO1	6,0	96,0	8,0	102,2
WEA DK06	497.326	6.084.162	2,8	WEA DK06 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK06 Vestas V126/3.45MW Mode PO1	6,0	96,0	8,0	102,2
WEA S01	492.658	6.082.655	2,5	WEA S01 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S02	492.814	6.082.403	3,0	WEA S02 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S03	492.838	6.083.076	2,1	WEA S03 Siemens SWT 3.0 MW-101	Yes	Siemens	SWT-3.0-101-3.000	3.000	101,0	79,5	EMD	Level 0 - Calculated - Std. 107dB - 4-2016 rev4	6,0	104,5	8,0	107,0
WEA S04	493.311	6.082.624	2,8	WEA S04 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S05	493.310	6.083.077	2,1	WEA S05 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S06	493.800	6.082.876	2,4	WEA S06 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S07	493.664	6.083.188	1,9	WEA S07 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S08	494.108	6.083.148	1,9	WEA S08 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S09	494.553	6.083.062	2,5	WEA S09 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S10	494.932	6.082.916	3,2	WEA S10 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S11	495.444	6.081.727	4,4	WEA S11 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S12	495.821	6.081.567	4,7	WEA S12 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S21	493.902	6.083.384	1,5	WEA S21 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S22	492.923	6.082.793	2,5	WEA S22 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S23	494.523	6.082.775	3,2	WEA S23 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S24	495.187	6.081.609	4,5	WEA S24 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S25	495.560	6.081.479	4,6	WEA S25 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA SV28	495.915	6.083.742	2,5	WEA S28 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV29	495.628	6.083.820	1,8	WEA S29 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV31	498.071	6.082.956	4,4	WEA S31 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV32	498.597	6.082.432	4,9	WEA S32 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S32 REpower 6M	6,0	106,8	8,0	107,0 f
WEA SV33	499.073	6.082.208	5,0	WEA S33 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S33 REpower 6M	6,0	106,8	8,0	107,0
WEA SV34	500.215	6.081.841	5,0	WEA S34 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S34 REpower 6M	6,0	106,8	8,0	107,0
WEA SV35	495.497	6.082.837	3,3	WEA S35 Enercon E-101	No	ENERCON	E-101-3.000	3.000	101,0	99,0	USER	WEA S35 Enercon E-101	6,0	102,0	8,0	106,6
WEA_G14	496.446	6.083.550	2,5	WEA 14 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0
WEA_G15	497.204	6.083.372	2,9	WEA 15 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	115,0	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,6	8,0	105,0
WEA_G16	497.767	6.083.089	4,3	WEA 16 Nordex N133/4.8 MW STE	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA_G17	498.443	6.082.792	4,6	WEA 17 Siemens SWT DD-130 4.3 MW	Yes	Siemens	SWT-DD-130-4.300	4.300	130,0	115,0	EMD	Mode 2 - Calculated - -1dB rev1- 06-2018	6,0	106,0	8,0	106,0
WEA_G18	499.487	6.082.246	5,0	WEA 18 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0
WEA_G19	499.918	6.082.108	5,0	WEA 19 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0

f) From other hub height
i) Octave distribution from other wind speed used

Calculation Results

Sound level

Noise sensitive area

No.	Name	Easting	Northing	Z	Immission height	Wind speed	Demands Noise	Sound level From WTGs	Demands fulfilled ? Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	42,0	37,4	Yes
IP_01						8,0	44,0	38,7	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	42,0	38,1	Yes
IP_02						8,0	44,0	39,5	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	42,0	38,4	Yes
IP_03						8,0	44,0	39,7	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	42,0	37,6	Yes
IP_04						8,0	44,0	40,5	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	42,0	35,3	Yes
IP_05						8,0	44,0	36,9	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	42,0	34,4	Yes
IP_06						8,0	44,0	35,4	Yes
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	42,0	34,5	Yes
IP_07						8,0	44,0	35,2	Yes
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	42,0	36,9	Yes
IP_08						8,0	44,0	37,6	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: Preload (existing WTG)

...continued from previous page

Noise sensitive area							Demands	Sound level	Demands fulfilled ?
No.	Name	Easting	Northing	Z	Immission height	Wind speed	Noise	From WTGs	Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	42,0	36,1	Yes
IP_09						8,0	44,0	36,6	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	42,0	35,4	Yes
IP_10						8,0	44,0	35,8	Yes
IP_11	IP 11 Sonderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	42,0	40,4	Yes
IP_11						8,0	44,0	41,8	Yes

Distances (m)

WTG	IP_01	IP_02	IP_03	IP_04	IP_05	IP_06	IP_07	IP_08	IP_09	IP_10	IP_11
WEA 01	5376	5216	5045	5223	5588	5839	5926	5482	5983	6183	4557
WEA 02	5513	5363	5210	5447	5813	6060	6139	5691	6170	6342	4739
WEA 03	5724	5581	5437	5683	6021	6256	6316	5864	6304	6437	4973
WEA DK01	2743	2393	1837	1274	2965	3553	4201	4069	5330	6283	1164
WEA DK02	3132	2783	2229	977	2584	3167	3810	3677	4941	5903	1546
WEA DK03	3523	3174	2621	770	2206	2784	3419	3286	4553	5525	1933
WEA DK04	3914	3565	3013	734	1834	2403	3028	2894	4165	5149	2321
WEA DK05	4305	3956	3405	890	1473	2027	2638	2503	3779	4775	2710
WEA DK06	4696	4348	3797	1163	1132	1658	2248	2112	3394	4406	3100
WEA S01	1560	1626	1912	4455	6017	6563	7099	6850	7949	8676	2138
WEA S02	1821	1854	2080	4462	5965	6498	7010	6744	7816	8514	2214
WEA S03	1158	1182	1456	4093	5713	6273	6838	6612	7750	8524	1730
WEA S04	1730	1659	1745	3929	5421	5955	6473	6213	7301	8023	1744
WEA S05	1325	1218	1297	3679	5263	5817	6374	6143	7278	8054	1379
WEA S06	1778	1600	1502	3387	4873	5410	5937	5687	6796	7548	1304
WEA S07	1457	1263	1174	3319	4892	5446	6005	5779	6923	7713	1078
WEA S08	1822	1577	1336	2977	4486	5032	5577	5343	6479	7267	968
WEA S09	2242	1972	1646	2697	4107	4638	5161	4914	6036	6815	1096
WEA S10	2643	2365	2006	2556	3830	4341	4832	4566	5663	6424	1385
WEA S11	3756	3527	3248	3388	4146	4539	4846	4481	5356	5914	2675
WEA S12	4146	3908	3606	3450	4020	4370	4621	4234	5045	5558	3001
WEA S21	1519	1265	1037	3013	4606	5165	5738	5524	6687	7502	793
WEA S22	1451	1457	1676	4157	5721	6269	6810	6566	7676	8418	1851
WEA S23	2378	2135	1863	2925	4258	4772	5264	4995	6080	6820	1366
WEA S24	3650	3442	3204	3584	4410	4812	5127	4763	5636	6182	2677
WEA S25	4008	3786	3517	3593	4253	4618	4884	4502	5321	5829	2948
WEA SV28	3318	2980	2459	1335	2587	3130	3694	3495	4701	5597	1728
WEA SV29	3024	2684	2161	1415	2829	3385	3969	3781	4995	5894	1431
WEA SV31	5584	5254	4748	2558	1785	1899	1992	1590	2530	3318	4014
WEA SV32	6227	5905	5416	3297	2312	2251	2077	1603	2141	2733	4681
WEA SV33	6748	6427	5940	3781	2631	2459	2117	1641	1822	2258	5206
WEA SV34	7947	7626	7138	4867	3458	3109	2508	2132	1431	1212	6404
WEA SV35	3180	2887	2481	2332	3386	3867	4318	4032	5105	5854	1798
WEA_G14	3873	3537	3021	1404	2202	2700	3207	2975	4154	5035	2289
WEA_G15	4651	4315	3799	1742	1746	2136	2531	2249	3386	4256	3068
WEA_G16	5258	4927	4418	2269	1723	1942	2154	1795	2823	3643	3685
WEA_G17	5984	5655	5152	2924	1938	1926	1856	1406	2187	2923	4418
WEA_G18	7134	6809	6315	4051	2745	2484	2021	1570	1471	1842	5581
WEA_G19	7586	7262	6768	4468	3073	2746	2185	1780	1299	1426	6033

13.3 Detailed result for the preload (existing WTG's), graphic

Project:
WP Ellhöft

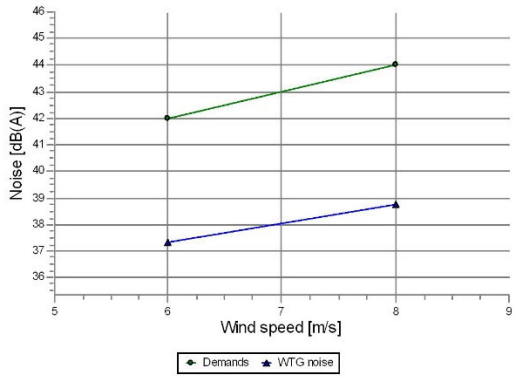
Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Detailed results, graphic

Calculation: Preload (existing WTG)**Noise calculation model:** Danish 2019

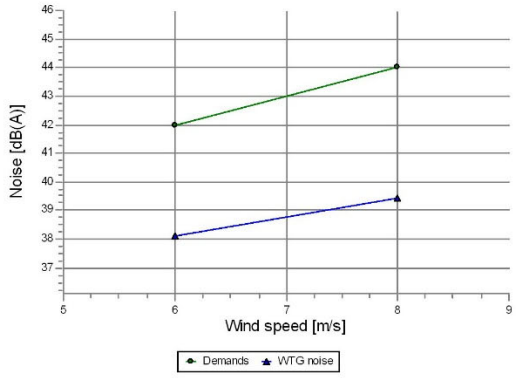
IP_01 IP 01 Bremsbolvej 2 (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	37,4	Yes
8,0	44,0	38,7	Yes

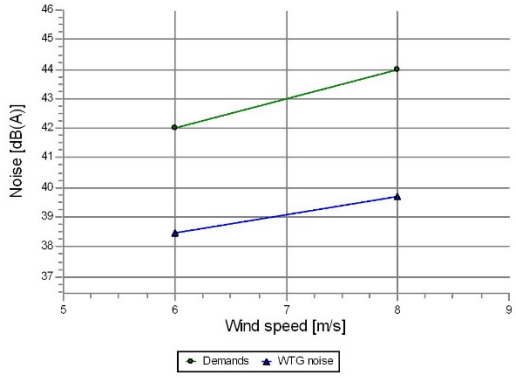
IP_02 IP 02 Bremsbolvej 3 (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	38,1	Yes
8,0	44,0	39,5	Yes

IP_03 IP 03 Bremsbolvej (DK)



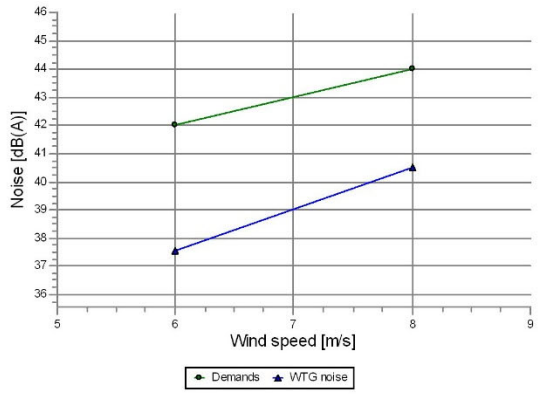
Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	38,4	Yes
8,0	44,0	39,7	Yes

DECIBEL - Detailed results, graphic

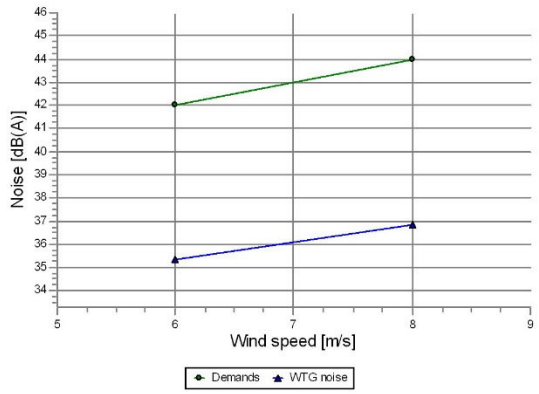
Calculation: Preload (existing WTG)**Noise calculation model:** Danish 2019

IP_04 IP 04 Sændholm (1) (DK)



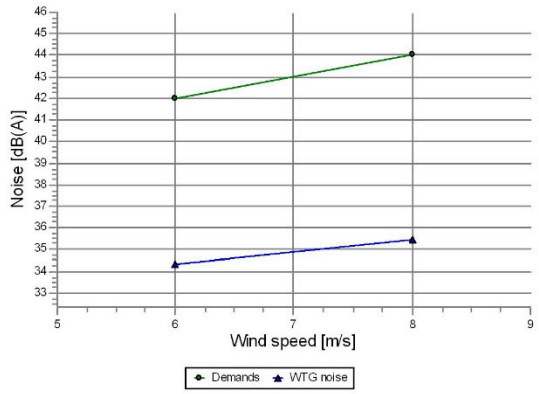
Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	37,6	Yes
8,0	44,0	40,5	Yes

IP_05 IP 05 Karlsminde (DK)



Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	35,3	Yes
8,0	44,0	36,9	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)

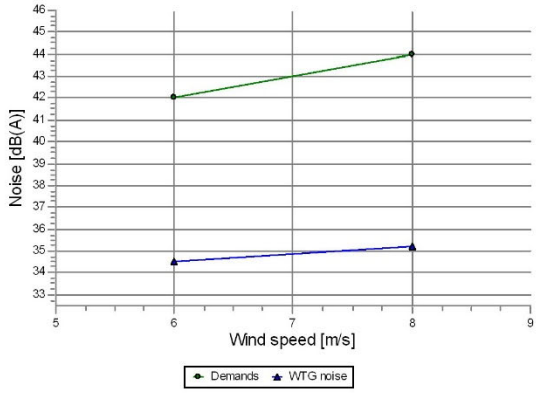


Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	34,4	Yes
8,0	44,0	35,4	Yes

DECIBEL - Detailed results, graphic

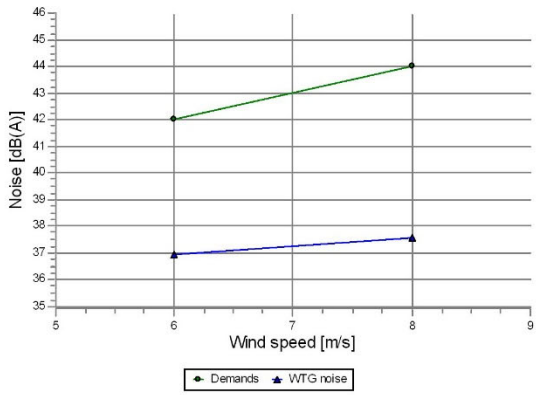
Calculation: Preload (existing WTG)**Noise calculation model:** Danish 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



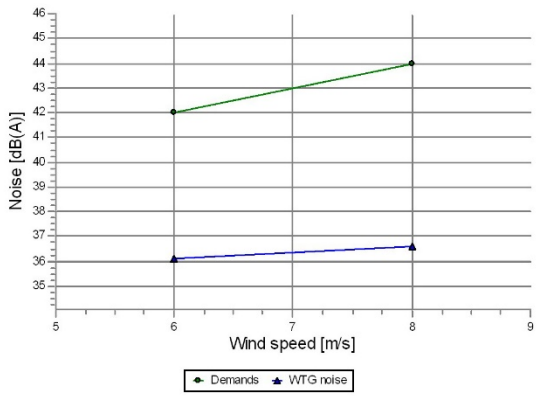
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	34,5	Yes
8,0	44,0	35,2	Yes

IP_08 IP 08 Vindvedvej (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	36,9	Yes
8,0	44,0	37,6	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

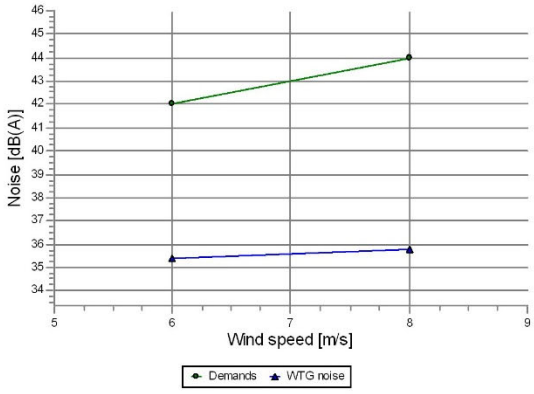


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	36,1	Yes
8,0	44,0	36,6	Yes

DECIBEL - Detailed results, graphic

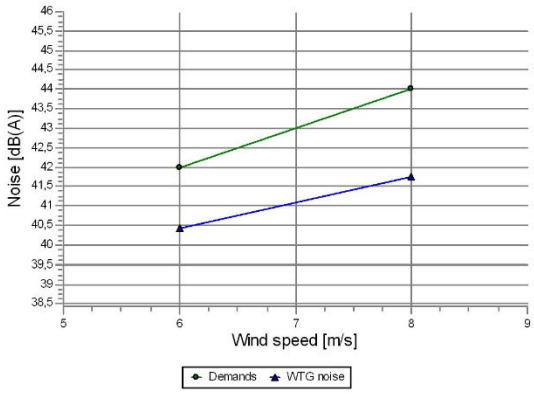
Calculation: Preload (existing WTG)**Noise calculation model:** Danish 2019

IP_10 IP 10 Hovmosevej 15 (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	35,4	Yes
8,0	44,0	35,8	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	40,4	Yes
8,0	44,0	41,8	Yes

13.4 Noise map for the preload (existing WTG's), 6 m/s

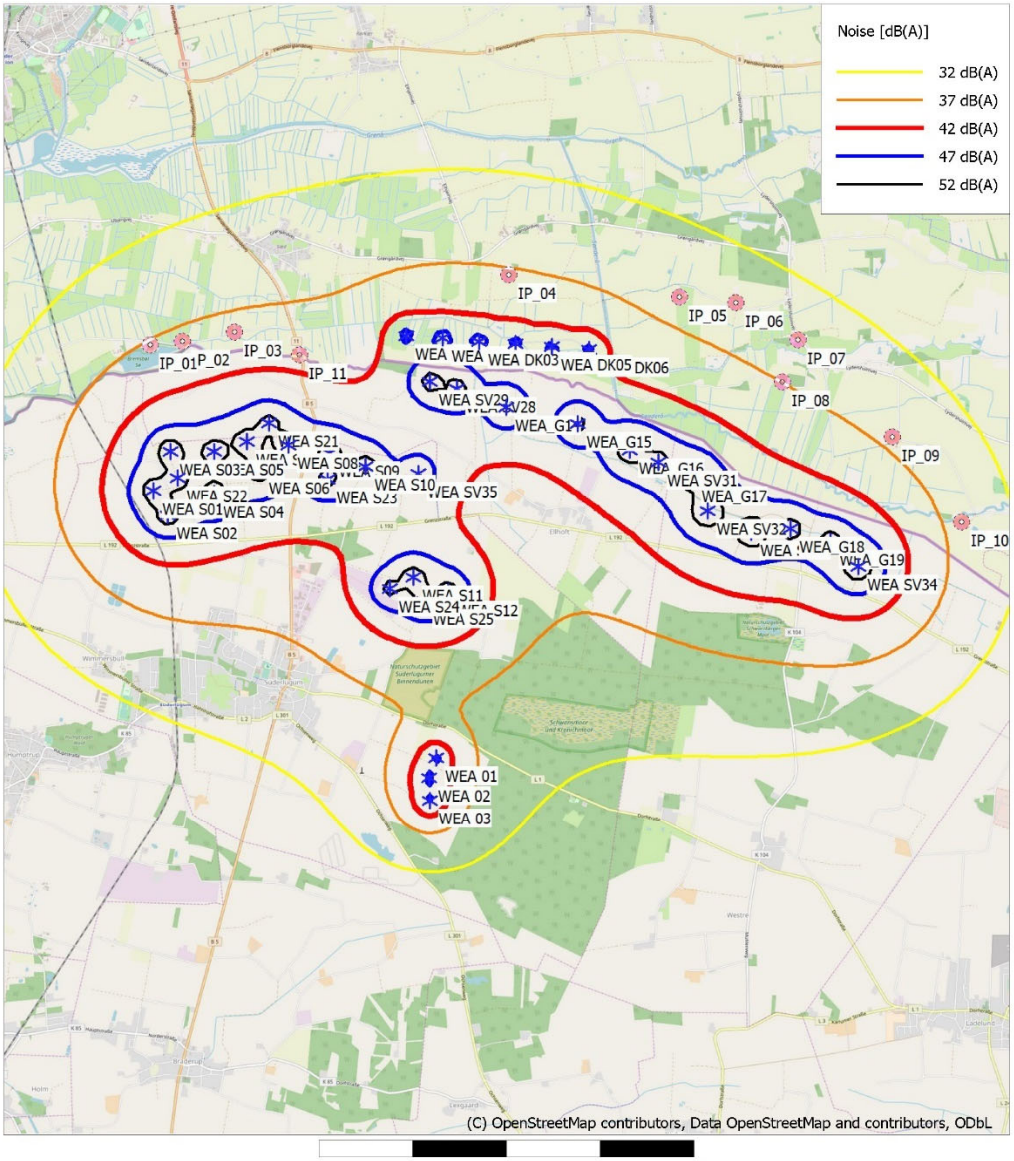
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Map 6,0 m/s

Calculation: Preload (existing WTG)



Map: EMD OpenStreetMap , Print scale 1:60.000, Map center UTM (north)-ETRS89 Zone: 32 East: 496.437 North: 6.081.826

Existing WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 6,0 m/s
Height above sea level from active line object

13.5 Noise map for the preload (existing WTG's), 8 m/s

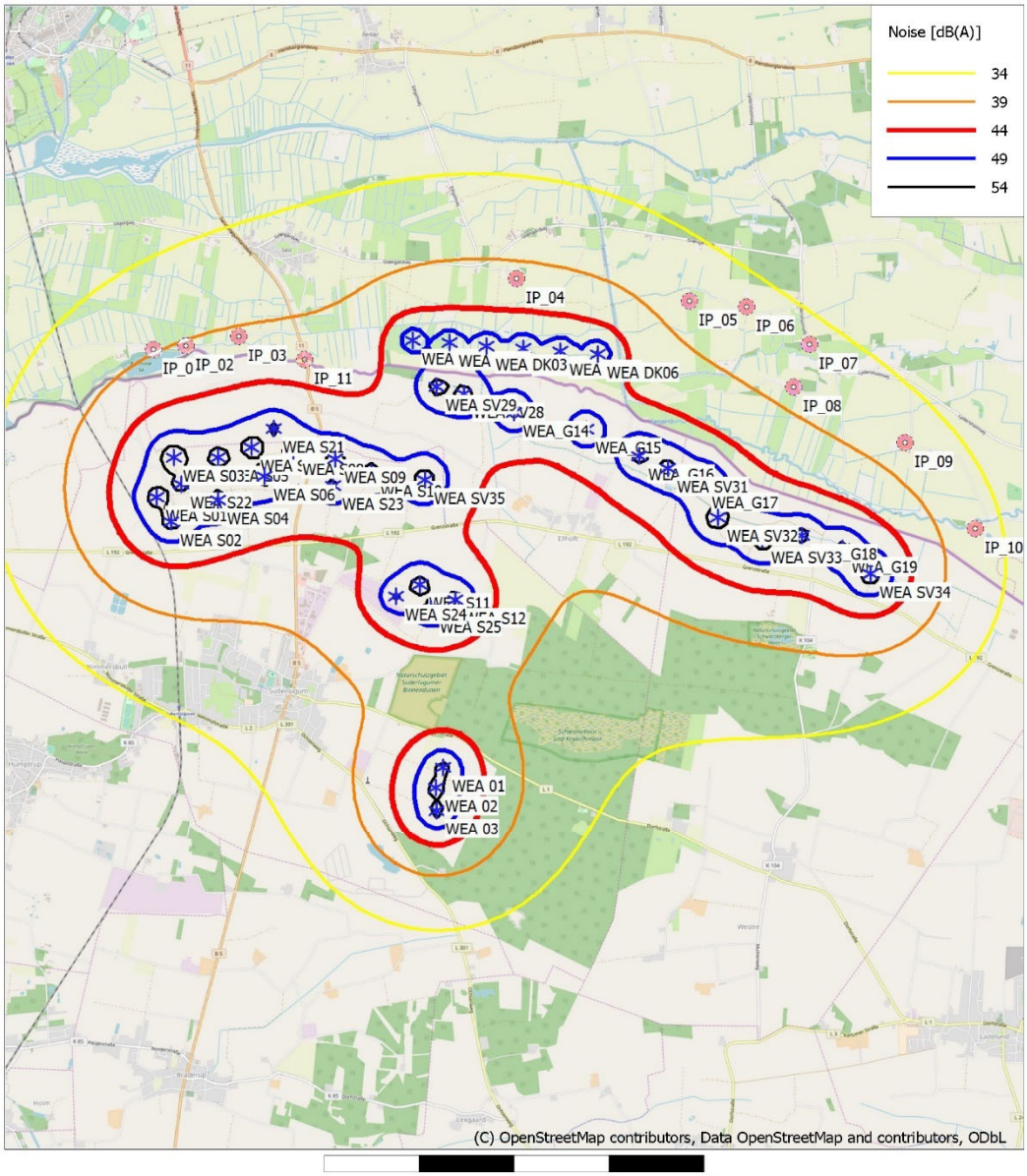
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Map 8,0 m/s

Calculation: Preload (existing WTG)



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:60.000, Map center UTM (north)-ETRS89 Zone: 32 East: 496.437 North: 6.081.826

Existing WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 8,0 m/s
Height above sea level from active line object

13.6 Main result for the additional noise impact (planned WTG's)

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Main Result

Calculation: Additional Impact (8*Nordex N133/4.8MW STE)

Noise calculation model:
Danish 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
WEA GBW20	498.724	6.082.083	5,0	WEA GBW20 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW27	496.676	6.083.254	3,1	WEA GBW27 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW28	497.003	6.083.037	3,7	WEA GBW28 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW29	497.378	6.083.087	3,8	WEA GBW29 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW30	497.605	6.082.864	4,5	WEA GBW30 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW31	497.822	6.082.634	4,6	WEA GBW31 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW32	498.094	6.082.475	4,8	WEA GBW32 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW33	496.832	6.083.593	2,5	WEA GBW33 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2

Calculation Results

Sound level

Noise sensitive area No.	Name	Easting	Northing	Z [m]	Immission height [m]	Wind speed [m/s]	Demands Noise [dB(A)]	Sound level From WTGs [dB(A)]	Demands fulfilled ? Noise
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	42,0	23,6	Yes
IP_01						8,0	44,0	23,6	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	42,0	24,5	Yes
IP_02						8,0	44,0	24,5	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	42,0	26,1	Yes
IP_03						8,0	44,0	26,1	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	42,0	34,6	Yes
IP_04						8,0	44,0	34,6	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	42,0	34,2	Yes
IP_05						8,0	44,0	34,2	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	42,0	32,8	Yes
IP_06						8,0	44,0	32,8	Yes
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	42,0	31,9	Yes
IP_07						8,0	44,0	31,9	Yes
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	42,0	34,0	Yes
IP_08						8,0	44,0	34,0	Yes
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	42,0	30,1	Yes
IP_09						8,0	44,0	30,1	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	42,0	27,6	Yes
IP_10						8,0	44,0	27,6	Yes
IP_11	IP 11 Sonderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	42,0	28,9	Yes
IP_11						8,0	44,0	28,9	Yes

Distances (m)

	WTG							
NSA	WEA GBW20	WEA GBW27	WEA GBW28	WEA GBW29	WEA GBW30	WEA GBW31	WEA GBW32	WEA GBW33
IP_01	6456	4158	4528	4880	5155	5427	5734	4247
IP_02	6140	3829	4203	4550	4829	5105	5414	3908
IP_03	5665	3329	3711	4047	4335	4620	4932	3385
IP_04	3648	1712	1989	2074	2376	2683	2961	1407
IP_05	2675	2197	2134	1884	1989	2147	2260	1860
IP_06	2584	2638	2503	2194	2219	2299	2332	2334

To be continued on next page...

DECIBEL - Main Result

Calculation: Additional Impact (8*Nordex N133/4.8MW STE)

...continued from previous page

	WTG							
NSA	WEA GBW20	WEA GBW27	WEA GBW28	WEA GBW29	WEA GBW30	WEA GBW31	WEA GBW32	WEA GBW33
IP_07	2341	3067	2847	2490	2415	2392	2321	2821
IP_08	1862	2790	2528	2157	2039	1978	1877	2586
IP_09	2184	3911	3589	3212	3003	2827	2603	3773
IP_10	2615	4745	4384	4024	3763	3520	3238	4673
IP_11	4933	2595	2976	3313	3601	3886	4199	2656

13.7 Detailed result for additional noise impact (planned WTG's), graphic

Project:
WP Ellhöft

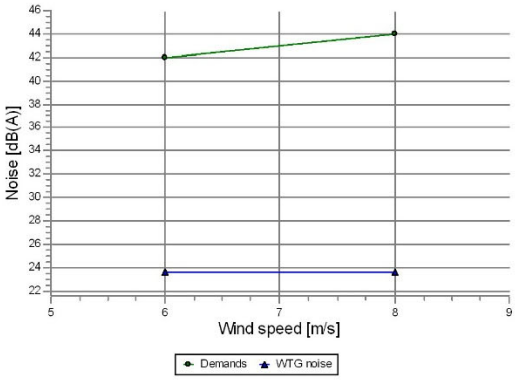
Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Detailed results, graphic

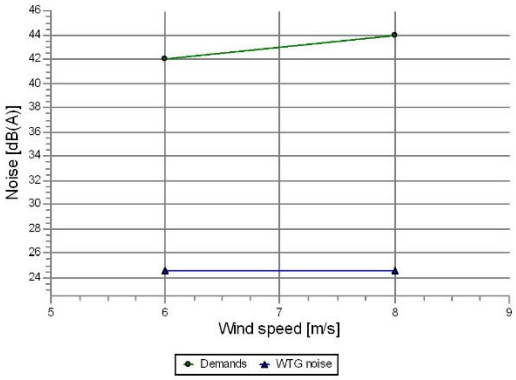
Calculation: Additional Impact (8*Nordex N133/4.8MW STE)**Noise calculation model:** Danish 2019

IP_01 IP 01 Bremsbolvej 2 (DK)



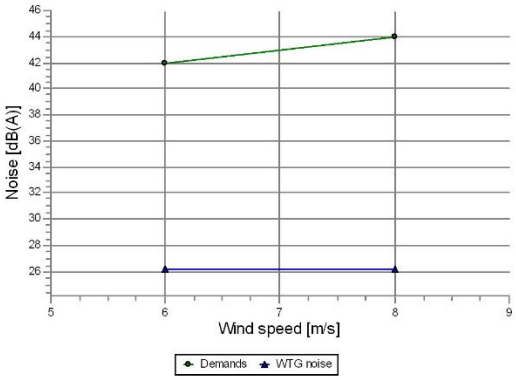
	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	23,6	Yes
8,0	44,0	23,6	Yes

IP_02 IP 02 Bremsbolvej 3 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	24,5	Yes
8,0	44,0	24,5	Yes

IP_03 IP 03 Bremsbolvej (DK)

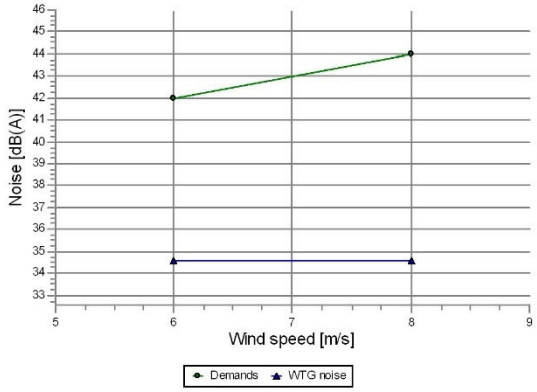


	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	26,1	Yes
8,0	44,0	26,1	Yes

DECIBEL - Detailed results, graphic

Calculation: Additional Impact (8*Nordex N133/4.8MW STE)**Noise calculation model:** Danish 2019

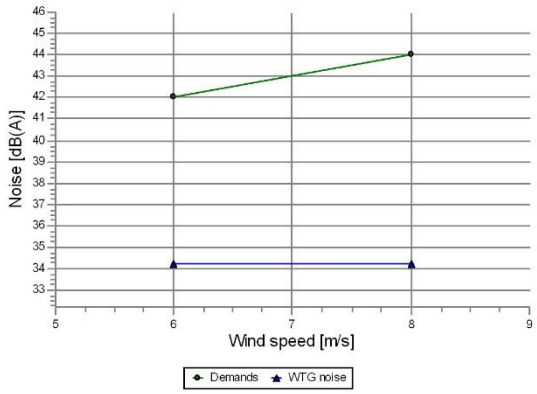
IP_04 IP 04 Sændholm (1) (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	34,6	Yes
8,0	44,0	34,6	Yes

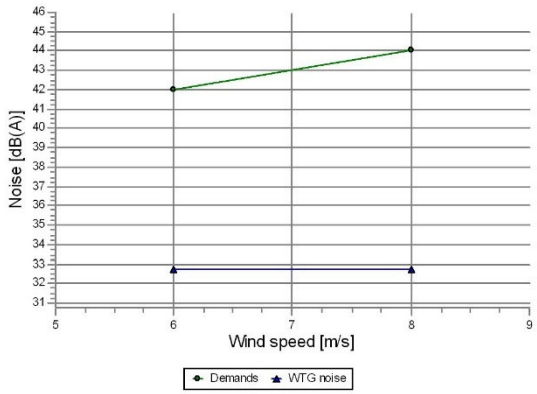
IP_05 IP 05 Karlsminde (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	34,2	Yes
8,0	44,0	34,2	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)



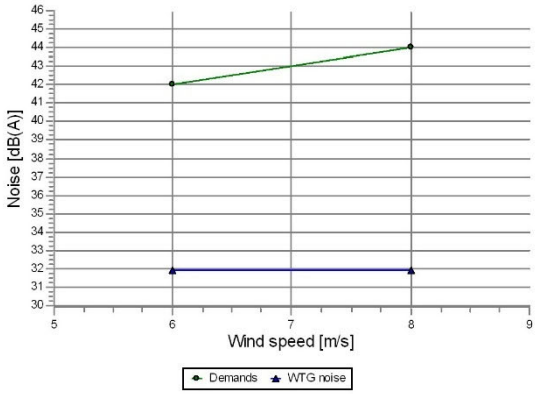
Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	32,8	Yes
8,0	44,0	32,8	Yes

DECIBEL - Detailed results, graphic

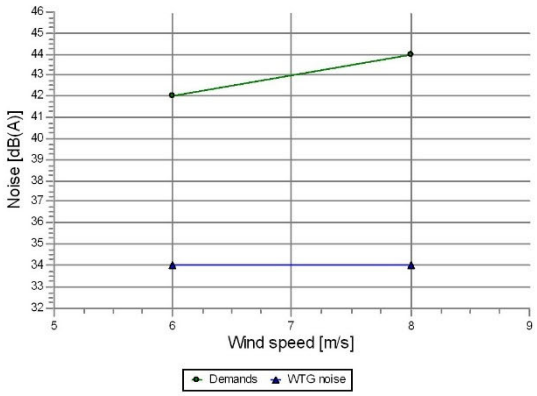
Calculation: Additional Impact (8*Nordex N133/4.8MW STE)**Noise calculation model:** Danish 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



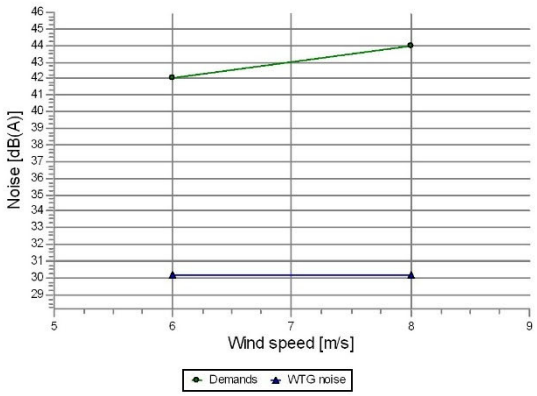
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	31,9	Yes
8,0	44,0	31,9	Yes

IP_08 IP 08 Vindvedvej (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	34,0	Yes
8,0	44,0	34,0	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

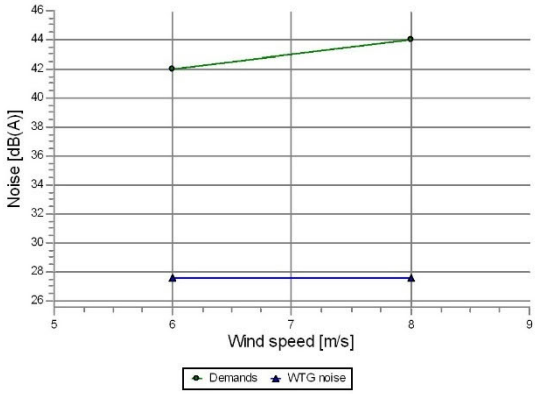


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	30,1	Yes
8,0	44,0	30,1	Yes

DECIBEL - Detailed results, graphic

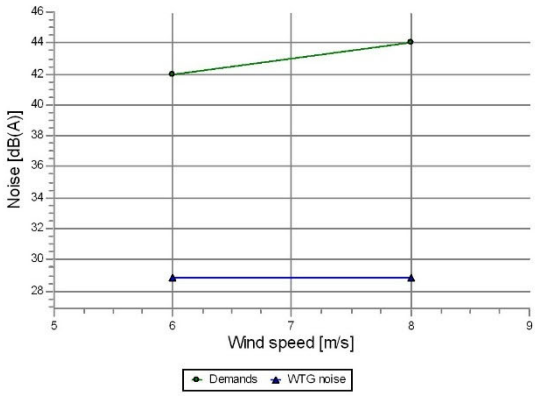
Calculation: Additional Impact (8*Nordex N133/4.8MW STE)**Noise calculation model:** Danish 2019

IP_10 IP 10 Hovmosevej 15 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	27,6	Yes
8,0	44,0	27,6	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	28,9	Yes
8,0	44,0	28,9	Yes

13.8 Noise map for additional noise impact (planned WTG's), 6 m/s

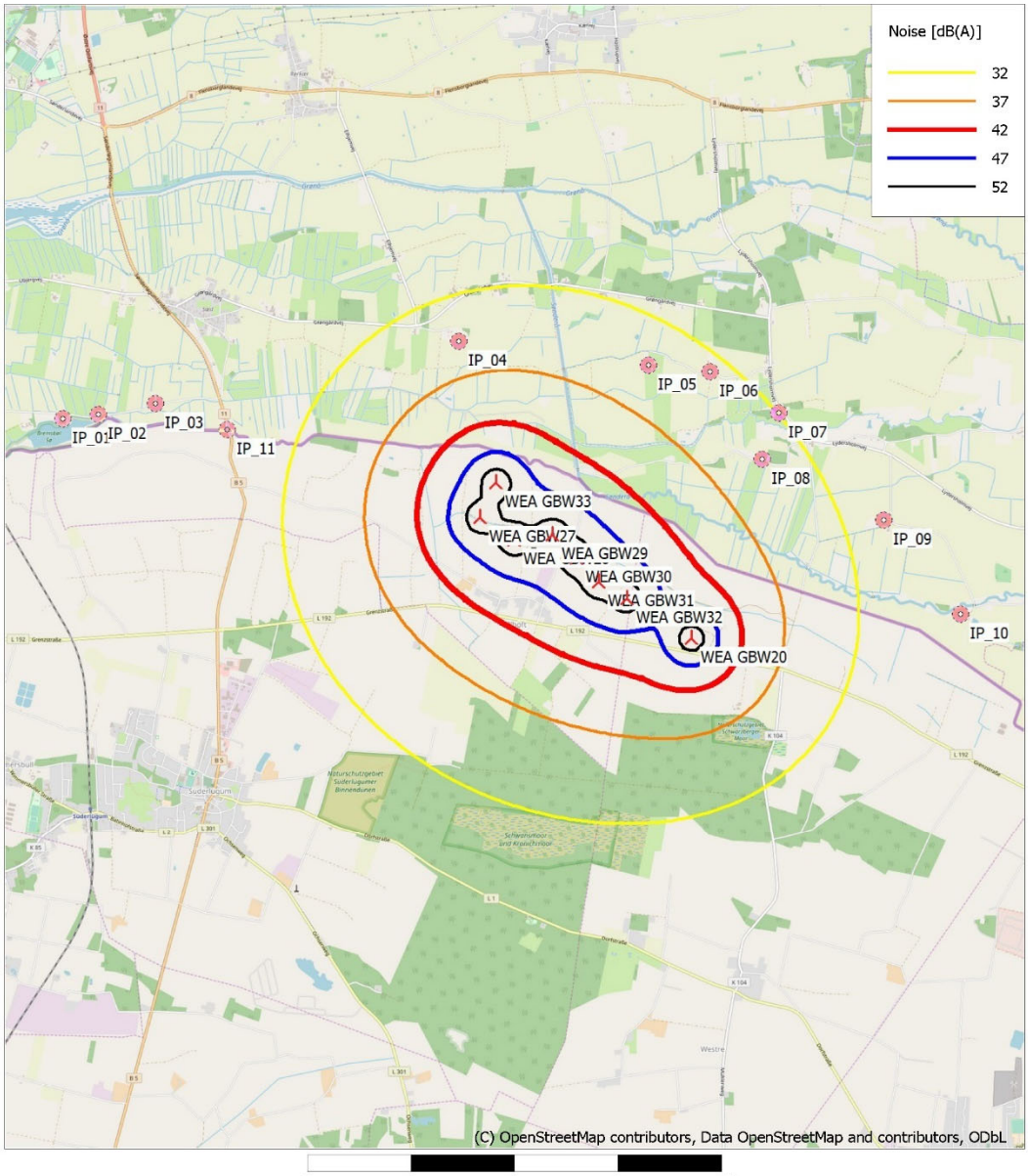
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Map 6,0 m/s

Calculation: Additional Impact (8*Nordex N133/4.8MW STE)



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:55.000, Map center UTM (north)-ETRS89 Zone: 32 East: 497.000 North: 6.082.684

New WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 6,0 m/s
Height above sea level from active line object

13.9 Noise map for additional load (planned WTG's), 8 m/s

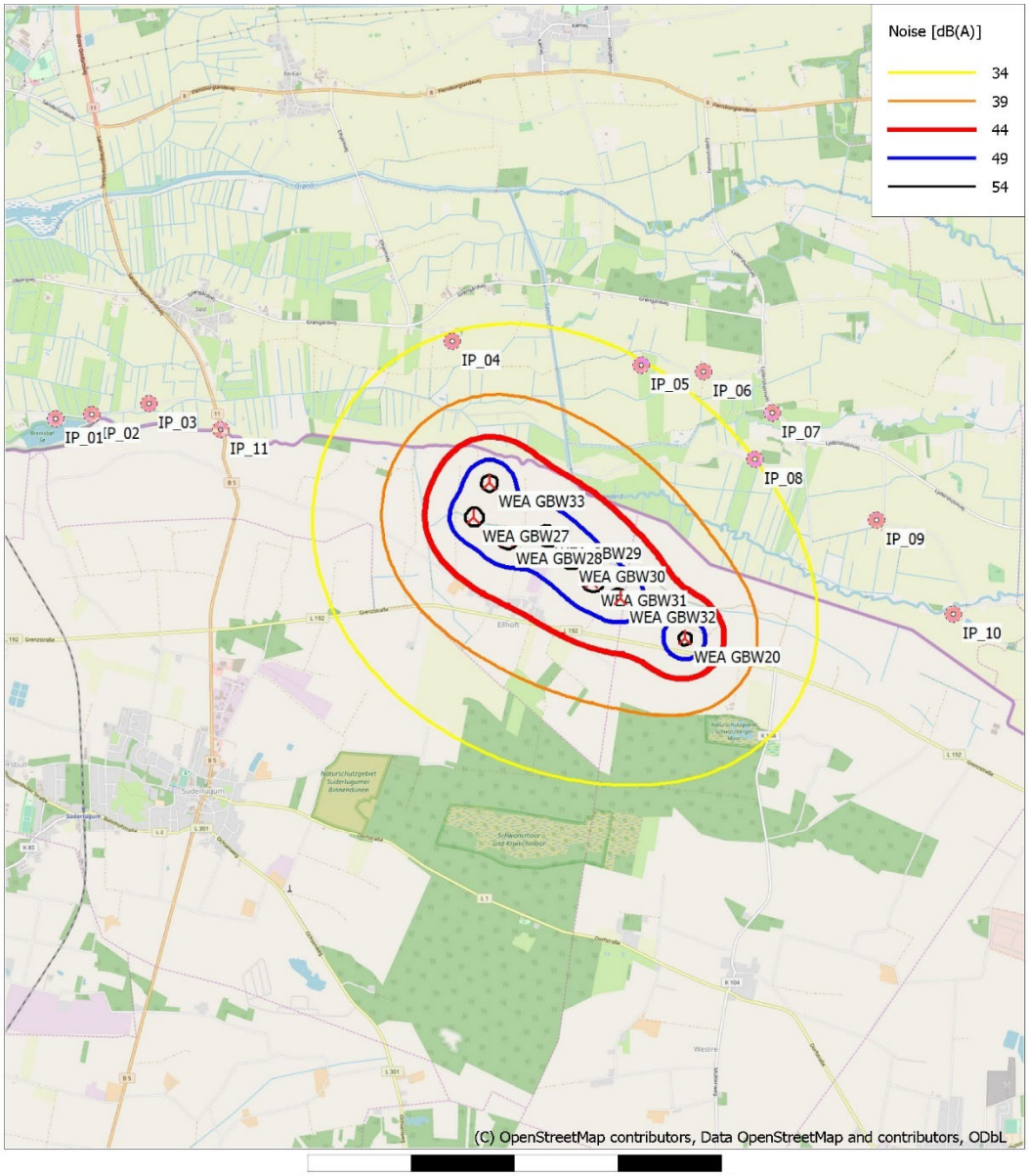
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:14/3.5.584

DECIBEL - Map 8,0 m/s

Calculation: Additional Impact (8*Nordex N133/4.8MW STE)



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:55.000, Map center UTM (north)-ETRS89 Zone: 32 East: 497.065 North: 6.082.684

New WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 8,0 m/s
Height above sea level from active line object

13.10 Main result for the total noise impact (existing & planned WTG's)

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Main Result

Calculation: Total Impact (Existing and planned WTG)

Noise calculation model:
Danish 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
WEA 01	495.606	6.079.791	10,0	WEA 01 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA 02	495.610	6.079.576	12,4	WEA 02 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA 03	495.624	6.079.335	15,0	WEA 03 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	96,3 i	8,0	104,4
WEA DK01	495.371	6.084.317	1,4	WEA DK01 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK01 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK02	495.762	6.084.286	1,9	WEA DK02 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK02 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK03	496.153	6.084.255	2,5	WEA DK03 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK03 Vestas V126/3.45MW Mode SO1	6,0	96,3	8,0	101,2
WEA DK04	496.544	6.084.224	2,5	WEA DK04 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK04 Vestas V126/3.45MW Mode 0	6,0	96,0	8,0	102,2
WEA DK05	496.935	6.084.193	2,5	WEA DK05 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK05 Vestas V126/3.45MW Mode PO1	6,0	96,0	8,0	102,2
WEA DK06	497.326	6.084.162	2,8	WEA DK06 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK06 Vestas V126/3.45MW Mode PO1	6,0	96,0	8,0	102,2
WEA GBW20	498.724	6.082.083	5,0	WEA GBW20 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW27	496.676	6.083.254	3,1	WEA GBW27 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW28	497.003	6.083.037	3,7	WEA GBW28 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW29	497.378	6.083.087	3,8	WEA GBW29 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW30	497.605	6.082.864	4,5	WEA GBW30 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW31	497.822	6.082.634	4,6	WEA GBW31 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW32	498.094	6.082.475	4,8	WEA GBW32 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA GBW33	496.832	6.083.593	2,5	WEA GBW33 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA S01	492.658	6.082.655	2,5	WEA S01 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S02	492.814	6.082.403	3,0	WEA S02 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S03	492.838	6.083.076	2,1	WEA S03 Siemens SWT 3.0 MW-101	Yes	Siemens	SWT-3.0-101-3.000	3.000	101,0	79,5	EMD	Level 0 - Calculated - Std. 107dB - 4-2016 rev4	6,0	104,5	8,0	107,0
WEA S04	493.311	6.082.624	2,8	WEA S04 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S05	493.310	6.083.077	2,1	WEA S05 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S06	493.800	6.082.876	2,4	WEA S06 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S07	493.664	6.083.108	1,9	WEA S07 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S08	494.108	6.083.148	1,9	WEA S08 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S09	494.553	6.083.062	2,5	WEA S09 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S10	494.932	6.082.916	3,2	WEA S10 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S11	495.444	6.081.727	4,4	WEA S11 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S12	495.821	6.081.567	4,7	WEA S12 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	104,2	8,0	105,5
WEA S21	493.902	6.083.394	1,5	WEA S21 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S22	492.923	6.082.793	2,5	WEA S22 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S23	494.523	6.082.775	3,2	WEA S23 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S24	495.187	6.081.609	4,5	WEA S24 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA S25	495.560	6.081.479	4,6	WEA S25 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	103,0	8,0	103,5
WEA SV28	495.915	6.083.742	2,5	WEA S28 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV29	495.628	6.083.820	1,8	WEA S29 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV31	498.071	6.082.956	4,4	WEA S31 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	103,8 f	8,0	105,4 f
WEA SV32	498.597	6.082.432	4,9	WEA S32 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S32 REpower 6M	6,0	106,8	8,0	107,0
WEA SV33	499.073	6.082.208	5,0	WEA S33 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S33 REpower 6M	6,0	106,8	8,0	107,0
WEA SV34	500.215	6.081.841	5,0	WEA S34 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S34 REpower 6M	6,0	106,8	8,0	107,0
WEA SV35	495.497	6.082.837	3,3	WEA S35 Enercon E-101	No	ENERCON	E-101-3.000	3.000	101,0	99,0	USER	WEA S35 Enercon E-101	6,0	102,0	8,0	106,6
WEA G14	496.446	6.083.550	2,5	WEA 14 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0
WEA_G15	497.204	6.083.372	2,9	WEA 15 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	115,0	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,6	8,0	105,0
WEA_G16	497.767	6.083.089	4,3	WEA 16 Nordex N133/4.8 MW STE	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	106,2	8,0	106,2
WEA_G17	498.443	6.082.792	4,6	WEA 17 Siemens SWT DD-130 4.3 MW	Yes	Siemens	SWT-DD-130-4.300	4.300	130,0	115,0	EMD	Mode 2 - Calculated - -1dB rev1- 06-2018	6,0	106,0	8,0	106,0
WEA G18	499.487	6.082.246	5,0	WEA 18 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0
WEA_G19	499.918	6.082.108	5,0	WEA 19 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	104,1	8,0	105,0

f) From other hub height
i) Octave distribution from other wind speed used

Calculation Results

Sound level

Noise sensitive area

No.	Name	Easting	Northing	Z	Immission height	Wind speed	Demands Noise	Sound level From WTGs	Demands fulfilled ? Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	42,0	37,5	Yes
IP_01						8,0	44,0	38,9	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	42,0	38,3	Yes
IP_02						8,0	44,0	39,6	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	42,0	38,7	Yes
IP_03						8,0	44,0	39,9	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	42,0	39,3	Yes
IP_04						8,0	44,0	41,5	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	42,0	37,8	Yes
IP_05						8,0	44,0	38,8	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	42,0	36,6	Yes
IP_06						8,0	44,0	37,3	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: Total Impact (Existing and planned WTG)

...continued from previous page

Noise sensitive area							Demands	Sound level	Demands fulfilled ?
No.	Name	Easting	Northing	Z	Immission height	Wind speed	Noise	From WTGs	Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	42,0	36,4	Yes
IP_07						8,0	44,0	36,9	Yes
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	42,0	38,7	Yes
IP_08						8,0	44,0	39,1	Yes
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	42,0	37,1	Yes
IP_09						8,0	44,0	37,5	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	42,0	36,0	Yes
IP_10						8,0	44,0	36,4	Yes
IP_11	IP 11 Sonderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	42,0	40,7	Yes
IP_11						8,0	44,0	42,0	Yes

Distances (m)

WTG	IP_01	IP_02	IP_03	IP_04	IP_05	IP_06	IP_07	IP_08	IP_09	IP_10	IP_11
WEA 01	5376	5216	5045	5223	5588	5839	5926	5482	5983	6183	4557
WEA 02	5513	5363	5210	5447	5813	6060	6139	5691	6170	6342	4739
WEA 03	5724	5581	5437	5683	6021	6256	6316	5864	6304	6437	4973
WEA DK01	2743	2393	1837	1274	2965	3553	4201	4069	5330	6283	1164
WEA DK02	3132	2783	2229	977	2584	3167	3810	3677	4941	5903	1546
WEA DK03	3523	3174	2621	770	2206	2784	3419	3286	4553	5525	1933
WEA DK04	3914	3565	3013	734	1834	2403	3028	2894	4165	5149	2321
WEA DK05	4305	3956	3405	890	1473	2027	2638	2503	3779	4775	2710
WEA DK06	4696	4348	3797	1163	1132	1658	2248	2112	3394	4406	3100
WEA GBW20	6456	6140	5665	3648	2675	2584	2341	1862	2184	2615	4933
WEA GBW27	4158	3829	3329	1712	2197	2638	3067	2790	3911	4745	2595
WEA GBW28	4528	4203	3711	1989	2134	2503	2847	2528	3589	4384	2976
WEA GBW29	4880	4550	4047	2074	1884	2194	2490	2157	3212	4024	3313
WEA GBW30	5155	4829	4335	2376	1989	2219	2415	2039	3003	3763	3601
WEA GBW31	5427	5105	4620	2683	2147	2299	2392	1978	2827	3520	3886
WEA GBW32	5734	5414	4932	2961	2260	2332	2321	1877	2603	3238	4199
WEA GBW33	4247	3908	3385	1407	1860	2334	2821	2586	3773	4673	2656
WEA S01	1560	1626	1912	4455	6017	6563	7099	6850	7949	8676	2138
WEA S02	1821	1854	2080	4462	5965	6498	7010	6744	7816	8514	2214
WEA S03	1158	1182	1456	4093	5713	6273	6838	6612	7750	8524	1730
WEA S04	1730	1659	1745	3929	5421	5955	6473	6213	7301	8023	1744
WEA S05	1325	1218	1297	3679	5263	5817	6374	6143	7278	8054	1379
WEA S06	1778	1600	1502	3387	4873	5410	5937	5687	6796	7548	1304
WEA S07	1457	1263	1174	3319	4892	5446	6005	5779	6923	7713	1078
WEA S08	1822	1577	1336	2977	4486	5032	5577	5343	6479	7267	968
WEA S09	2242	1972	1646	2697	4107	4638	5161	4914	6036	6815	1096
WEA S10	2643	2365	2006	2556	3830	4341	4832	4566	5663	6424	1385
WEA S11	3756	3527	3248	3388	4146	4539	4846	4481	5356	5914	2675
WEA S12	4146	3908	3606	3450	4020	4370	4621	4234	5045	5558	3001
WEA S21	1519	1265	1037	3013	4606	5165	5738	5524	6687	7502	793
WEA S22	1451	1457	1676	4157	5721	6269	6810	6566	7676	8418	1851
WEA S23	2378	2135	1863	2925	4258	4772	5264	4995	6080	6820	1366
WEA S24	3650	3442	3204	3584	4410	4812	5127	4763	5636	6182	2677
WEA S25	4008	3786	3517	3593	4253	4618	4884	4502	5321	5829	2948
WEA SV28	3318	2980	2459	1335	2587	3130	3694	3495	4701	5597	1728
WEA SV29	3024	2684	2161	1415	2829	3385	3969	3781	4995	5894	1431
WEA SV31	5584	5254	4748	2558	1785	1899	1992	1590	2530	3318	4014
WEA SV32	6227	5905	5416	3297	2312	2251	2077	1603	2141	2733	4681
WEA SV33	6748	6427	5940	3781	2631	2459	2117	1641	1822	2258	5206
WEA SV34	7947	7626	7138	4867	3458	3109	2508	2132	1431	1212	6404
WEA SV35	3180	2887	2481	2332	3386	3867	4318	4032	5105	5854	1798
WEA_G14	3873	3537	3021	1404	2202	2700	3207	2975	4154	5035	2289
WEA_G15	4651	4315	3799	1742	1746	2136	2531	2249	3386	4256	3068
WEA_G16	5258	4927	4418	2269	1723	1942	2154	1795	2823	3643	3685
WEA_G17	5984	5655	5152	2924	1938	1926	1856	1406	2187	2923	4418
WEA_G18	7134	6809	6315	4051	2745	2484	2021	1570	1471	1842	5581
WEA_G19	7586	7262	6768	4468	3073	2746	2185	1780	1299	1426	6033

13.11 Detailed result for total noise impact (existing & planned WTG's), graphic

Project:
WP Ellhöft

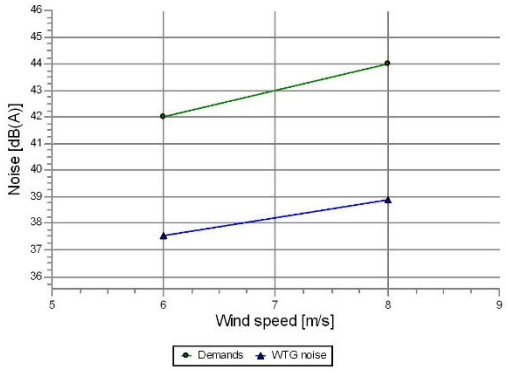
Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Detailed results, graphic

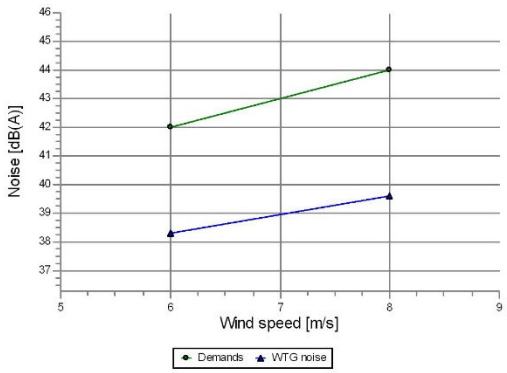
Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

IP_01 IP 01 Bremsbolvej 2 (DK)



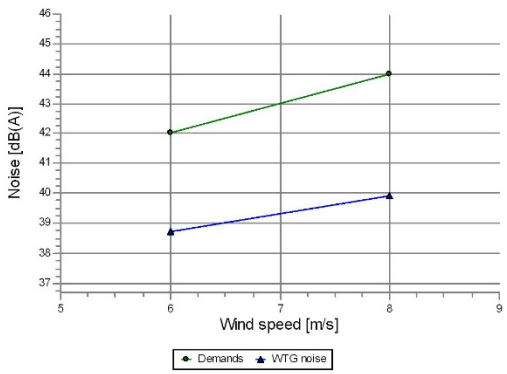
	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	37,5	Yes
8,0	44,0	38,9	Yes

IP_02 IP 02 Bremsbolvej 3 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	38,3	Yes
8,0	44,0	39,6	Yes

IP_03 IP 03 Bremsbolvej (DK)

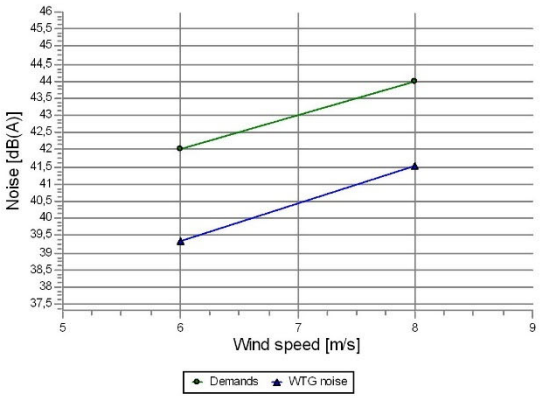


	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	38,7	Yes
8,0	44,0	39,9	Yes

DECIBEL - Detailed results, graphic

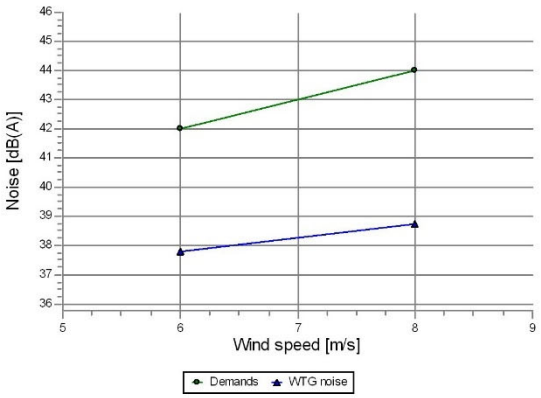
Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

IP_04 IP 04 Sændholm (1) (DK)



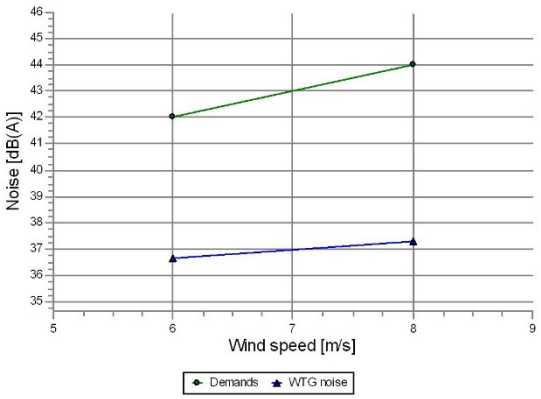
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	39,3	Yes
8,0	44,0	41,5	Yes

IP_05 IP 05 Karlsminde (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	37,8	Yes
8,0	44,0	38,8	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)

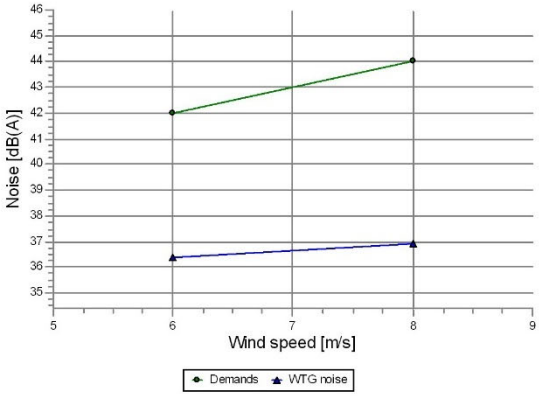


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	36,6	Yes
8,0	44,0	37,3	Yes

DECIBEL - Detailed results, graphic

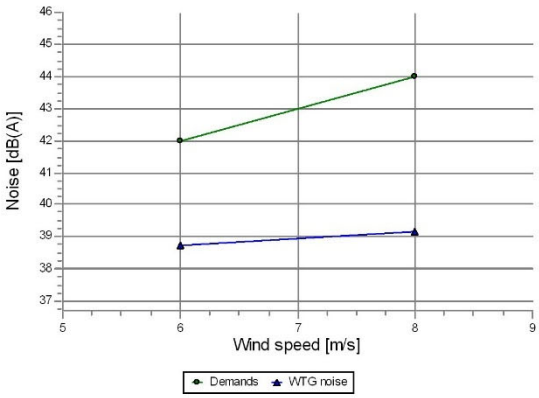
Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



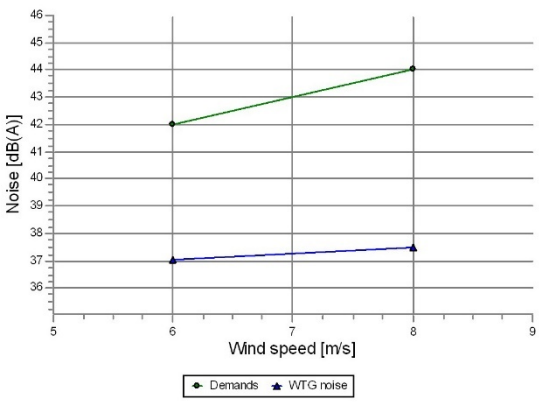
	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	36,4	Yes
8,0	44,0	36,9	Yes

IP_08 IP 08 Vindvedvej (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	38,7	Yes
8,0	44,0	39,1	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

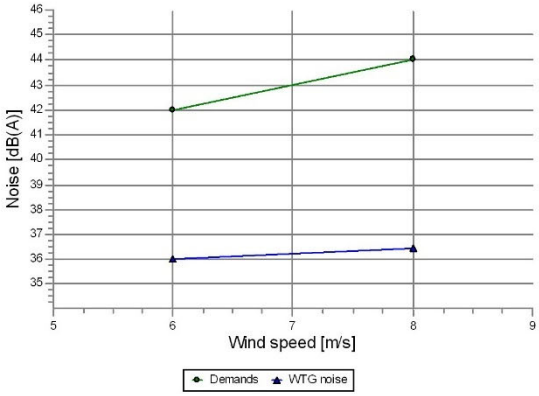


	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	37,1	Yes
8,0	44,0	37,5	Yes

DECIBEL - Detailed results, graphic

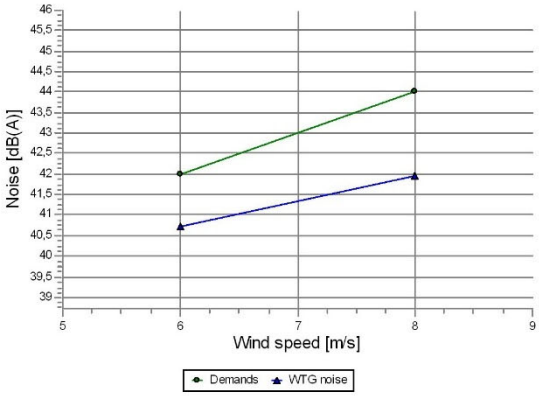
Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

IP_10 IP 10 Hovmosevej 15 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	36,0	Yes
8,0	44,0	36,4	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	42,0	40,7	Yes
8,0	44,0	42,0	Yes

13.12 Detailed result for total noise impact (existing & planned WTG's)

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

Assumptions

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
(when calculated with ground attenuation, then Dc = Domega)

LWA,ref:	Sound pressure level at WTG
K:	Pure tone
Dc:	Directivity correction
Adiv:	the attenuation due to geometrical divergence
Aatm:	the attenuation due to atmospheric absorption
Agr:	the attenuation due to ground effect
Abar:	the attenuation due to a barrier
Amisc:	the attenuation due to miscellaneous other effects
Cmet:	Meteorological correction

Calculation Results

Noise sensitive area: IP_01 IP 01 Bremsbolvej 2 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.376	5.377	**3,31**	96,3	0,00	85,61	8,88	-1,50	0,00	0,00	92,99
WEA 02	5.513	5.514	**2,97**	96,3	0,00	85,83	9,01	-1,50	0,00	0,00	93,34
WEA 03	5.724	5.725	**2,44**	96,3	0,00	86,16	9,21	-1,50	0,00	0,00	93,86
WEA DK01	2.743	2.744	**12,97**	96,3	0,00	79,77	5,04	-1,50	0,00	0,00	83,31
WEA DK02	3.132	3.134	**11,36**	96,3	0,00	80,92	5,49	-1,50	0,00	0,00	84,91
WEA DK03	3.523	3.524	**9,92**	96,3	0,00	81,94	5,92	-1,50	0,00	0,00	86,36
WEA DK04	3.914	3.915	**8,22**	96,0	0,00	82,85	6,38	-1,50	0,00	0,00	87,73
WEA DK05	4.305	4.306	**7,09**	96,0	0,00	83,68	6,71	-1,50	0,00	0,00	88,89
WEA DK06	4.696	4.697	**5,97**	96,0	0,00	84,44	7,07	-1,50	0,00	0,00	90,01
WEA GBW20	6.456	6.457	**10,76**	106,2	0,00	87,20	9,69	-1,50	0,00	0,00	95,39
WEA GBW27	4.158	4.159	**16,67**	106,2	0,00	83,38	7,60	-1,50	0,00	0,00	89,48
WEA GBW28	4.528	4.530	**15,55**	106,2	0,00	84,12	7,98	-1,50	0,00	0,00	90,60
WEA GBW29	4.880	4.881	**14,55**	106,2	0,00	84,77	8,33	-1,50	0,00	0,00	91,60
WEA GBW30	5.155	5.156	**13,82**	106,2	0,00	85,25	8,58	-1,50	0,00	0,00	92,33
WEA GBW31	5.427	5.428	**13,13**	106,2	0,00	85,69	8,83	-1,50	0,00	0,00	93,02
WEA GBW32	5.734	5.735	**12,38**	106,2	0,00	86,17	9,10	-1,50	0,00	0,00	93,77
WEA GBW33	4.247	4.249	**16,39**	106,2	0,00	83,57	7,69	-1,50	0,00	0,00	89,76
WEA S01	1.560	1.563	**26,82**	104,2	0,00	74,88	4,02	-1,50	0,00	0,00	77,40
WEA S02	1.821	1.823	**25,08**	104,2	0,00	76,22	4,42	-1,50	0,00	0,00	79,13
WEA S03	1.158	1.160	**29,75**	104,5	0,00	72,29	3,91	-1,50	0,00	0,00	74,70
WEA S04	1.730	1.733	**25,66**	104,2	0,00	75,77	4,28	-1,50	0,00	0,00	78,56
WEA S05	1.325	1.328	**28,61**	104,2	0,00	73,47	3,63	-1,50	0,00	0,00	75,60
WEA S06	1.778	1.780	**25,35**	104,2	0,00	76,01	4,35	-1,50	0,00	0,00	78,86
WEA S07	1.457	1.460	**27,57**	104,2	0,00	74,29	3,85	-1,50	0,00	0,00	76,64
WEA S08	1.822	1.825	**25,07**	104,2	0,00	76,22	4,42	-1,50	0,00	0,00	79,14
WEA S09	2.242	2.244	**22,70**	104,2	0,00	78,02	5,00	-1,50	0,00	0,00	81,52
WEA S10	2.643	2.644	**20,77**	104,2	0,00	79,45	5,50	-1,50	0,00	0,00	83,44
WEA S11	3.756	3.757	**16,54**	104,2	0,00	82,50	6,68	-1,50	0,00	0,00	87,67
WEA S12	4.146	4.147	**15,32**	104,2	0,00	83,36	7,03	-1,50	0,00	0,00	88,89
WEA S21	1.519	1.521	**23,91**	103,0	0,00	74,64	5,91	-1,50	0,00	0,00	79,05
WEA S22	1.451	1.454	**24,45**	103,0	0,00	74,25	5,77	-1,50	0,00	0,00	78,52
WEA S23	2.378	2.379	**18,51**	103,0	0,00	78,53	7,42	-1,50	0,00	0,00	84,45
WEA S24	3.650	3.651	**13,09**	103,0	0,00	82,25	9,13	-1,50	0,00	0,00	89,87
WEA S25	4.008	4.009	**11,88**	103,0	0,00	83,06	9,53	-1,50	0,00	0,00	91,09
WEA SV28	3.318	3.320	**16,48**	103,8	0,00	81,42	7,37	-1,50	0,00	0,00	87,29
WEA SV29	3.024	3.025	**17,70**	103,8	0,00	80,61	6,95	-1,50	0,00	0,00	86,07
WEA SV31	5.584	5.585	**9,35**	103,8	0,00	85,94	9,98	-1,50	0,00	0,00	94,42
WEA SV32	6.227	6.228	**11,51**	106,8	0,00	86,89	9,90	-1,50	0,00	0,00	95,29
WEA SV33	6.748	6.749	**9,97**	106,8	0,00	87,58	10,70	-1,50	0,00	0,00	96,78
WEA SV34	7.947	7.948	**7,97**	106,8	0,00	89,01	11,32	-1,50	0,00	0,00	98,82
WEA SV35	3.180	3.182	**16,21**	102,0	0,00	81,05	6,23	-1,50	0,00	0,00	85,79
WEA_G14	3.873	3.874	**16,12**	104,1	0,00	82,76	6,68	-1,50	0,00	0,00	87,94
WEA_G15	4.651	4.652	**14,48**	104,6	0,00	84,35	7,26	-1,50	0,00	0,00	90,11

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA_G16	5.258	5.260	**13,55**	106,2	0,00	85,42	8,68	-1,50	0,00	0,00	92,60
WEA_G17	5.984	5.985	**8,98**	106,0	0,00	86,54	12,02	-1,50	0,00	0,00	97,06
WEA_G18	7.134	7.134	**8,49**	104,1	0,00	88,07	9,01	-1,50	0,00	0,00	95,58
WEA_G19	7.586	7.586	**7,70**	104,1	0,00	88,60	9,26	-1,50	0,00	0,00	96,36
Sum			**37,55**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.376	5.377	**11,45**	104,4	0,00	85,61	8,88	-1,50	0,00	0,00	92,99
WEA 02	5.513	5.514	**11,10**	104,4	0,00	85,83	9,01	-1,50	0,00	0,00	93,34
WEA 03	5.724	5.725	**10,58**	104,4	0,00	86,16	9,21	-1,50	0,00	0,00	93,86
WEA DK01	2.743	2.744	**15,99**	101,2	0,00	79,77	6,93	-1,50	0,00	0,00	85,20
WEA DK02	3.132	3.134	**14,18**	101,2	0,00	80,92	7,59	-1,50	0,00	0,00	87,01
WEA DK03	3.523	3.524	**12,55**	101,2	0,00	81,94	8,20	-1,50	0,00	0,00	88,64
WEA DK04	3.914	3.915	**13,49**	102,2	0,00	82,85	7,34	-1,50	0,00	0,00	88,69
WEA DK05	4.305	4.306	**12,19**	102,2	0,00	83,68	7,81	-1,50	0,00	0,00	89,99
WEA DK06	4.696	4.697	**10,99**	102,2	0,00	84,44	8,26	-1,50	0,00	0,00	91,20
WEA GBW20	6.456	6.457	**10,76**	106,2	0,00	87,20	9,69	-1,50	0,00	0,00	95,39
WEA GBW27	4.158	4.159	**16,67**	106,2	0,00	83,38	7,60	-1,50	0,00	0,00	89,48
WEA GBW28	4.528	4.530	**15,55**	106,2	0,00	84,12	7,98	-1,50	0,00	0,00	90,60
WEA GBW29	4.880	4.881	**14,55**	106,2	0,00	84,77	8,33	-1,50	0,00	0,00	91,60
WEA GBW30	5.155	5.156	**13,82**	106,2	0,00	85,25	8,58	-1,50	0,00	0,00	92,33
WEA GBW31	5.427	5.428	**13,13**	106,2	0,00	85,69	8,83	-1,50	0,00	0,00	93,02
WEA GBW32	5.734	5.735	**12,38**	106,2	0,00	86,17	9,10	-1,50	0,00	0,00	93,77
WEA GBW33	4.247	4.249	**16,39**	106,2	0,00	83,57	7,69	-1,50	0,00	0,00	89,76
WEA S01	1.560	1.563	**27,90**	105,5	0,00	74,88	4,23	-1,50	0,00	0,00	77,61
WEA S02	1.821	1.823	**26,15**	105,5	0,00	76,22	4,64	-1,50	0,00	0,00	79,36
WEA S03	1.158	1.160	**32,28**	107,0	0,00	72,29	3,91	-1,50	0,00	0,00	74,70
WEA S04	1.730	1.733	**26,73**	105,5	0,00	75,77	4,51	-1,50	0,00	0,00	78,78
WEA S05	1.325	1.328	**29,71**	105,5	0,00	73,47	3,83	-1,50	0,00	0,00	75,80
WEA S06	1.778	1.780	**26,42**	105,5	0,00	76,01	4,58	-1,50	0,00	0,00	79,09
WEA S07	1.457	1.460	**28,66**	105,5	0,00	74,29	4,06	-1,50	0,00	0,00	76,85
WEA S08	1.822	1.825	**26,14**	105,5	0,00	76,22	4,65	-1,50	0,00	0,00	79,37
WEA S09	2.242	2.244	**23,75**	105,5	0,00	78,02	5,24	-1,50	0,00	0,00	81,76
WEA S10	2.643	2.644	**21,82**	105,5	0,00	79,45	5,75	-1,50	0,00	0,00	83,69
WEA S11	3.756	3.757	**17,58**	105,5	0,00	82,50	6,93	-1,50	0,00	0,00	87,93
WEA S12	4.146	4.147	**16,36**	105,5	0,00	83,36	7,29	-1,50	0,00	0,00	89,15
WEA S21	1.519	1.521	**24,25**	103,5	0,00	74,64	6,11	-1,50	0,00	0,00	79,25
WEA S22	1.451	1.454	**24,78**	103,5	0,00	74,25	5,96	-1,50	0,00	0,00	78,71
WEA S23	2.378	2.379	**18,82**	103,5	0,00	78,53	7,64	-1,50	0,00	0,00	84,67
WEA S24	3.650	3.651	**13,43**	103,5	0,00	82,25	9,32	-1,50	0,00	0,00	90,07
WEA S25	4.008	4.009	**12,22**	103,5	0,00	83,06	9,72	-1,50	0,00	0,00	91,28
WEA SV28	3.318	3.320	**17,44**	105,4	0,00	81,42	8,04	-1,50	0,00	0,00	87,96
WEA SV29	3.024	3.025	**18,68**	105,4	0,00	80,61	7,61	-1,50	0,00	0,00	86,72
WEA SV31	5.584	5.585	**10,30**	105,4	0,00	85,94	10,65	-1,50	0,00	0,00	95,10
WEA SV32	6.227	6.228	**11,71**	107,0	0,00	86,89	9,90	-1,50	0,00	0,00	95,29
WEA SV33	6.748	6.749	**10,55**	107,0	0,00	87,58	10,36	-1,50	0,00	0,00	96,44
WEA SV34	7.947	7.948	**8,17**	107,0	0,00	89,01	11,32	-1,50	0,00	0,00	98,82
WEA SV35	3.180	3.182	**21,64**	106,6	0,00	81,05	5,45	-1,50	0,00	0,00	85,00
WEA_G14	3.873	3.874	**16,64**	105,0	0,00	82,76	7,05	-1,50	0,00	0,00	88,32
WEA_G15	4.651	4.652	**14,38**	105,0	0,00	84,35	7,72	-1,50	0,00	0,00	90,57
WEA_G16	5.258	5.260	**13,55**	106,2	0,00	85,42	8,68	-1,50	0,00	0,00	92,60
WEA_G17	5.984	5.985	**9,56**	106,0	0,00	86,54	11,44	-1,50	0,00	0,00	96,48
WEA_G18	7.134	7.134	**9,02**	105,0	0,00	88,07	9,37	-1,50	0,00	0,00	95,93
WEA_G19	7.586	7.586	**8,24**	105,0	0,00	88,60	9,61	-1,50	0,00	0,00	96,71
Sum			**38,88**								

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

Noise sensitive area: IP_02 IP 02 Bremsbolvej 3 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.216	5.217	**3,73**	96,3	0,00	85,35	8,73	-1,50	0,00	0,00	92,58
WEA 02	5.363	5.364	**3,35**	96,3	0,00	85,59	8,87	-1,50	0,00	0,00	92,96
WEA 03	5.581	5.582	**2,80**	96,3	0,00	85,94	9,08	-1,50	0,00	0,00	93,51
WEA DK01	2.393	2.394	**14,58**	96,3	0,00	78,58	4,62	-1,50	0,00	0,00	81,70
WEA DK02	2.783	2.785	**12,79**	96,3	0,00	79,90	5,09	-1,50	0,00	0,00	83,49
WEA DK03	3.174	3.175	**11,20**	96,3	0,00	81,04	5,54	-1,50	0,00	0,00	85,08
WEA DK04	3.565	3.566	**9,39**	96,0	0,00	82,04	6,01	-1,50	0,00	0,00	86,56
WEA DK05	3.956	3.957	**8,16**	96,0	0,00	82,95	6,37	-1,50	0,00	0,00	87,81
WEA DK06	4.348	4.349	**6,96**	96,0	0,00	83,77	6,75	-1,50	0,00	0,00	89,02
WEA GBW20	6.140	6.141	**11,45**	106,2	0,00	86,76	9,44	-1,50	0,00	0,00	94,71
WEA GBW27	3.829	3.830	**17,75**	106,2	0,00	82,66	7,24	-1,50	0,00	0,00	88,41
WEA GBW28	4.203	4.204	**16,53**	106,2	0,00	83,47	7,65	-1,50	0,00	0,00	89,62
WEA GBW29	4.550	4.551	**15,48**	106,2	0,00	84,16	8,00	-1,50	0,00	0,00	90,67
WEA GBW30	4.829	4.830	**14,69**	106,2	0,00	84,68	8,28	-1,50	0,00	0,00	91,46
WEA GBW31	5.105	5.106	**13,95**	106,2	0,00	85,16	8,54	-1,50	0,00	0,00	92,20
WEA GBW32	5.414	5.415	**13,16**	106,2	0,00	85,67	8,82	-1,50	0,00	0,00	92,99
WEA GBW33	3.908	3.910	**17,48**	106,2	0,00	82,84	7,33	-1,50	0,00	0,00	88,67
WEA S01	1.626	1.629	**26,35**	104,2	0,00	75,24	4,12	-1,50	0,00	0,00	77,86
WEA S02	1.854	1.856	**24,88**	104,2	0,00	76,37	4,46	-1,50	0,00	0,00	79,34
WEA S03	1.182	1.185	**29,51**	104,5	0,00	72,47	3,97	-1,50	0,00	0,00	74,94
WEA S04	1.659	1.662	**26,13**	104,2	0,00	75,41	4,17	-1,50	0,00	0,00	78,08
WEA S05	1.218	1.222	**29,53**	104,2	0,00	72,74	3,44	-1,50	0,00	0,00	74,68
WEA S06	1.600	1.603	**26,53**	104,2	0,00	75,10	4,08	-1,50	0,00	0,00	77,68
WEA S07	1.263	1.267	**29,14**	104,2	0,00	73,05	3,52	-1,50	0,00	0,00	75,08
WEA S08	1.577	1.580	**26,69**	104,2	0,00	74,97	4,05	-1,50	0,00	0,00	77,52
WEA S09	1.972	1.974	**24,17**	104,2	0,00	76,91	4,63	-1,50	0,00	0,00	80,04
WEA S10	2.365	2.366	**22,08**	104,2	0,00	78,48	5,15	-1,50	0,00	0,00	82,14
WEA S11	3.527	3.528	**17,31**	104,2	0,00	81,95	6,45	-1,50	0,00	0,00	86,90
WEA S12	3.908	3.909	**16,05**	104,2	0,00	82,84	6,82	-1,50	0,00	0,00	88,16
WEA S21	1.265	1.268	**26,04**	103,0	0,00	73,06	5,36	-1,50	0,00	0,00	76,93
WEA S22	1.457	1.460	**24,40**	103,0	0,00	74,29	5,78	-1,50	0,00	0,00	78,57
WEA S23	2.135	2.137	**19,84**	103,0	0,00	77,59	7,03	-1,50	0,00	0,00	83,13
WEA S24	3.442	3.443	**13,85**	103,0	0,00	81,74	8,88	-1,50	0,00	0,00	89,11
WEA S25	3.786	3.787	**12,62**	103,0	0,00	82,57	9,28	-1,50	0,00	0,00	90,35
WEA SV28	2.980	2.981	**17,89**	103,8	0,00	80,49	6,89	-1,50	0,00	0,00	85,88
WEA SV29	2.684	2.685	**19,25**	103,8	0,00	79,58	6,45	-1,50	0,00	0,00	84,53
WEA SV31	5.254	5.255	**10,21**	103,8	0,00	85,41	9,65	-1,50	0,00	0,00	93,56
WEA SV32	5.905	5.906	**12,27**	106,8	0,00	86,43	9,60	-1,50	0,00	0,00	94,53
WEA SV33	6.427	6.428	**10,69**	106,8	0,00	87,16	10,40	-1,50	0,00	0,00	96,06
WEA SV34	7.626	7.627	**8,57**	106,8	0,00	88,65	11,07	-1,50	0,00	0,00	98,22
WEA SV35	2.887	2.889	**17,48**	102,0	0,00	80,21	5,80	-1,50	0,00	0,00	84,51
WEA_G14	3.537	3.538	**17,23**	104,1	0,00	81,98	6,36	-1,50	0,00	0,00	86,84
WEA_G15	4.315	4.317	**15,40**	104,6	0,00	83,70	6,99	-1,50	0,00	0,00	89,19
WEA_G16	4.927	4.928	**14,43**	106,2	0,00	84,85	8,37	-1,50	0,00	0,00	91,72
WEA_G17	5.655	5.656	**9,77**	106,0	0,00	86,05	11,72	-1,50	0,00	0,00	96,27
WEA_G18	6.809	6.810	**9,08**	104,1	0,00	87,66	8,82	-1,50	0,00	0,00	94,98
WEA_G19	7.262	7.262	**8,26**	104,1	0,00	88,22	9,08	-1,50	0,00	0,00	95,80
Sum			**38,31**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.216	5.217	**11,86**	104,4	0,00	85,35	8,73	-1,50	0,00	0,00	92,58
WEA 02	5.363	5.364	**11,48**	104,4	0,00	85,59	8,87	-1,50	0,00	0,00	92,96
WEA 03	5.581	5.582	**10,93**	104,4	0,00	85,94	9,08	-1,50	0,00	0,00	93,51
WEA DK01	2.393	2.394	**17,80**	101,2	0,00	78,58	6,30	-1,50	0,00	0,00	83,39
WEA DK02	2.783	2.785	**15,79**	101,2	0,00	79,90	7,00	-1,50	0,00	0,00	85,40
WEA DK03	3.174	3.175	**14,00**	101,2	0,00	81,04	7,66	-1,50	0,00	0,00	87,19
WEA DK04	3.565	3.566	**14,75**	102,2	0,00	82,04	6,89	-1,50	0,00	0,00	87,44
WEA DK05	3.956	3.957	**13,35**	102,2	0,00	82,95	7,39	-1,50	0,00	0,00	88,84
WEA DK06	4.348	4.349	**12,06**	102,2	0,00	83,77	7,86	-1,50	0,00	0,00	90,13
WEA GBW20	6.140	6.141	**11,45**	106,2	0,00	86,76	9,44	-1,50	0,00	0,00	94,71

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA GBW27	3.829	3.830	**17,75**	106,2	0,00	82,66	7,24	-1,50	0,00	0,00	88,41
WEA GBW28	4.203	4.204	**16,53**	106,2	0,00	83,47	7,65	-1,50	0,00	0,00	89,62
WEA GBW29	4.550	4.551	**15,48**	106,2	0,00	84,16	8,00	-1,50	0,00	0,00	90,67
WEA GBW30	4.829	4.830	**14,69**	106,2	0,00	84,68	8,28	-1,50	0,00	0,00	91,46
WEA GBW31	5.105	5.106	**13,95**	106,2	0,00	85,16	8,54	-1,50	0,00	0,00	92,20
WEA GBW32	5.414	5.415	**13,16**	106,2	0,00	85,67	8,82	-1,50	0,00	0,00	92,99
WEA GBW33	3.908	3.910	**17,48**	106,2	0,00	82,84	7,33	-1,50	0,00	0,00	88,67
WEA S01	1.626	1.629	**27,43**	105,5	0,00	75,24	4,34	-1,50	0,00	0,00	78,08
WEA S02	1.854	1.856	**25,95**	105,5	0,00	76,37	4,69	-1,50	0,00	0,00	79,57
WEA S03	1.182	1.185	**32,04**	107,0	0,00	72,47	3,97	-1,50	0,00	0,00	74,94
WEA S04	1.659	1.662	**27,21**	105,5	0,00	75,41	4,39	-1,50	0,00	0,00	78,30
WEA S05	1.218	1.222	**30,63**	105,5	0,00	72,74	3,64	-1,50	0,00	0,00	74,88
WEA S06	1.600	1.603	**27,61**	105,5	0,00	75,10	4,30	-1,50	0,00	0,00	77,90
WEA S07	1.263	1.267	**30,24**	105,5	0,00	73,05	3,72	-1,50	0,00	0,00	75,27
WEA S08	1.577	1.580	**27,78**	105,5	0,00	74,97	4,26	-1,50	0,00	0,00	77,73
WEA S09	1.972	1.974	**25,24**	105,5	0,00	76,91	4,87	-1,50	0,00	0,00	80,27
WEA S10	2.365	2.366	**23,13**	105,5	0,00	78,48	5,40	-1,50	0,00	0,00	82,38
WEA S11	3.527	3.528	**18,35**	105,5	0,00	81,95	6,71	-1,50	0,00	0,00	87,16
WEA S12	3.908	3.909	**17,09**	105,5	0,00	82,84	7,08	-1,50	0,00	0,00	88,42
WEA S21	1.265	1.268	**26,39**	103,5	0,00	73,06	5,54	-1,50	0,00	0,00	77,11
WEA S22	1.457	1.460	**24,73**	103,5	0,00	74,29	5,98	-1,50	0,00	0,00	78,76
WEA S23	2.135	2.137	**20,15**	103,5	0,00	77,59	7,25	-1,50	0,00	0,00	83,35
WEA S24	3.442	3.443	**14,18**	103,5	0,00	81,74	9,08	-1,50	0,00	0,00	89,32
WEA S25	3.786	3.787	**12,96**	103,5	0,00	82,57	9,48	-1,50	0,00	0,00	90,54
WEA SV28	2.980	2.981	**18,87**	105,4	0,00	80,49	7,54	-1,50	0,00	0,00	86,53
WEA SV29	2.684	2.685	**20,24**	105,4	0,00	79,58	7,08	-1,50	0,00	0,00	85,16
WEA SV31	5.254	5.255	**11,16**	105,4	0,00	85,41	10,33	-1,50	0,00	0,00	94,24
WEA SV32	5.905	5.906	**12,47**	107,0	0,00	86,43	9,60	-1,50	0,00	0,00	94,53
WEA SV33	6.427	6.428	**11,25**	107,0	0,00	87,16	10,08	-1,50	0,00	0,00	95,74
WEA SV34	7.626	7.627	**8,77**	107,0	0,00	88,65	11,07	-1,50	0,00	0,00	98,22
WEA SV35	2.887	2.889	**22,87**	106,6	0,00	80,21	5,06	-1,50	0,00	0,00	83,77
WEA_G14	3.537	3.538	**17,75**	105,0	0,00	81,98	6,73	-1,50	0,00	0,00	87,21
WEA_G15	4.315	4.317	**15,31**	105,0	0,00	83,70	7,44	-1,50	0,00	0,00	89,65
WEA_G16	4.927	4.928	**14,43**	106,2	0,00	84,85	8,37	-1,50	0,00	0,00	91,72
WEA_G17	5.655	5.656	**10,31**	106,0	0,00	86,05	11,18	-1,50	0,00	0,00	95,73
WEA_G18	6.809	6.810	**9,61**	105,0	0,00	87,66	9,18	-1,50	0,00	0,00	95,34
WEA_G19	7.262	7.262	**8,80**	105,0	0,00	88,22	9,44	-1,50	0,00	0,00	96,16
Sum			**39,59**								

Noise sensitive area: IP_03 IP 03 Bremsbolvej (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.045	5.046	**4,19**	96,3	0,00	85,06	8,56	-1,50	0,00	0,00	92,12
WEA 02	5.210	5.211	**3,75**	96,3	0,00	85,34	8,72	-1,50	0,00	0,00	92,56
WEA 03	5.437	5.438	**3,16**	96,3	0,00	85,71	8,94	-1,50	0,00	0,00	93,15
WEA DK01	1.837	1.839	**17,61**	96,3	0,00	76,29	3,88	-1,50	0,00	0,00	78,67
WEA DK02	2.229	2.231	**15,40**	96,3	0,00	77,97	4,41	-1,50	0,00	0,00	80,88
WEA DK03	2.621	2.622	**13,51**	96,3	0,00	79,37	4,90	-1,50	0,00	0,00	82,77
WEA DK04	3.013	3.014	**11,47**	96,0	0,00	80,58	5,40	-1,50	0,00	0,00	84,49
WEA DK05	3.405	3.406	**10,04**	96,0	0,00	81,64	5,79	-1,50	0,00	0,00	85,94
WEA DK06	3.797	3.798	**8,68**	96,0	0,00	82,59	6,20	-1,50	0,00	0,00	87,29
WEA GBW20	5.665	5.666	**12,54**	106,2	0,00	86,07	9,04	-1,50	0,00	0,00	93,61
WEA GBW27	3.329	3.331	**19,54**	106,2	0,00	81,45	6,66	-1,50	0,00	0,00	86,61
WEA GBW28	3.711	3.712	**18,15**	106,2	0,00	82,39	7,11	-1,50	0,00	0,00	88,00
WEA GBW29	4.047	4.049	**17,02**	106,2	0,00	83,15	7,48	-1,50	0,00	0,00	89,13
WEA GBW30	4.335	4.337	**16,12**	106,2	0,00	83,74	7,78	-1,50	0,00	0,00	90,03
WEA GBW31	4.620	4.621	**15,28**	106,2	0,00	84,30	8,07	-1,50	0,00	0,00	90,87
WEA GBW32	4.932	4.933	**14,41**	106,2	0,00	84,86	8,38	-1,50	0,00	0,00	91,74
WEA GBW33	3.385	3.386	**19,33**	106,2	0,00	81,59	6,73	-1,50	0,00	0,00	86,82
WEA S01	1.912	1.914	**24,53**	104,2	0,00	76,64	4,55	-1,50	0,00	0,00	79,69
WEA S02	2.080	2.082	**23,56**	104,2	0,00	77,37	4,78	-1,50	0,00	0,00	80,65
WEA S03	1.456	1.458	**27,06**	104,5	0,00	74,27	4,62	-1,50	0,00	0,00	77,39

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S04	1.745	1.747	**25,56**	104,2	0,00	75,85	4,30	-1,50	0,00	0,00	78,65
WEA S05	1.297	1.300	**28,85**	104,2	0,00	73,28	3,58	-1,50	0,00	0,00	75,36
WEA S06	1.502	1.505	**27,24**	104,2	0,00	74,55	3,93	-1,50	0,00	0,00	76,98
WEA S07	1.174	1.177	**29,93**	104,2	0,00	72,42	3,36	-1,50	0,00	0,00	74,28
WEA S08	1.336	1.339	**28,53**	104,2	0,00	73,54	3,65	-1,50	0,00	0,00	75,69
WEA S09	1.646	1.648	**26,22**	104,2	0,00	75,34	4,15	-1,50	0,00	0,00	78,00
WEA S10	2.006	2.008	**23,98**	104,2	0,00	77,05	4,68	-1,50	0,00	0,00	80,23
WEA S11	3.248	3.250	**18,31**	104,2	0,00	81,24	6,17	-1,50	0,00	0,00	85,91
WEA S12	3.606	3.607	**17,04**	104,2	0,00	82,14	6,53	-1,50	0,00	0,00	87,17
WEA S21	1.037	1.041	**28,30**	103,0	0,00	71,35	4,82	-1,50	0,00	0,00	74,67
WEA S22	1.676	1.679	**22,75**	103,0	0,00	75,50	6,22	-1,50	0,00	0,00	80,22
WEA S23	1.863	1.865	**21,48**	103,0	0,00	76,42	6,57	-1,50	0,00	0,00	81,48
WEA S24	3.204	3.206	**14,77**	103,0	0,00	81,12	8,58	-1,50	0,00	0,00	88,20
WEA S25	3.517	3.518	**13,57**	103,0	0,00	81,93	8,97	-1,50	0,00	0,00	89,39
WEA SV28	2.459	2.460	**20,36**	103,8	0,00	78,82	6,09	-1,50	0,00	0,00	83,41
WEA SV29	2.161	2.163	**21,97**	103,8	0,00	77,70	5,60	-1,50	0,00	0,00	81,80
WEA SV31	4.748	4.749	**11,62**	103,8	0,00	84,53	9,12	-1,50	0,00	0,00	92,15
WEA SV32	5.416	5.417	**13,49**	106,8	0,00	85,67	9,13	-1,50	0,00	0,00	93,30
WEA SV33	5.940	5.941	**11,85**	106,8	0,00	86,48	9,92	-1,50	0,00	0,00	94,90
WEA SV34	7.138	7.139	**9,54**	106,8	0,00	88,07	10,68	-1,50	0,00	0,00	97,25
WEA SV35	2.481	2.483	**19,42**	102,0	0,00	78,90	5,17	-1,50	0,00	0,00	82,57
WEA_G14	3.021	3.022	**19,12**	104,1	0,00	80,61	5,84	-1,50	0,00	0,00	84,94
WEA_G15	3.799	3.801	**16,96**	104,6	0,00	82,60	6,54	-1,50	0,00	0,00	87,64
WEA_G16	4.418	4.419	**15,87**	106,2	0,00	83,91	7,87	-1,50	0,00	0,00	90,28
WEA_G17	5.152	5.153	**11,07**	106,0	0,00	85,24	11,23	-1,50	0,00	0,00	94,97
WEA_G18	6.315	6.316	**10,04**	104,1	0,00	87,01	8,52	-1,50	0,00	0,00	94,03
WEA_G19	6.768	6.768	**9,16**	104,1	0,00	87,61	8,80	-1,50	0,00	0,00	94,90
Sum			**38,69**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.045	5.046	**12,32**	104,4	0,00	85,06	8,56	-1,50	0,00	0,00	92,12
WEA 02	5.210	5.211	**11,88**	104,4	0,00	85,34	8,72	-1,50	0,00	0,00	92,56
WEA 03	5.437	5.438	**11,29**	104,4	0,00	85,71	8,94	-1,50	0,00	0,00	93,15
WEA DK01	1.837	1.839	**21,19**	101,2	0,00	76,29	5,20	-1,50	0,00	0,00	80,00
WEA DK02	2.229	2.231	**18,73**	101,2	0,00	77,97	5,99	-1,50	0,00	0,00	82,46
WEA DK03	2.621	2.622	**16,59**	101,2	0,00	79,37	6,72	-1,50	0,00	0,00	84,59
WEA DK04	3.013	3.014	**16,96**	102,2	0,00	80,58	6,14	-1,50	0,00	0,00	85,22
WEA DK05	3.405	3.406	**15,36**	102,2	0,00	81,64	6,68	-1,50	0,00	0,00	86,82
WEA DK06	3.797	3.798	**13,90**	102,2	0,00	82,59	7,19	-1,50	0,00	0,00	88,28
WEA GBW20	5.665	5.666	**12,54**	106,2	0,00	86,07	9,04	-1,50	0,00	0,00	93,61
WEA GBW27	3.329	3.331	**19,54**	106,2	0,00	81,45	6,66	-1,50	0,00	0,00	86,61
WEA GBW28	3.711	3.712	**18,15**	106,2	0,00	82,39	7,11	-1,50	0,00	0,00	88,00
WEA GBW29	4.047	4.049	**17,02**	106,2	0,00	83,15	7,48	-1,50	0,00	0,00	89,13
WEA GBW30	4.335	4.337	**16,12**	106,2	0,00	83,74	7,78	-1,50	0,00	0,00	90,03
WEA GBW31	4.620	4.621	**15,28**	106,2	0,00	84,30	8,07	-1,50	0,00	0,00	90,87
WEA GBW32	4.932	4.933	**14,41**	106,2	0,00	84,86	8,38	-1,50	0,00	0,00	91,74
WEA GBW33	3.385	3.386	**19,33**	106,2	0,00	81,59	6,73	-1,50	0,00	0,00	86,82
WEA S01	1.912	1.914	**25,59**	105,5	0,00	76,64	4,78	-1,50	0,00	0,00	79,92
WEA S02	2.080	2.082	**24,62**	105,5	0,00	77,37	5,02	-1,50	0,00	0,00	80,89
WEA S03	1.456	1.458	**29,60**	107,0	0,00	74,27	4,61	-1,50	0,00	0,00	77,38
WEA S04	1.745	1.747	**26,64**	105,5	0,00	75,85	4,53	-1,50	0,00	0,00	78,87
WEA S05	1.297	1.300	**29,95**	105,5	0,00	73,28	3,78	-1,50	0,00	0,00	75,56
WEA S06	1.502	1.505	**28,32**	105,5	0,00	74,55	4,14	-1,50	0,00	0,00	77,19
WEA S07	1.174	1.177	**31,04**	105,5	0,00	72,42	3,55	-1,50	0,00	0,00	74,47
WEA S08	1.336	1.339	**29,62**	105,5	0,00	73,54	3,85	-1,50	0,00	0,00	75,89
WEA S09	1.646	1.648	**27,30**	105,5	0,00	75,34	4,37	-1,50	0,00	0,00	78,21
WEA S10	2.006	2.008	**25,04**	105,5	0,00	77,05	4,91	-1,50	0,00	0,00	80,47
WEA S11	3.248	3.250	**19,35**	105,5	0,00	81,24	6,43	-1,50	0,00	0,00	86,16
WEA S12	3.606	3.607	**18,08**	105,5	0,00	82,14	6,79	-1,50	0,00	0,00	87,43
WEA S21	1.037	1.041	**28,67**	103,5	0,00	71,35	4,98	-1,50	0,00	0,00	74,83
WEA S22	1.676	1.679	**23,07**	103,5	0,00	75,50	6,43	-1,50	0,00	0,00	80,43

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S23	1.863	1.865	**21,80**	103,5	0,00	76,42	6,78	-1,50	0,00	0,00	81,70
WEA S24	3.204	3.206	**15,09**	103,5	0,00	81,12	8,79	-1,50	0,00	0,00	88,41
WEA S25	3.517	3.518	**13,90**	103,5	0,00	81,93	9,17	-1,50	0,00	0,00	89,60
WEA SV28	2.459	2.460	**21,37**	105,4	0,00	78,82	6,71	-1,50	0,00	0,00	84,03
WEA SV29	2.161	2.163	**23,01**	105,4	0,00	77,70	6,19	-1,50	0,00	0,00	82,39
WEA SV31	4.748	4.749	**12,56**	105,4	0,00	84,53	9,81	-1,50	0,00	0,00	92,84
WEA SV32	5.416	5.417	**13,69**	107,0	0,00	85,67	9,13	-1,50	0,00	0,00	93,30
WEA SV33	5.940	5.941	**12,38**	107,0	0,00	86,48	9,63	-1,50	0,00	0,00	94,61
WEA SV34	7.138	7.139	**9,74**	107,0	0,00	88,07	10,68	-1,50	0,00	0,00	97,25
WEA SV35	2.481	2.483	**24,74**	106,6	0,00	78,90	4,50	-1,50	0,00	0,00	81,90
WEA_G14	3.021	3.022	**19,65**	105,0	0,00	80,61	6,19	-1,50	0,00	0,00	85,30
WEA_G15	3.799	3.801	**16,87**	105,0	0,00	82,60	6,98	-1,50	0,00	0,00	88,08
WEA_G16	4.418	4.419	**15,87**	106,2	0,00	83,91	7,87	-1,50	0,00	0,00	90,28
WEA_G17	5.152	5.153	**11,55**	106,0	0,00	85,24	10,75	-1,50	0,00	0,00	94,49
WEA_G18	6.315	6.316	**10,56**	105,0	0,00	87,01	8,89	-1,50	0,00	0,00	94,40
WEA_G19	6.768	6.768	**9,69**	105,0	0,00	87,61	9,16	-1,50	0,00	0,00	95,27
Sum			**39,90**								

Noise sensitive area: IP_04 IP 04 Sændholm (1) (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.223	5.224	**3,71**	96,3	0,00	85,36	8,73	-1,50	0,00	0,00	92,59
WEA 02	5.447	5.448	**3,13**	96,3	0,00	85,72	8,95	-1,50	0,00	0,00	93,17
WEA 03	5.683	5.684	**2,55**	96,3	0,00	86,09	9,17	-1,50	0,00	0,00	93,76
WEA DK01	1.274	1.277	**21,64**	96,3	0,00	73,12	3,02	-1,50	0,00	0,00	74,64
WEA DK02	977	980	**24,45**	96,3	0,00	70,83	2,51	-1,50	0,00	0,00	71,83
WEA DK03	770	774	**26,89**	96,3	0,00	68,78	2,11	-1,50	0,00	0,00	69,39
WEA DK04	734	739	**27,03**	96,0	0,00	68,37	2,06	-1,50	0,00	0,00	68,92
WEA DK05	890	894	**25,10**	96,0	0,00	70,03	2,35	-1,50	0,00	0,00	70,87
WEA DK06	1.163	1.166	**22,31**	96,0	0,00	72,34	2,84	-1,50	0,00	0,00	73,67
WEA GBW20	3.648	3.649	**18,37**	106,2	0,00	82,24	7,04	-1,50	0,00	0,00	87,78
WEA GBW27	1.712	1.715	**27,59**	106,2	0,00	75,69	4,38	-1,50	0,00	0,00	78,56
WEA GBW28	1.989	1.992	**25,84**	106,2	0,00	76,98	4,83	-1,50	0,00	0,00	80,31
WEA GBW29	2.074	2.077	**25,34**	106,2	0,00	77,35	4,96	-1,50	0,00	0,00	80,81
WEA GBW30	2.376	2.379	**23,72**	106,2	0,00	78,53	5,41	-1,50	0,00	0,00	82,44
WEA GBW31	2.683	2.685	**22,23**	106,2	0,00	79,58	5,84	-1,50	0,00	0,00	83,92
WEA GBW32	2.961	2.963	**21,01**	106,2	0,00	80,44	6,20	-1,50	0,00	0,00	85,14
WEA GBW33	1.407	1.411	**29,82**	106,2	0,00	73,99	3,84	-1,50	0,00	0,00	76,33
WEA S01	4.455	4.456	**14,43**	104,2	0,00	83,98	7,30	-1,50	0,00	0,00	89,78
WEA S02	4.462	4.462	**14,41**	104,2	0,00	83,99	7,31	-1,50	0,00	0,00	89,80
WEA S03	4.093	4.093	**13,60**	104,5	0,00	83,24	9,11	-1,50	0,00	0,00	90,85
WEA S04	3.929	3.930	**15,99**	104,2	0,00	82,89	6,84	-1,50	0,00	0,00	88,23
WEA S05	3.679	3.680	**16,79**	104,2	0,00	82,32	6,60	-1,50	0,00	0,00	87,42
WEA S06	3.387	3.388	**17,80**	104,2	0,00	81,60	6,31	-1,50	0,00	0,00	86,41
WEA S07	3.319	3.320	**18,05**	104,2	0,00	81,42	6,24	-1,50	0,00	0,00	86,17
WEA S08	2.977	2.978	**19,36**	104,2	0,00	80,48	5,88	-1,50	0,00	0,00	84,86
WEA S09	2.697	2.698	**20,53**	104,2	0,00	79,62	5,56	-1,50	0,00	0,00	83,68
WEA S10	2.556	2.557	**21,17**	104,2	0,00	79,16	5,39	-1,50	0,00	0,00	83,05
WEA S11	3.388	3.389	**17,80**	104,2	0,00	81,60	6,31	-1,50	0,00	0,00	86,42
WEA S12	3.450	3.451	**17,58**	104,2	0,00	81,76	6,38	-1,50	0,00	0,00	86,64
WEA S21	3.013	3.015	**15,55**	103,0	0,00	80,58	8,33	-1,50	0,00	0,00	87,42
WEA S22	4.157	4.158	**11,40**	103,0	0,00	83,38	9,69	-1,50	0,00	0,00	91,57
WEA S23	2.925	2.926	**15,93**	103,0	0,00	80,33	8,21	-1,50	0,00	0,00	87,04
WEA S24	3.584	3.585	**13,33**	103,0	0,00	82,09	9,05	-1,50	0,00	0,00	89,64
WEA S25	3.593	3.594	**13,30**	103,0	0,00	82,11	9,06	-1,50	0,00	0,00	89,67
WEA SV28	1.335	1.338	**27,71**	103,8	0,00	73,53	4,03	-1,50	0,00	0,00	76,06
WEA SV29	1.415	1.418	**27,04**	103,8	0,00	74,03	4,20	-1,50	0,00	0,00	76,73
WEA SV31	2.558	2.560	**19,86**	103,8	0,00	79,16	6,25	-1,50	0,00	0,00	83,92
WEA SV32	3.297	3.298	**20,23**	106,8	0,00	81,37	6,70	-1,50	0,00	0,00	86,57
WEA SV33	3.781	3.783	**18,22**	106,8	0,00	82,56	7,48	-1,50	0,00	0,00	88,54
WEA SV34	4.867	4.868	**14,98**	106,8	0,00	84,75	8,56	-1,50	0,00	0,00	91,81
WEA SV35	2.332	2.334	**20,20**	102,0	0,00	78,36	4,93	-1,50	0,00	0,00	81,79

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA_G14	1.404	1.407	**27,88**	104,1	0,00	73,97	3,72	-1,50	0,00	0,00	76,19
WEA_G15	1.742	1.746	**26,04**	104,6	0,00	75,84	4,21	-1,50	0,00	0,00	78,55
WEA_G16	2.269	2.272	**24,27**	106,2	0,00	78,13	5,25	-1,50	0,00	0,00	81,88
WEA_G17	2.924	2.926	**18,77**	106,0	0,00	80,33	8,45	-1,50	0,00	0,00	87,27
WEA_G18	4.051	4.052	**15,58**	104,1	0,00	83,15	6,84	-1,50	0,00	0,00	88,49
WEA_G19	4.468	4.469	**14,37**	104,1	0,00	84,00	7,19	-1,50	0,00	0,00	89,69
Sum			**39,33**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.223	5.224	**11,84**	104,4	0,00	85,36	8,73	-1,50	0,00	0,00	92,59
WEA 02	5.447	5.448	**11,27**	104,4	0,00	85,72	8,95	-1,50	0,00	0,00	93,17
WEA 03	5.683	5.684	**10,68**	104,4	0,00	86,09	9,17	-1,50	0,00	0,00	93,76
WEA DK01	1.274	1.277	**25,62**	101,2	0,00	73,12	3,95	-1,50	0,00	0,00	75,57
WEA DK02	977	980	**28,65**	101,2	0,00	70,83	3,21	-1,50	0,00	0,00	72,53
WEA DK03	770	774	**31,26**	101,2	0,00	68,78	2,65	-1,50	0,00	0,00	69,93
WEA DK04	734	739	**33,20**	102,2	0,00	68,37	2,12	-1,50	0,00	0,00	68,99
WEA DK05	890	894	**31,19**	102,2	0,00	70,03	2,47	-1,50	0,00	0,00	71,00
WEA DK06	1.163	1.166	**28,30**	102,2	0,00	72,34	3,04	-1,50	0,00	0,00	73,88
WEA GBW20	3.648	3.649	**18,37**	106,2	0,00	82,24	7,04	-1,50	0,00	0,00	87,78
WEA GBW27	1.712	1.715	**27,59**	106,2	0,00	75,69	4,38	-1,50	0,00	0,00	78,56
WEA GBW28	1.989	1.992	**25,84**	106,2	0,00	76,98	4,83	-1,50	0,00	0,00	80,31
WEA GBW29	2.074	2.077	**25,34**	106,2	0,00	77,35	4,96	-1,50	0,00	0,00	80,81
WEA GBW30	2.376	2.379	**23,72**	106,2	0,00	78,53	5,41	-1,50	0,00	0,00	82,44
WEA GBW31	2.683	2.685	**22,23**	106,2	0,00	79,58	5,84	-1,50	0,00	0,00	83,92
WEA GBW32	2.961	2.963	**21,01**	106,2	0,00	80,44	6,20	-1,50	0,00	0,00	85,14
WEA GBW33	1.407	1.411	**29,82**	106,2	0,00	73,99	3,84	-1,50	0,00	0,00	76,33
WEA S01	4.455	4.456	**15,47**	105,5	0,00	83,98	7,56	-1,50	0,00	0,00	90,04
WEA S02	4.462	4.462	**15,46**	105,5	0,00	83,99	7,56	-1,50	0,00	0,00	90,05
WEA S03	4.093	4.093	**16,30**	107,0	0,00	83,24	8,94	-1,50	0,00	0,00	90,68
WEA S04	3.929	3.930	**17,03**	105,5	0,00	82,89	7,10	-1,50	0,00	0,00	88,48
WEA S05	3.679	3.680	**17,83**	105,5	0,00	82,32	6,86	-1,50	0,00	0,00	87,68
WEA S06	3.387	3.388	**18,84**	105,5	0,00	81,60	6,57	-1,50	0,00	0,00	86,67
WEA S07	3.319	3.320	**19,08**	105,5	0,00	81,42	6,50	-1,50	0,00	0,00	86,43
WEA S08	2.977	2.978	**20,40**	105,5	0,00	80,48	6,13	-1,50	0,00	0,00	85,11
WEA S09	2.697	2.698	**21,58**	105,5	0,00	79,62	5,81	-1,50	0,00	0,00	83,93
WEA S10	2.556	2.557	**22,21**	105,5	0,00	79,16	5,64	-1,50	0,00	0,00	83,30
WEA S11	3.388	3.389	**18,84**	105,5	0,00	81,60	6,57	-1,50	0,00	0,00	86,67
WEA S12	3.450	3.451	**18,62**	105,5	0,00	81,76	6,64	-1,50	0,00	0,00	86,89
WEA S21	3.013	3.015	**15,87**	103,5	0,00	80,58	8,55	-1,50	0,00	0,00	87,63
WEA S22	4.157	4.158	**11,75**	103,5	0,00	83,38	9,87	-1,50	0,00	0,00	91,75
WEA S23	2.925	2.926	**16,24**	103,5	0,00	80,33	8,43	-1,50	0,00	0,00	87,26
WEA S24	3.584	3.585	**13,66**	103,5	0,00	82,09	9,25	-1,50	0,00	0,00	89,84
WEA S25	3.593	3.594	**13,63**	103,5	0,00	82,11	9,26	-1,50	0,00	0,00	89,87
WEA SV28	1.335	1.338	**28,85**	105,4	0,00	73,53	4,52	-1,50	0,00	0,00	76,55
WEA SV29	1.415	1.418	**28,16**	105,4	0,00	74,03	4,70	-1,50	0,00	0,00	77,23
WEA SV31	2.558	2.560	**20,86**	105,4	0,00	79,16	6,88	-1,50	0,00	0,00	84,54
WEA SV32	3.297	3.298	**20,43**	107,0	0,00	81,37	6,70	-1,50	0,00	0,00	86,57
WEA SV33	3.781	3.783	**18,62**	107,0	0,00	82,56	7,32	-1,50	0,00	0,00	88,38
WEA SV34	4.867	4.868	**15,18**	107,0	0,00	84,75	8,56	-1,50	0,00	0,00	91,81
WEA SV35	2.332	2.334	**25,50**	106,6	0,00	78,36	4,28	-1,50	0,00	0,00	81,14
WEA_G14	1.404	1.407	**28,52**	105,0	0,00	73,97	3,97	-1,50	0,00	0,00	76,44
WEA_G15	1.742	1.746	**26,08**	105,0	0,00	75,84	4,53	-1,50	0,00	0,00	78,87
WEA_G16	2.269	2.272	**24,27**	106,2	0,00	78,13	5,25	-1,50	0,00	0,00	81,88
WEA_G17	2.924	2.926	**19,03**	106,0	0,00	80,33	8,19	-1,50	0,00	0,00	87,02
WEA_G18	4.051	4.052	**16,09**	105,0	0,00	83,15	7,21	-1,50	0,00	0,00	88,87
WEA_G19	4.468	4.469	**14,88**	105,0	0,00	84,00	7,57	-1,50	0,00	0,00	90,07
Sum			**41,51**								

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

Noise sensitive area: IP_05 IP 05 Karlsminde (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.588	5.589	**2,78**	96,3	0,00	85,95	9,08	-1,50	0,00	0,00	93,53
WEA 02	5.813	5.814	**2,23**	96,3	0,00	86,29	9,29	-1,50	0,00	0,00	94,08
WEA 03	6.021	6.022	**1,74**	96,3	0,00	86,59	9,47	-1,50	0,00	0,00	94,57
WEA DK01	2.965	2.966	**12,03**	96,3	0,00	80,44	5,30	-1,50	0,00	0,00	84,25
WEA DK02	2.584	2.585	**13,68**	96,3	0,00	79,25	4,85	-1,50	0,00	0,00	82,60
WEA DK03	2.206	2.207	**15,52**	96,3	0,00	77,88	4,38	-1,50	0,00	0,00	80,75
WEA DK04	1.834	1.836	**17,27**	96,0	0,00	76,28	3,90	-1,50	0,00	0,00	78,68
WEA DK05	1.473	1.475	**19,76**	96,0	0,00	74,38	3,34	-1,50	0,00	0,00	76,21
WEA DK06	1.132	1.135	**22,60**	96,0	0,00	72,10	2,78	-1,50	0,00	0,00	73,38
WEA GBW20	2.675	2.677	**22,27**	106,2	0,00	79,55	5,82	-1,50	0,00	0,00	83,88
WEA GBW27	2.197	2.200	**24,66**	106,2	0,00	77,85	5,14	-1,50	0,00	0,00	81,49
WEA GBW28	2.134	2.136	**25,01**	106,2	0,00	77,59	5,05	-1,50	0,00	0,00	81,14
WEA GBW29	1.884	1.887	**26,48**	106,2	0,00	76,51	4,66	-1,50	0,00	0,00	79,67
WEA GBW30	1.989	1.992	**25,84**	106,2	0,00	76,99	4,83	-1,50	0,00	0,00	80,31
WEA GBW31	2.147	2.150	**24,93**	106,2	0,00	77,65	5,07	-1,50	0,00	0,00	81,22
WEA GBW32	2.260	2.263	**24,32**	106,2	0,00	78,09	5,24	-1,50	0,00	0,00	81,83
WEA GBW33	1.860	1.863	**26,63**	106,2	0,00	76,41	4,62	-1,50	0,00	0,00	79,53
WEA S01	6.017	6.018	**10,64**	104,2	0,00	86,59	8,48	-1,50	0,00	0,00	93,57
WEA S02	5.965	5.965	**10,75**	104,2	0,00	86,51	8,45	-1,50	0,00	0,00	93,46
WEA S03	5.713	5.714	**8,90**	104,5	0,00	86,14	10,92	-1,50	0,00	0,00	95,55
WEA S04	5.421	5.422	**11,97**	104,2	0,00	85,68	8,06	-1,50	0,00	0,00	92,24
WEA S05	5.263	5.264	**12,34**	104,2	0,00	85,43	7,95	-1,50	0,00	0,00	91,87
WEA S06	4.873	4.873	**13,31**	104,2	0,00	84,76	7,64	-1,50	0,00	0,00	90,90
WEA S07	4.892	4.893	**13,26**	104,2	0,00	84,79	7,66	-1,50	0,00	0,00	90,95
WEA S08	4.486	4.487	**14,34**	104,2	0,00	84,04	7,33	-1,50	0,00	0,00	89,87
WEA S09	4.107	4.108	**15,44**	104,2	0,00	83,27	7,00	-1,50	0,00	0,00	88,77
WEA S10	3.830	3.831	**16,30**	104,2	0,00	82,67	6,75	-1,50	0,00	0,00	87,91
WEA S11	4.146	4.147	**15,32**	104,2	0,00	83,36	7,04	-1,50	0,00	0,00	88,89
WEA S12	4.020	4.021	**15,70**	104,2	0,00	83,09	6,92	-1,50	0,00	0,00	88,51
WEA S21	4.606	4.606	**10,05**	103,0	0,00	84,27	10,15	-1,50	0,00	0,00	92,92
WEA S22	5.721	5.722	**7,14**	103,0	0,00	86,15	11,18	-1,50	0,00	0,00	95,83
WEA S23	4.258	4.259	**11,08**	103,0	0,00	83,59	9,80	-1,50	0,00	0,00	91,88
WEA S24	4.410	4.411	**10,62**	103,0	0,00	83,89	9,96	-1,50	0,00	0,00	92,35
WEA S25	4.253	4.254	**11,10**	103,0	0,00	83,58	9,79	-1,50	0,00	0,00	91,87
WEA SV28	2.587	2.589	**19,71**	103,8	0,00	79,26	6,30	-1,50	0,00	0,00	84,06
WEA SV29	2.829	2.830	**18,57**	103,8	0,00	80,04	6,67	-1,50	0,00	0,00	85,20
WEA SV31	1.785	1.788	**24,30**	103,8	0,00	76,05	4,93	-1,50	0,00	0,00	79,47
WEA SV32	2.312	2.314	**24,72**	106,8	0,00	78,29	5,29	-1,50	0,00	0,00	82,07
WEA SV33	2.631	2.633	**22,97**	106,8	0,00	79,41	5,87	-1,50	0,00	0,00	83,78
WEA SV34	3.458	3.459	**19,60**	106,8	0,00	81,78	6,91	-1,50	0,00	0,00	87,19
WEA SV35	3.386	3.388	**15,37**	102,0	0,00	81,60	6,53	-1,50	0,00	0,00	86,63
WEA_G14	2.202	2.204	**22,82**	104,1	0,00	77,86	4,88	-1,50	0,00	0,00	81,24
WEA_G15	1.746	1.750	**26,02**	104,6	0,00	75,86	4,22	-1,50	0,00	0,00	78,58
WEA_G16	1.723	1.727	**27,51**	106,2	0,00	75,74	4,39	-1,50	0,00	0,00	78,64
WEA_G17	1.938	1.941	**24,08**	106,0	0,00	76,76	6,70	-1,50	0,00	0,00	81,96
WEA_G18	2.745	2.747	**20,25**	104,1	0,00	79,78	5,53	-1,50	0,00	0,00	83,81
WEA_G19	3.073	3.074	**18,92**	104,1	0,00	80,75	5,89	-1,50	0,00	0,00	85,15
Sum			**37,81**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.588	5.589	**10,91**	104,4	0,00	85,95	9,08	-1,50	0,00	0,00	93,53
WEA 02	5.813	5.814	**10,36**	104,4	0,00	86,29	9,29	-1,50	0,00	0,00	94,08
WEA 03	6.021	6.022	**9,87**	104,4	0,00	86,59	9,47	-1,50	0,00	0,00	94,57
WEA DK01	2.965	2.966	**14,93**	101,2	0,00	80,44	7,31	-1,50	0,00	0,00	86,26
WEA DK02	2.584	2.585	**16,79**	101,2	0,00	79,25	6,65	-1,50	0,00	0,00	84,40
WEA DK03	2.206	2.207	**18,86**	101,2	0,00	77,88	5,95	-1,50	0,00	0,00	82,32
WEA DK04	1.834	1.836	**23,11**	102,2	0,00	76,28	4,30	-1,50	0,00	0,00	79,07
WEA DK05	1.473	1.475	**25,66**	102,2	0,00	74,38	3,65	-1,50	0,00	0,00	76,52
WEA DK06	1.132	1.135	**28,60**	102,2	0,00	72,10	2,98	-1,50	0,00	0,00	73,58
WEA GBW20	2.675	2.677	**22,27**	106,2	0,00	79,55	5,82	-1,50	0,00	0,00	83,88

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA GBW27	2.197	2.200	**24,66**	106,2	0,00	77,85	5,14	-1,50	0,00	0,00	81,49
WEA GBW28	2.134	2.136	**25,01**	106,2	0,00	77,59	5,05	-1,50	0,00	0,00	81,14
WEA GBW29	1.884	1.887	**26,48**	106,2	0,00	76,51	4,66	-1,50	0,00	0,00	79,67
WEA GBW30	1.989	1.992	**25,84**	106,2	0,00	76,99	4,83	-1,50	0,00	0,00	80,31
WEA GBW31	2.147	2.150	**24,93**	106,2	0,00	77,65	5,07	-1,50	0,00	0,00	81,22
WEA GBW32	2.260	2.263	**24,32**	106,2	0,00	78,09	5,24	-1,50	0,00	0,00	81,83
WEA GBW33	1.860	1.863	**26,63**	106,2	0,00	76,41	4,62	-1,50	0,00	0,00	79,53
WEA S01	6.017	6.018	**11,71**	105,5	0,00	86,59	8,71	-1,50	0,00	0,00	93,80
WEA S02	5.965	5.965	**11,83**	105,5	0,00	86,51	8,67	-1,50	0,00	0,00	93,68
WEA S03	5.713	5.714	**11,66**	107,0	0,00	86,14	10,68	-1,50	0,00	0,00	95,32
WEA S04	5.421	5.422	**13,03**	105,5	0,00	85,68	8,30	-1,50	0,00	0,00	92,48
WEA S05	5.263	5.264	**13,40**	105,5	0,00	85,43	8,19	-1,50	0,00	0,00	92,11
WEA S06	4.873	4.873	**14,36**	105,5	0,00	84,76	7,89	-1,50	0,00	0,00	91,15
WEA S07	4.892	4.893	**14,31**	105,5	0,00	84,79	7,91	-1,50	0,00	0,00	91,20
WEA S08	4.486	4.487	**15,39**	105,5	0,00	84,04	7,58	-1,50	0,00	0,00	90,12
WEA S09	4.107	4.108	**16,48**	105,5	0,00	83,27	7,26	-1,50	0,00	0,00	89,03
WEA S10	3.830	3.831	**17,34**	105,5	0,00	82,67	7,00	-1,50	0,00	0,00	88,17
WEA S11	4.146	4.147	**16,36**	105,5	0,00	83,36	7,29	-1,50	0,00	0,00	89,15
WEA S12	4.020	4.021	**16,74**	105,5	0,00	83,09	7,18	-1,50	0,00	0,00	88,77
WEA S21	4.606	4.606	**10,41**	103,5	0,00	84,27	10,32	-1,50	0,00	0,00	93,08
WEA S22	5.721	5.722	**7,56**	103,5	0,00	86,15	11,29	-1,50	0,00	0,00	95,94
WEA S23	4.258	4.259	**11,44**	103,5	0,00	83,59	9,98	-1,50	0,00	0,00	92,06
WEA S24	4.410	4.411	**10,98**	103,5	0,00	83,89	10,13	-1,50	0,00	0,00	92,52
WEA S25	4.253	4.254	**11,45**	103,5	0,00	83,58	9,97	-1,50	0,00	0,00	92,05
WEA SV28	2.587	2.589	**20,71**	105,4	0,00	79,26	6,93	-1,50	0,00	0,00	84,69
WEA SV29	2.829	2.830	**19,55**	105,4	0,00	80,04	7,31	-1,50	0,00	0,00	85,85
WEA SV31	1.785	1.788	**25,37**	105,4	0,00	76,05	5,48	-1,50	0,00	0,00	80,03
WEA SV32	2.312	2.314	**24,92**	107,0	0,00	78,29	5,29	-1,50	0,00	0,00	82,07
WEA SV33	2.631	2.633	**23,31**	107,0	0,00	79,41	5,77	-1,50	0,00	0,00	83,68
WEA SV34	3.458	3.459	**19,80**	107,0	0,00	81,78	6,91	-1,50	0,00	0,00	87,19
WEA SV35	3.386	3.388	**20,83**	106,6	0,00	81,60	5,71	-1,50	0,00	0,00	85,81
WEA_G14	2.202	2.204	**23,40**	105,0	0,00	77,86	5,19	-1,50	0,00	0,00	81,56
WEA_G15	1.746	1.750	**26,06**	105,0	0,00	75,86	4,54	-1,50	0,00	0,00	78,90
WEA_G16	1.723	1.727	**27,51**	106,2	0,00	75,74	4,39	-1,50	0,00	0,00	78,64
WEA_G17	1.938	1.941	**24,27**	106,0	0,00	76,76	6,51	-1,50	0,00	0,00	81,77
WEA_G18	2.745	2.747	**20,80**	105,0	0,00	79,78	5,88	-1,50	0,00	0,00	84,16
WEA_G19	3.073	3.074	**19,45**	105,0	0,00	80,75	6,25	-1,50	0,00	0,00	85,50
Sum			**38,76**								

Noise sensitive area: IP_06 IP 06 Karlsmindevej 1 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.839	5.840	**2,17**	96,3	0,00	86,33	9,31	-1,50	0,00	0,00	94,14
WEA 02	6.060	6.061	**1,65**	96,3	0,00	86,65	9,51	-1,50	0,00	0,00	94,66
WEA 03	6.256	6.257	**1,20**	96,3	0,00	86,93	9,68	-1,50	0,00	0,00	95,10
WEA DK01	3.553	3.554	**9,81**	96,3	0,00	82,01	5,95	-1,50	0,00	0,00	86,46
WEA DK02	3.167	3.168	**11,23**	96,3	0,00	81,02	5,53	-1,50	0,00	0,00	85,05
WEA DK03	2.784	2.785	**12,79**	96,3	0,00	79,90	5,09	-1,50	0,00	0,00	83,49
WEA DK04	2.403	2.405	**14,16**	96,0	0,00	78,62	4,67	-1,50	0,00	0,00	81,79
WEA DK05	2.027	2.029	**16,20**	96,0	0,00	77,14	4,14	-1,50	0,00	0,00	79,78
WEA DK06	1.658	1.660	**18,46**	96,0	0,00	75,40	3,62	-1,50	0,00	0,00	77,52
WEA GBW20	2.584	2.587	**22,69**	106,2	0,00	79,26	5,70	-1,50	0,00	0,00	83,46
WEA GBW27	2.638	2.640	**22,44**	106,2	0,00	79,43	5,77	-1,50	0,00	0,00	83,71
WEA GBW28	2.503	2.505	**23,09**	106,2	0,00	78,98	5,59	-1,50	0,00	0,00	83,06
WEA GBW29	2.194	2.197	**24,67**	106,2	0,00	77,84	5,14	-1,50	0,00	0,00	81,48
WEA GBW30	2.219	2.222	**24,54**	106,2	0,00	77,93	5,18	-1,50	0,00	0,00	81,61
WEA GBW31	2.299	2.302	**24,11**	106,2	0,00	78,24	5,30	-1,50	0,00	0,00	82,04
WEA GBW32	2.332	2.335	**23,94**	106,2	0,00	78,37	5,34	-1,50	0,00	0,00	82,21
WEA GBW33	2.334	2.336	**23,93**	106,2	0,00	78,37	5,35	-1,50	0,00	0,00	82,22
WEA S01	6.563	6.564	**9,53**	104,2	0,00	87,34	8,84	-1,50	0,00	0,00	94,68
WEA S02	6.498	6.499	**9,66**	104,2	0,00	87,26	8,80	-1,50	0,00	0,00	94,55
WEA S03	6.273	6.273	**7,57**	104,5	0,00	86,95	11,44	-1,50	0,00	0,00	96,89

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S04	5.955	5.956	**10,77**	104,2	0,00	86,50	8,44	-1,50	0,00	0,00	93,44
WEA S05	5.817	5.818	**11,07**	104,2	0,00	86,29	8,34	-1,50	0,00	0,00	93,14
WEA S06	5.410	5.411	**11,99**	104,2	0,00	85,67	8,05	-1,50	0,00	0,00	92,22
WEA S07	5.446	5.447	**11,91**	104,2	0,00	85,72	8,08	-1,50	0,00	0,00	92,30
WEA S08	5.032	5.033	**12,91**	104,2	0,00	85,04	7,77	-1,50	0,00	0,00	91,31
WEA S09	4.638	4.639	**13,93**	104,2	0,00	84,33	7,46	-1,50	0,00	0,00	90,28
WEA S10	4.341	4.342	**14,75**	104,2	0,00	83,75	7,21	-1,50	0,00	0,00	89,46
WEA S11	4.539	4.540	**14,20**	104,2	0,00	84,14	7,37	-1,50	0,00	0,00	90,01
WEA S12	4.370	4.371	**14,67**	104,2	0,00	83,81	7,23	-1,50	0,00	0,00	89,54
WEA S21	5.165	5.166	**8,52**	103,0	0,00	85,26	10,69	-1,50	0,00	0,00	94,45
WEA S22	6.269	6.269	**5,90**	103,0	0,00	86,94	11,62	-1,50	0,00	0,00	97,07
WEA S23	4.772	4.773	**9,57**	103,0	0,00	84,58	10,32	-1,50	0,00	0,00	93,39
WEA S24	4.812	4.813	**9,46**	103,0	0,00	84,65	10,36	-1,50	0,00	0,00	93,50
WEA S25	4.618	4.619	**10,01**	103,0	0,00	84,29	10,17	-1,50	0,00	0,00	92,96
WEA SV28	3.130	3.131	**17,25**	103,8	0,00	80,91	7,11	-1,50	0,00	0,00	86,52
WEA SV29	3.385	3.386	**16,22**	103,8	0,00	81,59	7,46	-1,50	0,00	0,00	87,56
WEA SV31	1.899	1.902	**23,55**	103,8	0,00	76,58	5,14	-1,50	0,00	0,00	80,22
WEA SV32	2.251	2.253	**25,05**	106,8	0,00	78,06	5,19	-1,50	0,00	0,00	81,75
WEA SV33	2.459	2.461	**23,82**	106,8	0,00	78,82	5,61	-1,50	0,00	0,00	82,93
WEA SV34	3.109	3.111	**20,99**	106,8	0,00	80,86	6,45	-1,50	0,00	0,00	85,80
WEA SV35	3.867	3.868	**13,56**	102,0	0,00	82,75	7,19	-1,50	0,00	0,00	88,44
WEA_G14	2.700	2.702	**20,45**	104,1	0,00	79,63	5,48	-1,50	0,00	0,00	83,62
WEA_G15	2.136	2.139	**23,74**	104,6	0,00	77,60	4,75	-1,50	0,00	0,00	80,85
WEA_G16	1.942	1.945	**26,12**	106,2	0,00	76,78	4,75	-1,50	0,00	0,00	80,03
WEA_G17	1.926	1.929	**24,16**	106,0	0,00	76,71	6,68	-1,50	0,00	0,00	81,89
WEA_G18	2.484	2.485	**21,43**	104,1	0,00	78,91	5,23	-1,50	0,00	0,00	82,64
WEA_G19	2.746	2.747	**20,25**	104,1	0,00	79,78	5,54	-1,50	0,00	0,00	83,81
Sum			**36,65**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.839	5.840	**10,30**	104,4	0,00	86,33	9,31	-1,50	0,00	0,00	94,14
WEA 02	6.060	6.061	**9,78**	104,4	0,00	86,65	9,51	-1,50	0,00	0,00	94,66
WEA 03	6.256	6.257	**9,34**	104,4	0,00	86,93	9,68	-1,50	0,00	0,00	95,10
WEA DK01	3.553	3.554	**12,43**	101,2	0,00	82,01	8,24	-1,50	0,00	0,00	88,75
WEA DK02	3.167	3.168	**14,02**	101,2	0,00	81,02	7,65	-1,50	0,00	0,00	87,16
WEA DK03	2.784	2.785	**15,78**	101,2	0,00	79,90	7,01	-1,50	0,00	0,00	85,40
WEA DK04	2.403	2.405	**19,83**	102,2	0,00	78,62	5,23	-1,50	0,00	0,00	82,35
WEA DK05	2.027	2.029	**21,91**	102,2	0,00	77,14	4,63	-1,50	0,00	0,00	80,27
WEA DK06	1.658	1.660	**24,30**	102,2	0,00	75,40	3,99	-1,50	0,00	0,00	77,89
WEA GBW20	2.584	2.587	**22,69**	106,2	0,00	79,26	5,70	-1,50	0,00	0,00	83,46
WEA GBW27	2.638	2.640	**22,44**	106,2	0,00	79,43	5,77	-1,50	0,00	0,00	83,71
WEA GBW28	2.503	2.505	**23,09**	106,2	0,00	78,98	5,59	-1,50	0,00	0,00	83,06
WEA GBW29	2.194	2.197	**24,67**	106,2	0,00	77,84	5,14	-1,50	0,00	0,00	81,48
WEA GBW30	2.219	2.222	**24,54**	106,2	0,00	77,93	5,18	-1,50	0,00	0,00	81,61
WEA GBW31	2.299	2.302	**24,11**	106,2	0,00	78,24	5,30	-1,50	0,00	0,00	82,04
WEA GBW32	2.332	2.335	**23,94**	106,2	0,00	78,37	5,34	-1,50	0,00	0,00	82,21
WEA GBW33	2.334	2.336	**23,93**	106,2	0,00	78,37	5,35	-1,50	0,00	0,00	82,22
WEA S01	6.563	6.564	**10,62**	105,5	0,00	87,34	9,05	-1,50	0,00	0,00	94,89
WEA S02	6.498	6.499	**10,74**	105,5	0,00	87,26	9,01	-1,50	0,00	0,00	94,77
WEA S03	6.273	6.273	**10,35**	107,0	0,00	86,95	11,19	-1,50	0,00	0,00	96,64
WEA S04	5.955	5.956	**11,85**	105,5	0,00	86,50	8,67	-1,50	0,00	0,00	93,66
WEA S05	5.817	5.818	**12,14**	105,5	0,00	86,29	8,57	-1,50	0,00	0,00	93,37
WEA S06	5.410	5.411	**13,05**	105,5	0,00	85,67	8,29	-1,50	0,00	0,00	92,46
WEA S07	5.446	5.447	**12,97**	105,5	0,00	85,72	8,32	-1,50	0,00	0,00	92,54
WEA S08	5.032	5.033	**13,96**	105,5	0,00	85,04	8,01	-1,50	0,00	0,00	91,55
WEA S09	4.638	4.639	**14,97**	105,5	0,00	84,33	7,71	-1,50	0,00	0,00	90,54
WEA S10	4.341	4.342	**15,80**	105,5	0,00	83,75	7,46	-1,50	0,00	0,00	89,71
WEA S11	4.539	4.540	**15,24**	105,5	0,00	84,14	7,63	-1,50	0,00	0,00	90,27
WEA S12	4.370	4.371	**15,71**	105,5	0,00	83,81	7,48	-1,50	0,00	0,00	89,80
WEA S21	5.165	5.166	**8,91**	103,5	0,00	85,26	10,83	-1,50	0,00	0,00	94,59
WEA S22	6.269	6.269	**6,34**	103,5	0,00	86,94	11,72	-1,50	0,00	0,00	97,16

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S23	4.772	4.773	**9,95**	103,5	0,00	84,58	10,47	-1,50	0,00	0,00	93,55
WEA S24	4.812	4.813	**9,84**	103,5	0,00	84,65	10,51	-1,50	0,00	0,00	93,66
WEA S25	4.618	4.619	**10,38**	103,5	0,00	84,29	10,33	-1,50	0,00	0,00	93,12
WEA SV28	3.130	3.131	**18,22**	105,4	0,00	80,91	7,77	-1,50	0,00	0,00	87,18
WEA SV29	3.385	3.386	**17,18**	105,4	0,00	81,59	8,13	-1,50	0,00	0,00	88,22
WEA SV31	1.899	1.902	**24,61**	105,4	0,00	76,58	5,70	-1,50	0,00	0,00	80,79
WEA SV32	2.251	2.253	**25,25**	107,0	0,00	78,06	5,19	-1,50	0,00	0,00	81,75
WEA SV33	2.459	2.461	**24,16**	107,0	0,00	78,82	5,51	-1,50	0,00	0,00	82,83
WEA SV34	3.109	3.111	**21,19**	107,0	0,00	80,86	6,45	-1,50	0,00	0,00	85,80
WEA SV35	3.867	3.868	**19,09**	106,6	0,00	82,75	6,30	-1,50	0,00	0,00	87,55
WEA_G14	2.700	2.702	**21,00**	105,0	0,00	79,63	5,83	-1,50	0,00	0,00	83,96
WEA_G15	2.136	2.139	**23,75**	105,0	0,00	77,60	5,11	-1,50	0,00	0,00	81,21
WEA_G16	1.942	1.945	**26,12**	106,2	0,00	76,78	4,75	-1,50	0,00	0,00	80,03
WEA_G17	1.926	1.929	**24,35**	106,0	0,00	76,71	6,49	-1,50	0,00	0,00	81,69
WEA_G18	2.484	2.485	**21,99**	105,0	0,00	78,91	5,56	-1,50	0,00	0,00	82,97
WEA_G19	2.746	2.747	**20,80**	105,0	0,00	79,78	5,88	-1,50	0,00	0,00	84,16
Sum			**37,31**								

Noise sensitive area: IP_07 IP 07 Lydersholmvej 13 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.926	5.927	**1,96**	96,3	0,00	86,46	9,39	-1,50	0,00	0,00	94,35
WEA 02	6.139	6.140	**1,47**	96,3	0,00	86,76	9,58	-1,50	0,00	0,00	94,84
WEA 03	6.316	6.316	**1,07**	96,3	0,00	87,01	9,73	-1,50	0,00	0,00	95,24
WEA DK01	4.201	4.202	**7,70**	96,3	0,00	83,47	6,61	-1,50	0,00	0,00	88,58
WEA DK02	3.810	3.811	**8,94**	96,3	0,00	82,62	6,22	-1,50	0,00	0,00	87,34
WEA DK03	3.419	3.420	**10,29**	96,3	0,00	81,68	5,81	-1,50	0,00	0,00	85,99
WEA DK04	3.028	3.029	**11,40**	96,0	0,00	80,63	5,42	-1,50	0,00	0,00	84,55
WEA DK05	2.638	2.639	**13,13**	96,0	0,00	79,43	4,92	-1,50	0,00	0,00	82,85
WEA DK06	2.248	2.250	**15,00**	96,0	0,00	78,04	4,43	-1,50	0,00	0,00	80,98
WEA GBW20	2.341	2.344	**23,90**	106,2	0,00	78,40	5,36	-1,50	0,00	0,00	82,25
WEA GBW27	3.067	3.069	**20,57**	106,2	0,00	80,74	6,34	-1,50	0,00	0,00	85,58
WEA GBW28	2.847	2.849	**21,50**	106,2	0,00	80,10	6,06	-1,50	0,00	0,00	84,65
WEA GBW29	2.490	2.493	**23,15**	106,2	0,00	78,93	5,57	-1,50	0,00	0,00	83,00
WEA GBW30	2.415	2.417	**23,52**	106,2	0,00	78,67	5,46	-1,50	0,00	0,00	82,63
WEA GBW31	2.392	2.395	**23,64**	106,2	0,00	78,58	5,43	-1,50	0,00	0,00	82,52
WEA GBW32	2.321	2.324	**24,00**	106,2	0,00	78,32	5,33	-1,50	0,00	0,00	82,15
WEA GBW33	2.821	2.823	**21,61**	106,2	0,00	80,01	6,02	-1,50	0,00	0,00	84,54
WEA S01	7.099	7.100	**8,52**	104,2	0,00	88,02	9,17	-1,50	0,00	0,00	95,69
WEA S02	7.010	7.011	**8,68**	104,2	0,00	87,91	9,11	-1,50	0,00	0,00	95,53
WEA S03	6.838	6.839	**6,33**	104,5	0,00	87,70	11,92	-1,50	0,00	0,00	98,12
WEA S04	6.473	6.473	**9,71**	104,2	0,00	87,22	8,78	-1,50	0,00	0,00	94,50
WEA S05	6.374	6.374	**9,91**	104,2	0,00	87,09	8,72	-1,50	0,00	0,00	94,31
WEA S06	5.937	5.938	**10,81**	104,2	0,00	86,47	8,43	-1,50	0,00	0,00	93,40
WEA S07	6.005	6.006	**10,67**	104,2	0,00	86,57	8,47	-1,50	0,00	0,00	93,55
WEA S08	5.577	5.578	**11,61**	104,2	0,00	85,93	8,18	-1,50	0,00	0,00	92,60
WEA S09	5.161	5.162	**12,59**	104,2	0,00	85,26	7,87	-1,50	0,00	0,00	91,63
WEA S10	4.832	4.833	**13,42**	104,2	0,00	84,68	7,61	-1,50	0,00	0,00	90,80
WEA S11	4.846	4.847	**13,38**	104,2	0,00	84,71	7,62	-1,50	0,00	0,00	90,83
WEA S12	4.621	4.622	**13,98**	104,2	0,00	84,30	7,44	-1,50	0,00	0,00	90,24
WEA S21	5.738	5.739	**7,10**	103,0	0,00	86,18	11,19	-1,50	0,00	0,00	95,87
WEA S22	6.810	6.811	**4,77**	103,0	0,00	87,66	12,04	-1,50	0,00	0,00	98,20
WEA S23	5.264	5.265	**8,26**	103,0	0,00	85,43	10,78	-1,50	0,00	0,00	94,70
WEA S24	5.127	5.127	**8,62**	103,0	0,00	85,20	10,65	-1,50	0,00	0,00	94,35
WEA S25	4.884	4.885	**9,26**	103,0	0,00	84,78	10,43	-1,50	0,00	0,00	93,70
WEA SV28	3.694	3.695	**15,05**	103,8	0,00	82,35	7,87	-1,50	0,00	0,00	88,72
WEA SV29	3.969	3.970	**14,08**	103,8	0,00	82,98	8,22	-1,50	0,00	0,00	89,69
WEA SV31	1.992	1.994	**22,97**	103,8	0,00	76,99	5,30	-1,50	0,00	0,00	80,80
WEA SV32	2.077	2.079	**26,03**	106,8	0,00	77,36	4,91	-1,50	0,00	0,00	80,77
WEA SV33	2.117	2.119	**25,67**	106,8	0,00	77,52	5,06	-1,50	0,00	0,00	81,08
WEA SV34	2.508	2.510	**23,71**	106,8	0,00	78,99	5,59	-1,50	0,00	0,00	83,08
WEA SV35	4.318	4.319	**12,02**	102,0	0,00	83,71	7,77	-1,50	0,00	0,00	89,98

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA_G14	3.207	3.208	**18,41**	104,1	0,00	81,12	6,03	-1,50	0,00	0,00	85,66
WEA_G15	2.531	2.533	**21,78**	104,6	0,00	79,07	5,24	-1,50	0,00	0,00	82,81
WEA_G16	2.154	2.157	**24,89**	106,2	0,00	77,68	5,08	-1,50	0,00	0,00	81,26
WEA_G17	1.856	1.859	**24,62**	106,0	0,00	76,39	6,54	-1,50	0,00	0,00	81,42
WEA_G18	2.021	2.023	**23,81**	104,1	0,00	77,12	4,64	-1,50	0,00	0,00	80,26
WEA_G19	2.185	2.186	**22,91**	104,1	0,00	77,79	4,86	-1,50	0,00	0,00	81,15
Sum			**36,41**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.926	5.927	**10,09**	104,4	0,00	86,46	9,39	-1,50	0,00	0,00	94,35
WEA 02	6.139	6.140	**9,60**	104,4	0,00	86,76	9,58	-1,50	0,00	0,00	94,84
WEA 03	6.316	6.316	**9,20**	104,4	0,00	87,01	9,73	-1,50	0,00	0,00	95,24
WEA DK01	4.201	4.202	**10,07**	101,2	0,00	83,47	9,15	-1,50	0,00	0,00	91,12
WEA DK02	3.810	3.811	**11,45**	101,2	0,00	82,62	8,61	-1,50	0,00	0,00	89,74
WEA DK03	3.419	3.420	**12,97**	101,2	0,00	81,68	8,04	-1,50	0,00	0,00	88,22
WEA DK04	3.028	3.029	**16,90**	102,2	0,00	80,63	6,16	-1,50	0,00	0,00	85,29
WEA DK05	2.638	2.639	**18,66**	102,2	0,00	79,43	5,59	-1,50	0,00	0,00	83,52
WEA DK06	2.248	2.250	**20,65**	102,2	0,00	78,04	4,99	-1,50	0,00	0,00	81,53
WEA GBW20	2.341	2.344	**23,90**	106,2	0,00	78,40	5,36	-1,50	0,00	0,00	82,25
WEA GBW27	3.067	3.069	**20,57**	106,2	0,00	80,74	6,34	-1,50	0,00	0,00	85,58
WEA GBW28	2.847	2.849	**21,50**	106,2	0,00	80,10	6,06	-1,50	0,00	0,00	84,65
WEA GBW29	2.490	2.493	**23,15**	106,2	0,00	78,93	5,57	-1,50	0,00	0,00	83,00
WEA GBW30	2.415	2.417	**23,52**	106,2	0,00	78,67	5,46	-1,50	0,00	0,00	82,63
WEA GBW31	2.392	2.395	**23,64**	106,2	0,00	78,58	5,43	-1,50	0,00	0,00	82,52
WEA GBW32	2.321	2.324	**24,00**	106,2	0,00	78,32	5,33	-1,50	0,00	0,00	82,15
WEA GBW33	2.821	2.823	**21,61**	106,2	0,00	80,01	6,02	-1,50	0,00	0,00	84,54
WEA S01	7.099	7.100	**9,62**	105,5	0,00	88,02	9,36	-1,50	0,00	0,00	95,89
WEA S02	7.010	7.011	**9,78**	105,5	0,00	87,91	9,31	-1,50	0,00	0,00	95,73
WEA S03	6.838	6.839	**9,12**	107,0	0,00	87,70	11,66	-1,50	0,00	0,00	97,86
WEA S04	6.473	6.473	**10,79**	105,5	0,00	87,22	8,99	-1,50	0,00	0,00	94,72
WEA S05	6.374	6.374	**10,99**	105,5	0,00	87,09	8,93	-1,50	0,00	0,00	94,52
WEA S06	5.937	5.938	**11,88**	105,5	0,00	86,47	8,65	-1,50	0,00	0,00	93,63
WEA S07	6.005	6.006	**11,74**	105,5	0,00	86,57	8,70	-1,50	0,00	0,00	93,77
WEA S08	5.577	5.578	**12,67**	105,5	0,00	85,93	8,41	-1,50	0,00	0,00	92,84
WEA S09	5.161	5.162	**13,64**	105,5	0,00	85,26	8,11	-1,50	0,00	0,00	91,87
WEA S10	4.832	4.833	**14,47**	105,5	0,00	84,68	7,86	-1,50	0,00	0,00	91,04
WEA S11	4.846	4.847	**14,43**	105,5	0,00	84,71	7,87	-1,50	0,00	0,00	91,08
WEA S12	4.621	4.622	**15,02**	105,5	0,00	84,30	7,69	-1,50	0,00	0,00	90,49
WEA S21	5.738	5.739	**7,52**	103,5	0,00	86,18	11,31	-1,50	0,00	0,00	95,98
WEA S22	6.810	6.811	**5,23**	103,5	0,00	87,66	12,11	-1,50	0,00	0,00	98,27
WEA S23	5.264	5.265	**8,66**	103,5	0,00	85,43	10,91	-1,50	0,00	0,00	94,84
WEA S24	5.127	5.127	**9,01**	103,5	0,00	85,20	10,79	-1,50	0,00	0,00	94,49
WEA S25	4.884	4.885	**9,64**	103,5	0,00	84,78	10,58	-1,50	0,00	0,00	93,86
WEA SV28	3.694	3.695	**16,00**	105,4	0,00	82,35	8,55	-1,50	0,00	0,00	89,40
WEA SV29	3.969	3.970	**15,03**	105,4	0,00	82,98	8,90	-1,50	0,00	0,00	90,37
WEA SV31	1.992	1.994	**24,03**	105,4	0,00	76,99	5,88	-1,50	0,00	0,00	81,37
WEA SV32	2.077	2.079	**26,23**	107,0	0,00	77,36	4,91	-1,50	0,00	0,00	80,77
WEA SV33	2.117	2.119	**25,99**	107,0	0,00	77,52	4,98	-1,50	0,00	0,00	81,00
WEA SV34	2.508	2.510	**23,91**	107,0	0,00	78,99	5,59	-1,50	0,00	0,00	83,08
WEA SV35	4.318	4.319	**17,60**	106,6	0,00	83,71	6,83	-1,50	0,00	0,00	89,04
WEA_G14	3.207	3.208	**18,94**	105,0	0,00	81,12	6,39	-1,50	0,00	0,00	86,02
WEA_G15	2.531	2.533	**21,76**	105,0	0,00	79,07	5,62	-1,50	0,00	0,00	83,20
WEA_G16	2.154	2.157	**24,89**	106,2	0,00	77,68	5,08	-1,50	0,00	0,00	81,26
WEA_G17	1.856	1.859	**24,81**	106,0	0,00	76,39	6,35	-1,50	0,00	0,00	81,23
WEA_G18	2.021	2.023	**24,39**	105,0	0,00	77,12	4,94	-1,50	0,00	0,00	80,56
WEA_G19	2.185	2.186	**23,49**	105,0	0,00	77,79	5,17	-1,50	0,00	0,00	81,47
Sum			**36,90**								

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

Noise sensitive area: IP_08 IP 08 Vindvedvej (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.482	5.483	**3,05**	96,3	0,00	85,78	8,98	-1,50	0,00	0,00	93,26
WEA 02	5.691	5.692	**2,52**	96,3	0,00	86,11	9,18	-1,50	0,00	0,00	93,78
WEA 03	5.864	5.865	**2,11**	96,3	0,00	86,36	9,33	-1,50	0,00	0,00	94,20
WEA DK01	4.069	4.070	**8,11**	96,3	0,00	83,19	6,48	-1,50	0,00	0,00	88,17
WEA DK02	3.677	3.678	**9,38**	96,3	0,00	82,31	6,08	-1,50	0,00	0,00	86,89
WEA DK03	3.286	3.287	**10,78**	96,3	0,00	81,34	5,66	-1,50	0,00	0,00	85,50
WEA DK04	2.894	2.895	**11,95**	96,0	0,00	80,23	5,27	-1,50	0,00	0,00	84,00
WEA DK05	2.503	2.504	**13,75**	96,0	0,00	78,97	4,75	-1,50	0,00	0,00	82,23
WEA DK06	2.112	2.114	**15,73**	96,0	0,00	77,50	4,25	-1,50	0,00	0,00	80,25
WEA GBW20	1.862	1.865	**26,62**	106,2	0,00	76,41	4,62	-1,50	0,00	0,00	79,54
WEA GBW27	2.790	2.792	**21,75**	106,2	0,00	79,92	5,98	-1,50	0,00	0,00	84,40
WEA GBW28	2.528	2.531	**22,96**	106,2	0,00	79,06	5,62	-1,50	0,00	0,00	83,19
WEA GBW29	2.157	2.160	**24,88**	106,2	0,00	77,69	5,08	-1,50	0,00	0,00	81,27
WEA GBW30	2.039	2.042	**25,55**	106,2	0,00	77,20	4,90	-1,50	0,00	0,00	80,60
WEA GBW31	1.978	1.981	**25,91**	106,2	0,00	76,94	4,81	-1,50	0,00	0,00	80,24
WEA GBW32	1.877	1.880	**26,52**	106,2	0,00	76,48	4,65	-1,50	0,00	0,00	79,63
WEA GBW33	2.586	2.589	**22,69**	106,2	0,00	79,26	5,70	-1,50	0,00	0,00	83,47
WEA S01	6.850	6.850	**8,98**	104,2	0,00	87,71	9,02	-1,50	0,00	0,00	95,23
WEA S02	6.744	6.745	**9,18**	104,2	0,00	87,58	8,95	-1,50	0,00	0,00	95,03
WEA S03	6.612	6.613	**6,81**	104,5	0,00	87,41	11,73	-1,50	0,00	0,00	97,64
WEA S04	6.213	6.214	**10,23**	104,2	0,00	86,87	8,61	-1,50	0,00	0,00	93,98
WEA S05	6.143	6.144	**10,38**	104,2	0,00	86,77	8,57	-1,50	0,00	0,00	93,84
WEA S06	5.687	5.688	**11,36**	104,2	0,00	86,10	8,25	-1,50	0,00	0,00	92,85
WEA S07	5.779	5.780	**11,16**	104,2	0,00	86,24	8,32	-1,50	0,00	0,00	93,06
WEA S08	5.343	5.343	**12,15**	104,2	0,00	85,56	8,00	-1,50	0,00	0,00	92,06
WEA S09	4.914	4.915	**13,21**	104,2	0,00	84,83	7,68	-1,50	0,00	0,00	91,01
WEA S10	4.566	4.567	**14,12**	104,2	0,00	84,19	7,40	-1,50	0,00	0,00	90,09
WEA S11	4.481	4.482	**14,36**	104,2	0,00	84,03	7,32	-1,50	0,00	0,00	89,85
WEA S12	4.234	4.235	**15,06**	104,2	0,00	83,54	7,11	-1,50	0,00	0,00	89,15
WEA S21	5.524	5.524	**7,61**	103,0	0,00	85,85	11,01	-1,50	0,00	0,00	95,35
WEA S22	6.566	6.566	**5,27**	103,0	0,00	87,35	11,85	-1,50	0,00	0,00	97,70
WEA S23	4.995	4.996	**8,96**	103,0	0,00	84,97	10,53	-1,50	0,00	0,00	94,00
WEA S24	4.763	4.764	**9,60**	103,0	0,00	84,56	10,31	-1,50	0,00	0,00	93,37
WEA S25	4.502	4.503	**10,35**	103,0	0,00	84,07	10,05	-1,50	0,00	0,00	92,62
WEA SV28	3.495	3.496	**15,79**	103,8	0,00	81,87	7,61	-1,50	0,00	0,00	87,98
WEA SV29	3.781	3.782	**14,74**	103,8	0,00	82,55	7,98	-1,50	0,00	0,00	89,04
WEA SV31	1.590	1.592	**25,68**	103,8	0,00	75,04	4,55	-1,50	0,00	0,00	78,09
WEA SV32	1.603	1.606	**29,08**	106,8	0,00	75,12	4,10	-1,50	0,00	0,00	77,72
WEA SV33	1.641	1.644	**28,71**	106,8	0,00	75,32	4,23	-1,50	0,00	0,00	78,05
WEA SV34	2.132	2.134	**25,71**	106,8	0,00	77,58	5,00	-1,50	0,00	0,00	81,08
WEA SV35	4.032	4.033	**12,98**	102,0	0,00	83,11	7,40	-1,50	0,00	0,00	89,02
WEA_G14	2.975	2.976	**19,30**	104,1	0,00	80,47	5,79	-1,50	0,00	0,00	84,76
WEA_G15	2.249	2.252	**23,15**	104,6	0,00	78,05	4,89	-1,50	0,00	0,00	81,44
WEA_G16	1.795	1.798	**27,04**	106,2	0,00	76,10	4,51	-1,50	0,00	0,00	79,11
WEA_G17	1.406	1.411	**28,03**	106,0	0,00	73,99	5,53	-1,50	0,00	0,00	78,01
WEA_G18	1.570	1.573	**26,65**	104,1	0,00	74,93	3,99	-1,50	0,00	0,00	77,42
WEA_G19	1.780	1.783	**25,24**	104,1	0,00	76,02	4,30	-1,50	0,00	0,00	78,82
Sum			**38,72**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.482	5.483	**11,18**	104,4	0,00	85,78	8,98	-1,50	0,00	0,00	93,26
WEA 02	5.691	5.692	**10,66**	104,4	0,00	86,11	9,18	-1,50	0,00	0,00	93,78
WEA 03	5.864	5.865	**10,24**	104,4	0,00	86,36	9,33	-1,50	0,00	0,00	94,20
WEA DK01	4.069	4.070	**10,52**	101,2	0,00	83,19	8,97	-1,50	0,00	0,00	90,66
WEA DK02	3.677	3.678	**11,95**	101,2	0,00	82,31	8,42	-1,50	0,00	0,00	89,24
WEA DK03	3.286	3.287	**13,52**	101,2	0,00	81,34	7,83	-1,50	0,00	0,00	87,67
WEA DK04	2.894	2.895	**17,48**	102,2	0,00	80,23	5,97	-1,50	0,00	0,00	84,70
WEA DK05	2.503	2.504	**19,32**	102,2	0,00	78,97	5,39	-1,50	0,00	0,00	82,86
WEA DK06	2.112	2.114	**21,42**	102,2	0,00	77,50	4,77	-1,50	0,00	0,00	80,77
WEA GBW20	1.862	1.865	**26,62**	106,2	0,00	76,41	4,62	-1,50	0,00	0,00	79,54

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA GBW27	2.790	2.792	**21,75**	106,2	0,00	79,92	5,98	-1,50	0,00	0,00	84,40
WEA GBW28	2.528	2.531	**22,96**	106,2	0,00	79,06	5,62	-1,50	0,00	0,00	83,19
WEA GBW29	2.157	2.160	**24,88**	106,2	0,00	77,69	5,08	-1,50	0,00	0,00	81,27
WEA GBW30	2.039	2.042	**25,55**	106,2	0,00	77,20	4,90	-1,50	0,00	0,00	80,60
WEA GBW31	1.978	1.981	**25,91**	106,2	0,00	76,94	4,81	-1,50	0,00	0,00	80,24
WEA GBW32	1.877	1.880	**26,52**	106,2	0,00	76,48	4,65	-1,50	0,00	0,00	79,63
WEA GBW33	2.586	2.589	**22,69**	106,2	0,00	79,26	5,70	-1,50	0,00	0,00	83,47
WEA S01	6.850	6.850	**10,08**	105,5	0,00	87,71	9,22	-1,50	0,00	0,00	95,43
WEA S02	6.744	6.745	**10,27**	105,5	0,00	87,58	9,16	-1,50	0,00	0,00	95,24
WEA S03	6.612	6.613	**9,60**	107,0	0,00	87,41	11,48	-1,50	0,00	0,00	97,39
WEA S04	6.213	6.214	**11,31**	105,5	0,00	86,87	8,83	-1,50	0,00	0,00	94,20
WEA S05	6.143	6.144	**11,45**	105,5	0,00	86,77	8,79	-1,50	0,00	0,00	94,06
WEA S06	5.687	5.688	**12,43**	105,5	0,00	86,10	8,49	-1,50	0,00	0,00	93,08
WEA S07	5.779	5.780	**12,22**	105,5	0,00	86,24	8,55	-1,50	0,00	0,00	93,29
WEA S08	5.343	5.343	**13,21**	105,5	0,00	85,56	8,24	-1,50	0,00	0,00	92,30
WEA S09	4.914	4.915	**14,26**	105,5	0,00	84,83	7,92	-1,50	0,00	0,00	91,25
WEA S10	4.566	4.567	**15,17**	105,5	0,00	84,19	7,65	-1,50	0,00	0,00	90,34
WEA S11	4.481	4.482	**15,40**	105,5	0,00	84,03	7,58	-1,50	0,00	0,00	90,11
WEA S12	4.234	4.235	**16,11**	105,5	0,00	83,54	7,37	-1,50	0,00	0,00	89,40
WEA S21	5.524	5.524	**8,02**	103,5	0,00	85,85	11,13	-1,50	0,00	0,00	95,48
WEA S22	6.566	6.566	**5,72**	103,5	0,00	87,35	11,93	-1,50	0,00	0,00	97,78
WEA S23	4.995	4.996	**9,35**	103,5	0,00	84,97	10,68	-1,50	0,00	0,00	94,15
WEA S24	4.763	4.764	**9,97**	103,5	0,00	84,56	10,47	-1,50	0,00	0,00	93,53
WEA S25	4.502	4.503	**10,71**	103,5	0,00	84,07	10,22	-1,50	0,00	0,00	92,79
WEA SV28	3.495	3.496	**16,75**	105,4	0,00	81,87	8,28	-1,50	0,00	0,00	88,65
WEA SV29	3.781	3.782	**15,69**	105,4	0,00	82,55	8,66	-1,50	0,00	0,00	89,71
WEA SV31	1.590	1.592	**26,78**	105,4	0,00	75,04	5,08	-1,50	0,00	0,00	78,62
WEA SV32	1.603	1.606	**29,28**	107,0	0,00	75,12	4,10	-1,50	0,00	0,00	77,72
WEA SV33	1.641	1.644	**29,01**	107,0	0,00	75,32	4,17	-1,50	0,00	0,00	77,99
WEA SV34	2.132	2.134	**25,91**	107,0	0,00	77,58	5,00	-1,50	0,00	0,00	81,08
WEA SV35	4.032	4.033	**18,53**	106,6	0,00	83,11	6,50	-1,50	0,00	0,00	88,11
WEA_G14	2.975	2.976	**19,84**	105,0	0,00	80,47	6,14	-1,50	0,00	0,00	85,12
WEA_G15	2.249	2.252	**23,15**	105,0	0,00	78,05	5,26	-1,50	0,00	0,00	81,81
WEA_G16	1.795	1.798	**27,04**	106,2	0,00	76,10	4,51	-1,50	0,00	0,00	79,11
WEA_G17	1.406	1.411	**28,19**	106,0	0,00	73,99	5,36	-1,50	0,00	0,00	77,85
WEA_G18	1.570	1.573	**27,27**	105,0	0,00	74,93	4,25	-1,50	0,00	0,00	77,69
WEA_G19	1.780	1.783	**25,85**	105,0	0,00	76,02	4,59	-1,50	0,00	0,00	79,11
Sum			**39,14**								

Noise sensitive area: IP_09 IP 09 Hovmosevej 1 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.983	5.984	**1,83**	96,3	0,00	86,54	9,44	-1,50	0,00	0,00	94,48
WEA 02	6.170	6.170	**1,40**	96,3	0,00	86,81	9,60	-1,50	0,00	0,00	94,91
WEA 03	6.304	6.304	**1,10**	96,3	0,00	86,99	9,72	-1,50	0,00	0,00	95,21
WEA DK01	5.330	5.330	**4,61**	96,3	0,00	85,53	7,64	-1,50	0,00	0,00	91,67
WEA DK02	4.941	4.942	**5,61**	96,3	0,00	84,88	7,30	-1,50	0,00	0,00	90,67
WEA DK03	4.553	4.553	**6,67**	96,3	0,00	84,17	6,94	-1,50	0,00	0,00	89,61
WEA DK04	4.165	4.166	**7,43**	96,0	0,00	83,39	6,63	-1,50	0,00	0,00	88,52
WEA DK05	3.779	3.780	**8,74**	96,0	0,00	82,55	6,19	-1,50	0,00	0,00	87,23
WEA DK06	3.394	3.395	**10,08**	96,0	0,00	81,62	5,78	-1,50	0,00	0,00	85,90
WEA GBW20	2.184	2.186	**24,73**	106,2	0,00	77,79	5,12	-1,50	0,00	0,00	81,42
WEA GBW27	3.911	3.913	**17,47**	106,2	0,00	82,85	7,33	-1,50	0,00	0,00	88,68
WEA GBW28	3.589	3.590	**18,58**	106,2	0,00	82,10	6,97	-1,50	0,00	0,00	87,57
WEA GBW29	3.212	3.214	**19,99**	106,2	0,00	81,14	6,52	-1,50	0,00	0,00	86,16
WEA GBW30	3.003	3.005	**20,84**	106,2	0,00	80,56	6,26	-1,50	0,00	0,00	85,32
WEA GBW31	2.827	2.829	**21,59**	106,2	0,00	80,03	6,03	-1,50	0,00	0,00	84,56
WEA GBW32	2.603	2.605	**22,61**	106,2	0,00	79,32	5,73	-1,50	0,00	0,00	83,54
WEA GBW33	3.773	3.775	**17,93**	106,2	0,00	82,54	7,18	-1,50	0,00	0,00	88,22
WEA S01	7.949	7.950	**7,06**	104,2	0,00	89,01	9,65	-1,50	0,00	0,00	97,16
WEA S02	7.816	7.817	**7,28**	104,2	0,00	88,86	9,58	-1,50	0,00	0,00	96,94
WEA S03	7.750	7.751	**4,54**	104,5	0,00	88,79	12,62	-1,50	0,00	0,00	99,91

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S04	7.301	7.301	**8,16**	104,2	0,00	88,27	9,29	-1,50	0,00	0,00	96,05
WEA S05	7.278	7.279	**8,20**	104,2	0,00	88,24	9,27	-1,50	0,00	0,00	96,01
WEA S06	6.796	6.796	**9,08**	104,2	0,00	87,65	8,98	-1,50	0,00	0,00	95,13
WEA S07	6.923	6.924	**8,84**	104,2	0,00	87,81	9,06	-1,50	0,00	0,00	95,37
WEA S08	6.479	6.480	**9,70**	104,2	0,00	87,23	8,79	-1,50	0,00	0,00	94,52
WEA S09	6.036	6.037	**10,60**	104,2	0,00	86,62	8,49	-1,50	0,00	0,00	93,61
WEA S10	5.663	5.664	**11,41**	104,2	0,00	86,06	8,24	-1,50	0,00	0,00	92,80
WEA S11	5.356	5.357	**12,12**	104,2	0,00	85,58	8,01	-1,50	0,00	0,00	92,09
WEA S12	5.045	5.046	**12,87**	104,2	0,00	85,06	7,78	-1,50	0,00	0,00	91,34
WEA S21	6.687	6.688	**5,02**	103,0	0,00	87,51	11,94	-1,50	0,00	0,00	97,95
WEA S22	7.676	7.676	**3,12**	103,0	0,00	88,70	12,65	-1,50	0,00	0,00	99,85
WEA S23	6.080	6.081	**6,31**	103,0	0,00	86,68	11,47	-1,50	0,00	0,00	96,65
WEA S24	5.636	5.636	**7,34**	103,0	0,00	86,02	11,10	-1,50	0,00	0,00	95,62
WEA S25	5.321	5.321	**8,12**	103,0	0,00	85,52	10,83	-1,50	0,00	0,00	94,85
WEA SV28	4.701	4.702	**11,76**	103,8	0,00	84,44	9,07	-1,50	0,00	0,00	92,01
WEA SV29	4.995	4.996	**10,92**	103,8	0,00	84,97	9,38	-1,50	0,00	0,00	92,86
WEA SV31	2.530	2.532	**20,00**	103,8	0,00	79,07	6,21	-1,50	0,00	0,00	83,78
WEA SV32	2.141	2.144	**25,65**	106,8	0,00	77,62	5,02	-1,50	0,00	0,00	81,14
WEA SV33	1.822	1.825	**27,47**	106,8	0,00	76,23	4,55	-1,50	0,00	0,00	79,28
WEA SV34	1.431	1.434	**30,38**	106,8	0,00	74,13	3,78	-1,50	0,00	0,00	76,41
WEA SV35	5.105	5.105	**9,62**	102,0	0,00	85,16	8,71	-1,50	0,00	0,00	92,37
WEA_G14	4.154	4.155	**15,27**	104,1	0,00	83,37	6,93	-1,50	0,00	0,00	88,80
WEA_G15	3.386	3.388	**18,34**	104,6	0,00	81,60	6,15	-1,50	0,00	0,00	86,25
WEA_G16	2.823	2.825	**21,61**	106,2	0,00	80,02	6,02	-1,50	0,00	0,00	84,54
WEA_G17	2.187	2.190	**22,55**	106,0	0,00	77,81	7,19	-1,50	0,00	0,00	83,50
WEA_G18	1.471	1.473	**27,37**	104,1	0,00	74,37	3,83	-1,50	0,00	0,00	76,69
WEA_G19	1.299	1.303	**28,72**	104,1	0,00	73,30	3,54	-1,50	0,00	0,00	75,34
Sum			**37,06**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	5.983	5.984	**9,96**	104,4	0,00	86,54	9,44	-1,50	0,00	0,00	94,48
WEA 02	6.170	6.170	**9,53**	104,4	0,00	86,81	9,60	-1,50	0,00	0,00	94,91
WEA 03	6.304	6.304	**9,23**	104,4	0,00	86,99	9,72	-1,50	0,00	0,00	95,21
WEA DK01	5.330	5.330	**6,69**	101,2	0,00	85,53	10,46	-1,50	0,00	0,00	94,49
WEA DK02	4.941	4.942	**7,77**	101,2	0,00	84,88	10,04	-1,50	0,00	0,00	93,42
WEA DK03	4.553	4.553	**8,93**	101,2	0,00	84,17	9,59	-1,50	0,00	0,00	92,25
WEA DK04	4.165	4.166	**12,65**	102,2	0,00	83,39	7,64	-1,50	0,00	0,00	89,54
WEA DK05	3.779	3.780	**13,97**	102,2	0,00	82,55	7,17	-1,50	0,00	0,00	88,22
WEA DK06	3.394	3.395	**15,40**	102,2	0,00	81,62	6,66	-1,50	0,00	0,00	86,78
WEA GBW20	2.184	2.186	**24,73**	106,2	0,00	77,79	5,12	-1,50	0,00	0,00	81,42
WEA GBW27	3.911	3.913	**17,47**	106,2	0,00	82,85	7,33	-1,50	0,00	0,00	88,68
WEA GBW28	3.589	3.590	**18,58**	106,2	0,00	82,10	6,97	-1,50	0,00	0,00	87,57
WEA GBW29	3.212	3.214	**19,99**	106,2	0,00	81,14	6,52	-1,50	0,00	0,00	86,16
WEA GBW30	3.003	3.005	**20,84**	106,2	0,00	80,56	6,26	-1,50	0,00	0,00	85,32
WEA GBW31	2.827	2.829	**21,59**	106,2	0,00	80,03	6,03	-1,50	0,00	0,00	84,56
WEA GBW32	2.603	2.605	**22,61**	106,2	0,00	79,32	5,73	-1,50	0,00	0,00	83,54
WEA GBW33	3.773	3.775	**17,93**	106,2	0,00	82,54	7,18	-1,50	0,00	0,00	88,22
WEA S01	7.949	7.950	**8,18**	105,5	0,00	89,01	9,82	-1,50	0,00	0,00	97,33
WEA S02	7.816	7.817	**8,40**	105,5	0,00	88,86	9,75	-1,50	0,00	0,00	97,11
WEA S03	7.750	7.751	**7,34**	107,0	0,00	88,79	12,36	-1,50	0,00	0,00	99,64
WEA S04	7.301	7.301	**9,27**	105,5	0,00	88,27	9,47	-1,50	0,00	0,00	96,24
WEA S05	7.278	7.279	**9,31**	105,5	0,00	88,24	9,46	-1,50	0,00	0,00	96,20
WEA S06	6.796	6.796	**10,18**	105,5	0,00	87,65	9,19	-1,50	0,00	0,00	95,33
WEA S07	6.923	6.924	**9,94**	105,5	0,00	87,81	9,26	-1,50	0,00	0,00	95,57
WEA S08	6.479	6.480	**10,78**	105,5	0,00	87,23	9,00	-1,50	0,00	0,00	94,73
WEA S09	6.036	6.037	**11,68**	105,5	0,00	86,62	8,72	-1,50	0,00	0,00	93,83
WEA S10	5.663	5.664	**12,48**	105,5	0,00	86,06	8,47	-1,50	0,00	0,00	93,03
WEA S11	5.356	5.357	**13,18**	105,5	0,00	85,58	8,25	-1,50	0,00	0,00	92,33
WEA S12	5.045	5.046	**13,93**	105,5	0,00	85,06	8,02	-1,50	0,00	0,00	91,58
WEA S21	6.687	6.688	**5,47**	103,5	0,00	87,51	12,02	-1,50	0,00	0,00	98,03
WEA S22	7.676	7.676	**3,61**	103,5	0,00	88,70	12,68	-1,50	0,00	0,00	99,88

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA S23	6.080	6.081	**6,74**	103,5	0,00	86,68	11,57	-1,50	0,00	0,00	96,75
WEA S24	5.636	5.636	**7,75**	103,5	0,00	86,02	11,22	-1,50	0,00	0,00	95,74
WEA S25	5.321	5.321	**8,52**	103,5	0,00	85,52	10,96	-1,50	0,00	0,00	94,98
WEA SV28	4.701	4.702	**12,70**	105,4	0,00	84,44	9,75	-1,50	0,00	0,00	92,70
WEA SV29	4.995	4.996	**11,86**	105,4	0,00	84,97	10,07	-1,50	0,00	0,00	93,54
WEA SV31	2.530	2.532	**21,00**	105,4	0,00	79,07	6,83	-1,50	0,00	0,00	84,40
WEA SV32	2.141	2.144	**25,85**	107,0	0,00	77,62	5,02	-1,50	0,00	0,00	81,14
WEA SV33	1.822	1.825	**27,78**	107,0	0,00	76,23	4,49	-1,50	0,00	0,00	79,21
WEA SV34	1.431	1.434	**30,58**	107,0	0,00	74,13	3,78	-1,50	0,00	0,00	76,41
WEA SV35	5.105	5.105	**15,29**	106,6	0,00	85,16	7,69	-1,50	0,00	0,00	91,35
WEA_G14	4.154	4.155	**15,78**	105,0	0,00	83,37	7,30	-1,50	0,00	0,00	89,18
WEA_G15	3.386	3.388	**18,27**	105,0	0,00	81,60	6,58	-1,50	0,00	0,00	86,68
WEA_G16	2.823	2.825	**21,61**	106,2	0,00	80,02	6,02	-1,50	0,00	0,00	84,54
WEA_G17	2.187	2.190	**22,76**	106,0	0,00	77,81	6,98	-1,50	0,00	0,00	83,29
WEA_G18	1.471	1.473	**28,00**	105,0	0,00	74,37	4,09	-1,50	0,00	0,00	76,95
WEA_G19	1.299	1.303	**29,37**	105,0	0,00	73,30	3,79	-1,50	0,00	0,00	75,58
Sum			**37,47**								

Noise sensitive area: IP_10 IP 10 Hovmosevej 15 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	6.183	6.184	**1,37**	96,3	0,00	86,83	9,61	-1,50	0,00	0,00	94,94
WEA 02	6.342	6.343	**1,01**	96,3	0,00	87,05	9,75	-1,50	0,00	0,00	95,30
WEA 03	6.437	6.438	**0,80**	96,3	0,00	87,18	9,83	-1,50	0,00	0,00	95,51
WEA DK01	6.283	6.283	**2,40**	96,3	0,00	86,96	8,42	-1,50	0,00	0,00	93,88
WEA DK02	5.903	5.903	**3,24**	96,3	0,00	86,42	8,11	-1,50	0,00	0,00	93,04
WEA DK03	5.525	5.525	**4,13**	96,3	0,00	85,85	7,80	-1,50	0,00	0,00	92,15
WEA DK04	5.149	5.149	**4,67**	96,0	0,00	85,24	7,55	-1,50	0,00	0,00	91,28
WEA DK05	4.775	4.776	**5,75**	96,0	0,00	84,58	7,15	-1,50	0,00	0,00	90,23
WEA DK06	4.406	4.406	**6,79**	96,0	0,00	83,88	6,80	-1,50	0,00	0,00	89,18
WEA GBW20	2.615	2.617	**22,55**	106,2	0,00	79,36	5,74	-1,50	0,00	0,00	83,60
WEA GBW27	4.745	4.746	**14,93**	106,2	0,00	84,53	8,20	-1,50	0,00	0,00	91,22
WEA GBW28	4.384	4.385	**15,98**	106,2	0,00	83,84	7,83	-1,50	0,00	0,00	90,18
WEA GBW29	4.024	4.025	**17,10**	106,2	0,00	83,10	7,46	-1,50	0,00	0,00	89,05
WEA GBW30	3.763	3.764	**17,97**	106,2	0,00	82,51	7,17	-1,50	0,00	0,00	88,18
WEA GBW31	3.520	3.522	**18,83**	106,2	0,00	81,94	6,89	-1,50	0,00	0,00	87,32
WEA GBW32	3.238	3.240	**19,89**	106,2	0,00	81,21	6,55	-1,50	0,00	0,00	86,26
WEA GBW33	4.673	4.674	**15,13**	106,2	0,00	84,39	8,13	-1,50	0,00	0,00	91,02
WEA S01	8.676	8.677	**5,92**	104,2	0,00	89,77	10,03	-1,50	0,00	0,00	98,30
WEA S02	8.514	8.515	**6,16**	104,2	0,00	89,60	9,95	-1,50	0,00	0,00	98,05
WEA S03	8.524	8.524	**3,18**	104,5	0,00	89,61	13,16	-1,50	0,00	0,00	101,27
WEA S04	8.023	8.023	**6,94**	104,2	0,00	89,09	9,69	-1,50	0,00	0,00	97,28
WEA S05	8.054	8.054	**6,89**	104,2	0,00	89,12	9,71	-1,50	0,00	0,00	97,33
WEA S06	7.548	7.549	**7,73**	104,2	0,00	88,56	9,43	-1,50	0,00	0,00	96,48
WEA S07	7.713	7.713	**7,45**	104,2	0,00	88,74	9,52	-1,50	0,00	0,00	96,76
WEA S08	7.267	7.268	**8,22**	104,2	0,00	88,23	9,27	-1,50	0,00	0,00	95,99
WEA S09	6.815	6.816	**9,05**	104,2	0,00	87,67	9,00	-1,50	0,00	0,00	95,17
WEA S10	6.424	6.424	**9,81**	104,2	0,00	87,16	8,75	-1,50	0,00	0,00	94,41
WEA S11	5.914	5.915	**10,86**	104,2	0,00	86,44	8,41	-1,50	0,00	0,00	93,35
WEA S12	5.558	5.559	**11,65**	104,2	0,00	85,90	8,16	-1,50	0,00	0,00	92,56
WEA S21	7.502	7.502	**3,44**	103,0	0,00	88,50	12,53	-1,50	0,00	0,00	99,53
WEA S22	8.418	8.419	**1,84**	103,0	0,00	89,50	13,13	-1,50	0,00	0,00	101,13
WEA S23	6.820	6.821	**4,75**	103,0	0,00	87,68	12,04	-1,50	0,00	0,00	98,22
WEA S24	6.182	6.183	**6,09**	103,0	0,00	86,82	11,55	-1,50	0,00	0,00	96,88
WEA S25	5.829	5.830	**6,89**	103,0	0,00	86,31	11,27	-1,50	0,00	0,00	96,08
WEA SV28	5.597	5.597	**9,32**	103,8	0,00	85,96	9,99	-1,50	0,00	0,00	94,45
WEA SV29	5.894	5.895	**8,59**	103,8	0,00	86,41	10,27	-1,50	0,00	0,00	95,18
WEA SV31	3.318	3.320	**16,48**	103,8	0,00	81,42	7,37	-1,50	0,00	0,00	87,29
WEA SV32	2.733	2.735	**22,63**	106,8	0,00	79,74	5,92	-1,50	0,00	0,00	84,16
WEA SV33	2.258	2.260	**24,88**	106,8	0,00	78,08	5,29	-1,50	0,00	0,00	81,87
WEA SV34	1.212	1.216	**32,24**	106,8	0,00	72,70	3,36	-1,50	0,00	0,00	74,55
WEA SV35	5.854	5.855	**7,61**	102,0	0,00	86,35	9,53	-1,50	0,00	0,00	94,38

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA_G14	5.035	5.035	**12,89**	104,1	0,00	85,04	7,64	-1,50	0,00	0,00	91,18
WEA_G15	4.256	4.258	**15,57**	104,6	0,00	83,58	6,94	-1,50	0,00	0,00	89,02
WEA_G16	3.643	3.645	**18,39**	106,2	0,00	82,23	7,03	-1,50	0,00	0,00	87,76
WEA_G17	2.923	2.926	**18,78**	106,0	0,00	80,32	8,45	-1,50	0,00	0,00	87,27
WEA_G18	1.842	1.845	**24,85**	104,1	0,00	76,32	4,39	-1,50	0,00	0,00	79,21
WEA_G19	1.426	1.429	**27,71**	104,1	0,00	74,10	3,76	-1,50	0,00	0,00	76,35
Sum			**36,04**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	6.183	6.184	**9,50**	104,4	0,00	86,83	9,61	-1,50	0,00	0,00	94,94
WEA 02	6.342	6.343	**9,14**	104,4	0,00	87,05	9,75	-1,50	0,00	0,00	95,30
WEA 03	6.437	6.438	**8,93**	104,4	0,00	87,18	9,83	-1,50	0,00	0,00	95,51
WEA DK01	6.283	6.283	**4,37**	101,2	0,00	86,96	11,35	-1,50	0,00	0,00	96,81
WEA DK02	5.903	5.903	**5,25**	101,2	0,00	86,42	11,01	-1,50	0,00	0,00	95,94
WEA DK03	5.525	5.525	**6,18**	101,2	0,00	85,85	10,66	-1,50	0,00	0,00	95,00
WEA DK04	5.149	5.149	**9,69**	102,2	0,00	85,24	8,76	-1,50	0,00	0,00	92,49
WEA DK05	4.775	4.776	**10,75**	102,2	0,00	84,58	8,35	-1,50	0,00	0,00	91,43
WEA DK06	4.406	4.406	**11,87**	102,2	0,00	83,88	7,93	-1,50	0,00	0,00	90,31
WEA GBW20	2.615	2.617	**22,55**	106,2	0,00	79,36	5,74	-1,50	0,00	0,00	83,60
WEA GBW27	4.745	4.746	**14,93**	106,2	0,00	84,53	8,20	-1,50	0,00	0,00	91,22
WEA GBW28	4.384	4.385	**15,98**	106,2	0,00	83,84	7,83	-1,50	0,00	0,00	90,18
WEA GBW29	4.024	4.025	**17,10**	106,2	0,00	83,10	7,46	-1,50	0,00	0,00	89,05
WEA GBW30	3.763	3.764	**17,97**	106,2	0,00	82,51	7,17	-1,50	0,00	0,00	88,18
WEA GBW31	3.520	3.522	**18,83**	106,2	0,00	81,94	6,89	-1,50	0,00	0,00	87,32
WEA GBW32	3.238	3.240	**19,89**	106,2	0,00	81,21	6,55	-1,50	0,00	0,00	86,26
WEA GBW33	4.673	4.674	**15,13**	106,2	0,00	84,39	8,13	-1,50	0,00	0,00	91,02
WEA S01	8.676	8.677	**7,07**	105,5	0,00	89,77	10,18	-1,50	0,00	0,00	98,44
WEA S02	8.514	8.515	**7,31**	105,5	0,00	89,60	10,10	-1,50	0,00	0,00	98,20
WEA S03	8.524	8.524	**5,98**	107,0	0,00	89,61	12,89	-1,50	0,00	0,00	101,00
WEA S04	8.023	8.023	**8,07**	105,5	0,00	89,09	9,86	-1,50	0,00	0,00	97,44
WEA S05	8.054	8.054	**8,02**	105,5	0,00	89,12	9,87	-1,50	0,00	0,00	97,49
WEA S06	7.548	7.549	**8,84**	105,5	0,00	88,56	9,61	-1,50	0,00	0,00	96,67
WEA S07	7.713	7.713	**8,57**	105,5	0,00	88,74	9,70	-1,50	0,00	0,00	96,94
WEA S08	7.267	7.268	**9,33**	105,5	0,00	88,23	9,46	-1,50	0,00	0,00	96,18
WEA S09	6.815	6.816	**10,14**	105,5	0,00	87,67	9,20	-1,50	0,00	0,00	95,37
WEA S10	6.424	6.424	**10,89**	105,5	0,00	87,16	8,96	-1,50	0,00	0,00	94,62
WEA S11	5.914	5.915	**11,93**	105,5	0,00	86,44	8,64	-1,50	0,00	0,00	93,58
WEA S12	5.558	5.559	**12,71**	105,5	0,00	85,90	8,40	-1,50	0,00	0,00	92,80
WEA S21	7.502	7.502	**3,92**	103,5	0,00	88,50	12,57	-1,50	0,00	0,00	99,57
WEA S22	8.418	8.419	**2,36**	103,5	0,00	89,50	13,13	-1,50	0,00	0,00	101,14
WEA S23	6.820	6.821	**5,21**	103,5	0,00	87,68	12,11	-1,50	0,00	0,00	98,29
WEA S24	6.182	6.183	**6,52**	103,5	0,00	86,82	11,65	-1,50	0,00	0,00	96,97
WEA S25	5.829	5.830	**7,31**	103,5	0,00	86,31	11,38	-1,50	0,00	0,00	96,19
WEA SV28	5.597	5.597	**10,27**	105,4	0,00	85,96	10,67	-1,50	0,00	0,00	95,13
WEA SV29	5.894	5.895	**9,55**	105,4	0,00	86,41	10,94	-1,50	0,00	0,00	95,85
WEA SV31	3.318	3.320	**17,44**	105,4	0,00	81,42	8,04	-1,50	0,00	0,00	87,96
WEA SV32	2.733	2.735	**22,83**	107,0	0,00	79,74	5,92	-1,50	0,00	0,00	84,16
WEA SV33	2.258	2.260	**25,21**	107,0	0,00	78,08	5,20	-1,50	0,00	0,00	81,78
WEA SV34	1.212	1.216	**32,44**	107,0	0,00	72,70	3,36	-1,50	0,00	0,00	74,55
WEA SV35	5.854	5.855	**13,34**	106,6	0,00	86,35	8,45	-1,50	0,00	0,00	93,30
WEA_G14	5.035	5.035	**13,40**	105,0	0,00	85,04	8,02	-1,50	0,00	0,00	91,56
WEA_G15	4.256	4.258	**15,48**	105,0	0,00	83,58	7,39	-1,50	0,00	0,00	89,48
WEA_G16	3.643	3.645	**18,39**	106,2	0,00	82,23	7,03	-1,50	0,00	0,00	87,76
WEA_G17	2.923	2.926	**19,03**	106,0	0,00	80,32	8,19	-1,50	0,00	0,00	87,01
WEA_G18	1.842	1.845	**25,45**	105,0	0,00	76,32	4,68	-1,50	0,00	0,00	79,50
WEA_G19	1.426	1.429	**28,35**	105,0	0,00	74,10	4,01	-1,50	0,00	0,00	76,61
Sum			**36,42**								

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

Noise sensitive area: IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	4.557	4.558	**5,58**	96,3	0,00	84,18	8,06	-1,50	0,00	0,00	90,73
WEA 02	4.739	4.740	**5,05**	96,3	0,00	84,52	8,25	-1,50	0,00	0,00	91,26
WEA 03	4.973	4.975	**4,38**	96,3	0,00	84,94	8,49	-1,50	0,00	0,00	91,92
WEA DK01	1.164	1.167	**22,60**	96,3	0,00	72,34	2,84	-1,50	0,00	0,00	73,68
WEA DK02	1.546	1.549	**19,53**	96,3	0,00	74,80	3,45	-1,50	0,00	0,00	76,75
WEA DK03	1.933	1.935	**17,04**	96,3	0,00	76,73	4,01	-1,50	0,00	0,00	79,24
WEA DK04	2.321	2.322	**14,57**	96,0	0,00	78,32	4,56	-1,50	0,00	0,00	81,38
WEA DK05	2.710	2.712	**12,81**	96,0	0,00	79,66	5,01	-1,50	0,00	0,00	83,17
WEA DK06	3.100	3.102	**11,19**	96,0	0,00	80,83	5,46	-1,50	0,00	0,00	84,79
WEA GBW20	4.933	4.934	**14,41**	106,2	0,00	84,86	8,38	-1,50	0,00	0,00	91,74
WEA GBW27	2.595	2.597	**22,65**	106,2	0,00	79,29	5,72	-1,50	0,00	0,00	83,50
WEA GBW28	2.976	2.978	**20,95**	106,2	0,00	80,48	6,22	-1,50	0,00	0,00	85,20
WEA GBW29	3.313	3.315	**19,60**	106,2	0,00	81,41	6,64	-1,50	0,00	0,00	86,55
WEA GBW30	3.601	3.602	**18,54**	106,2	0,00	82,13	6,98	-1,50	0,00	0,00	87,61
WEA GBW31	3.886	3.888	**17,55**	106,2	0,00	82,79	7,31	-1,50	0,00	0,00	88,60
WEA GBW32	4.199	4.200	**16,54**	106,2	0,00	83,47	7,64	-1,50	0,00	0,00	89,61
WEA GBW33	2.656	2.659	**22,36**	106,2	0,00	79,49	5,80	-1,50	0,00	0,00	83,79
WEA S01	2.138	2.140	**23,24**	104,2	0,00	77,61	4,86	-1,50	0,00	0,00	80,97
WEA S02	2.214	2.216	**22,84**	104,2	0,00	77,91	4,96	-1,50	0,00	0,00	81,37
WEA S03	1.730	1.732	**24,96**	104,5	0,00	75,77	5,22	-1,50	0,00	0,00	79,49
WEA S04	1.744	1.746	**25,57**	104,2	0,00	75,84	4,30	-1,50	0,00	0,00	78,64
WEA S05	1.379	1.383	**28,18**	104,2	0,00	73,81	3,72	-1,50	0,00	0,00	76,04
WEA S06	1.304	1.307	**28,79**	104,2	0,00	73,33	3,60	-1,50	0,00	0,00	75,42
WEA S07	1.078	1.082	**30,84**	104,2	0,00	71,69	3,19	-1,50	0,00	0,00	73,37
WEA S08	968	972	**31,99**	104,2	0,00	70,75	2,97	-1,50	0,00	0,00	72,22
WEA S09	1.096	1.100	**30,66**	104,2	0,00	71,83	3,22	-1,50	0,00	0,00	73,55
WEA S10	1.385	1.388	**28,13**	104,2	0,00	73,85	3,73	-1,50	0,00	0,00	76,09
WEA S11	2.675	2.677	**20,63**	104,2	0,00	79,55	5,53	-1,50	0,00	0,00	83,58
WEA S12	3.001	3.002	**19,26**	104,2	0,00	80,55	5,90	-1,50	0,00	0,00	84,95
WEA S21	793	798	**31,27**	103,0	0,00	69,04	4,15	-1,50	0,00	0,00	71,70
WEA S22	1.851	1.853	**21,56**	103,0	0,00	76,36	6,55	-1,50	0,00	0,00	81,40
WEA S23	1.366	1.369	**25,15**	103,0	0,00	73,73	5,59	-1,50	0,00	0,00	77,81
WEA S24	2.677	2.679	**17,04**	103,0	0,00	79,56	7,87	-1,50	0,00	0,00	85,93
WEA S25	2.948	2.950	**15,83**	103,0	0,00	80,40	8,24	-1,50	0,00	0,00	87,14
WEA SV28	1.728	1.731	**24,69**	103,8	0,00	75,76	4,82	-1,50	0,00	0,00	79,08
WEA SV29	1.431	1.434	**26,90**	103,8	0,00	74,13	4,23	-1,50	0,00	0,00	76,87
WEA SV31	4.014	4.015	**13,93**	103,8	0,00	83,07	8,27	-1,50	0,00	0,00	89,85
WEA SV32	4.681	4.683	**15,52**	106,8	0,00	84,41	8,36	-1,50	0,00	0,00	91,27
WEA SV33	5.206	5.207	**13,76**	106,8	0,00	85,33	9,16	-1,50	0,00	0,00	92,99
WEA SV34	6.404	6.405	**11,11**	106,8	0,00	87,13	10,06	-1,50	0,00	0,00	95,69
WEA SV35	1.798	1.800	**23,36**	102,0	0,00	76,11	4,02	-1,50	0,00	0,00	78,63
WEA_G14	2.289	2.291	**22,37**	104,1	0,00	78,20	4,99	-1,50	0,00	0,00	81,69
WEA_G15	3.068	3.070	**19,52**	104,6	0,00	80,74	5,83	-1,50	0,00	0,00	85,07
WEA_G16	3.685	3.686	**18,24**	106,2	0,00	82,33	7,08	-1,50	0,00	0,00	87,91
WEA_G17	4.418	4.419	**13,20**	106,0	0,00	83,91	10,44	-1,50	0,00	0,00	92,85
WEA_G18	5.581	5.582	**11,60**	104,1	0,00	85,94	8,03	-1,50	0,00	0,00	92,47
WEA_G19	6.033	6.034	**10,62**	104,1	0,00	86,61	8,34	-1,50	0,00	0,00	93,45
Sum			**40,73**								

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA 01	4.557	4.558	**13,71**	104,4	0,00	84,18	8,06	-1,50	0,00	0,00	90,73
WEA 02	4.739	4.740	**13,18**	104,4	0,00	84,52	8,25	-1,50	0,00	0,00	91,26
WEA 03	4.973	4.975	**12,52**	104,4	0,00	84,94	8,49	-1,50	0,00	0,00	91,92
WEA DK01	1.164	1.167	**26,67**	101,2	0,00	72,34	3,68	-1,50	0,00	0,00	74,52
WEA DK02	1.546	1.549	**23,31**	101,2	0,00	74,80	4,57	-1,50	0,00	0,00	77,87
WEA DK03	1.933	1.935	**20,55**	101,2	0,00	76,73	5,40	-1,50	0,00	0,00	80,63
WEA DK04	2.321	2.322	**20,26**	102,2	0,00	78,32	5,10	-1,50	0,00	0,00	81,92
WEA DK05	2.710	2.712	**18,32**	102,2	0,00	79,66	5,70	-1,50	0,00	0,00	83,87
WEA DK06	3.100	3.102	**16,59**	102,2	0,00	80,83	6,26	-1,50	0,00	0,00	85,60
WEA GBW20	4.933	4.934	**14,41**	106,2	0,00	84,86	8,38	-1,50	0,00	0,00	91,74

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG)**Noise calculation model:** Danish 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
WEA GBW27	2.595	2.597	**22,65**	106,2	0,00	79,29	5,72	-1,50	0,00	0,00	83,50
WEA GBW28	2.976	2.978	**20,95**	106,2	0,00	80,48	6,22	-1,50	0,00	0,00	85,20
WEA GBW29	3.313	3.315	**19,60**	106,2	0,00	81,41	6,64	-1,50	0,00	0,00	86,55
WEA GBW30	3.601	3.602	**18,54**	106,2	0,00	82,13	6,98	-1,50	0,00	0,00	87,61
WEA GBW31	3.886	3.888	**17,55**	106,2	0,00	82,79	7,31	-1,50	0,00	0,00	88,60
WEA GBW32	4.199	4.200	**16,54**	106,2	0,00	83,47	7,64	-1,50	0,00	0,00	89,61
WEA GBW33	2.656	2.659	**22,36**	106,2	0,00	79,49	5,80	-1,50	0,00	0,00	83,79
WEA S01	2.138	2.140	**24,30**	105,5	0,00	77,61	5,10	-1,50	0,00	0,00	81,21
WEA S02	2.214	2.216	**23,90**	105,5	0,00	77,91	5,20	-1,50	0,00	0,00	81,61
WEA S03	1.730	1.732	**27,52**	107,0	0,00	75,77	5,20	-1,50	0,00	0,00	79,47
WEA S04	1.744	1.746	**26,64**	105,5	0,00	75,84	4,53	-1,50	0,00	0,00	78,87
WEA S05	1.379	1.383	**29,27**	105,5	0,00	73,81	3,93	-1,50	0,00	0,00	76,24
WEA S06	1.304	1.307	**29,89**	105,5	0,00	73,33	3,79	-1,50	0,00	0,00	75,62
WEA S07	1.078	1.082	**31,95**	105,5	0,00	71,69	3,37	-1,50	0,00	0,00	73,56
WEA S08	968	972	**33,11**	105,5	0,00	70,75	3,14	-1,50	0,00	0,00	72,40
WEA S09	1.096	1.100	**31,78**	105,5	0,00	71,83	3,40	-1,50	0,00	0,00	73,73
WEA S10	1.385	1.388	**29,22**	105,5	0,00	73,85	3,94	-1,50	0,00	0,00	76,29
WEA S11	2.675	2.677	**21,67**	105,5	0,00	79,55	5,79	-1,50	0,00	0,00	83,84
WEA S12	3.001	3.002	**20,30**	105,5	0,00	80,55	6,16	-1,50	0,00	0,00	85,21
WEA S21	793	798	**31,67**	103,5	0,00	69,04	4,28	-1,50	0,00	0,00	71,82
WEA S22	1.851	1.853	**21,88**	103,5	0,00	76,36	6,76	-1,50	0,00	0,00	81,62
WEA S23	1.366	1.369	**25,50**	103,5	0,00	73,73	5,78	-1,50	0,00	0,00	78,00
WEA S24	2.677	2.679	**17,35**	103,5	0,00	79,56	8,09	-1,50	0,00	0,00	86,15
WEA S25	2.948	2.950	**16,14**	103,5	0,00	80,40	8,46	-1,50	0,00	0,00	87,36
WEA SV28	1.728	1.731	**25,77**	105,4	0,00	75,76	5,37	-1,50	0,00	0,00	79,63
WEA SV29	1.431	1.434	**28,03**	105,4	0,00	74,13	4,74	-1,50	0,00	0,00	77,37
WEA SV31	4.014	4.015	**14,87**	105,4	0,00	83,07	8,95	-1,50	0,00	0,00	90,53
WEA SV32	4.681	4.683	**15,72**	107,0	0,00	84,41	8,36	-1,50	0,00	0,00	91,27
WEA SV33	5.206	5.207	**14,24**	107,0	0,00	85,33	8,92	-1,50	0,00	0,00	92,75
WEA SV34	6.404	6.405	**11,31**	107,0	0,00	87,13	10,06	-1,50	0,00	0,00	95,69
WEA SV35	1.798	1.800	**28,55**	106,6	0,00	76,11	3,48	-1,50	0,00	0,00	78,09
WEA_G14	2.289	2.291	**22,94**	105,0	0,00	78,20	5,31	-1,50	0,00	0,00	82,01
WEA_G15	3.068	3.070	**19,47**	105,0	0,00	80,74	6,25	-1,50	0,00	0,00	85,49
WEA_G16	3.685	3.686	**18,24**	106,2	0,00	82,33	7,08	-1,50	0,00	0,00	87,91
WEA_G17	4.418	4.419	**13,59**	106,0	0,00	83,91	10,04	-1,50	0,00	0,00	92,45
WEA_G18	5.581	5.582	**12,11**	105,0	0,00	85,94	8,41	-1,50	0,00	0,00	92,84
WEA_G19	6.033	6.034	**11,13**	105,0	0,00	86,61	8,71	-1,50	0,00	0,00	93,82
Sum			**41,97**								

13.13 Noise map for total noise impact (existing & planned WTG's), 6 m/s

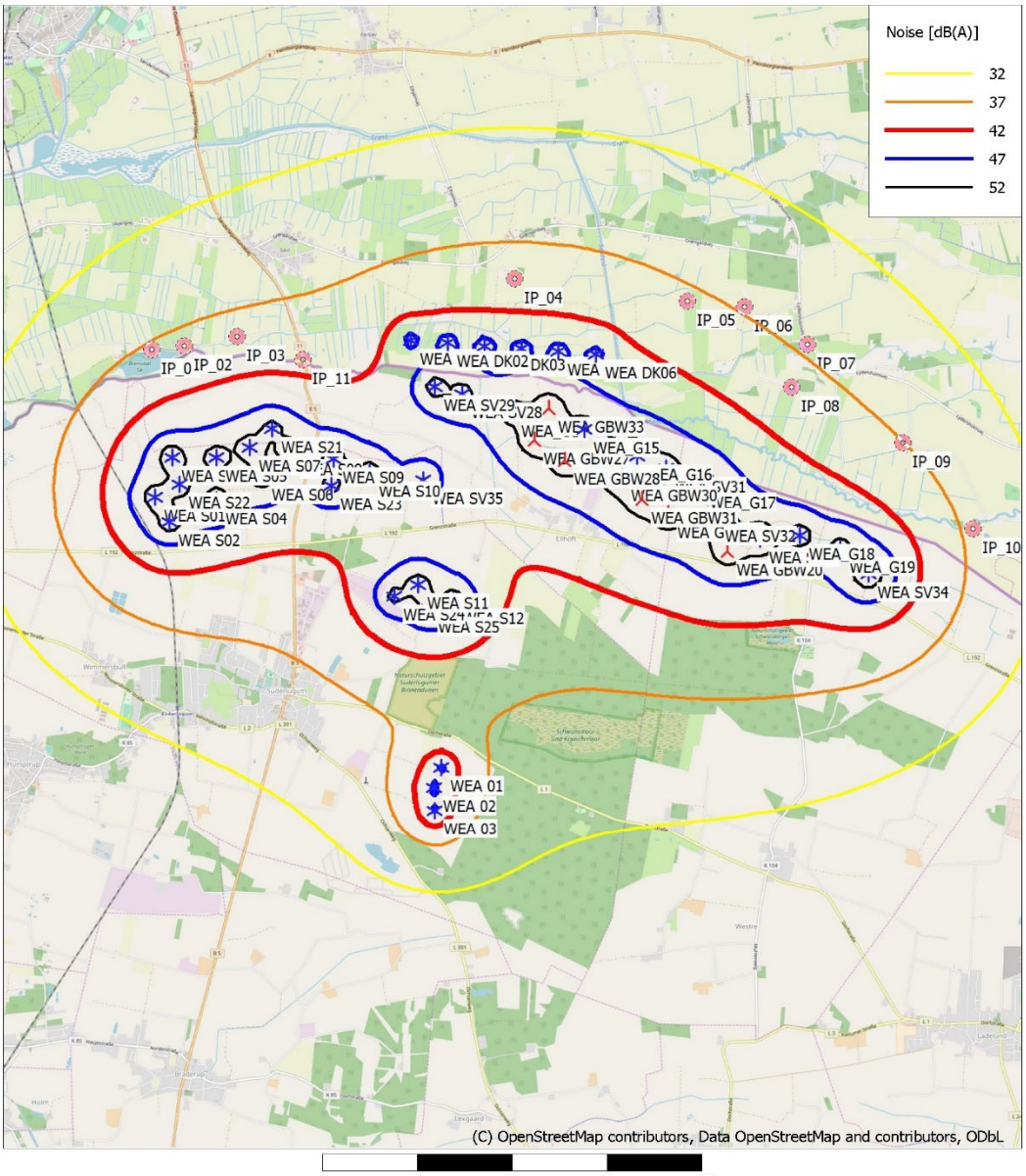
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Map 6,0 m/s

Calculation: Total Impact (Existing and planned WTG)



Map: EMD OpenStreetMap , Print scale 1:60.000, Map center UTM (north)-ETRS89 Zone: 32 East: 496.437 North: 6.081.826

New WTG Existing WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 6,0 m/s
Height above sea level from active line object

13.14 Noise map for total noise impact (existing & planned WTG's), 8 m/s

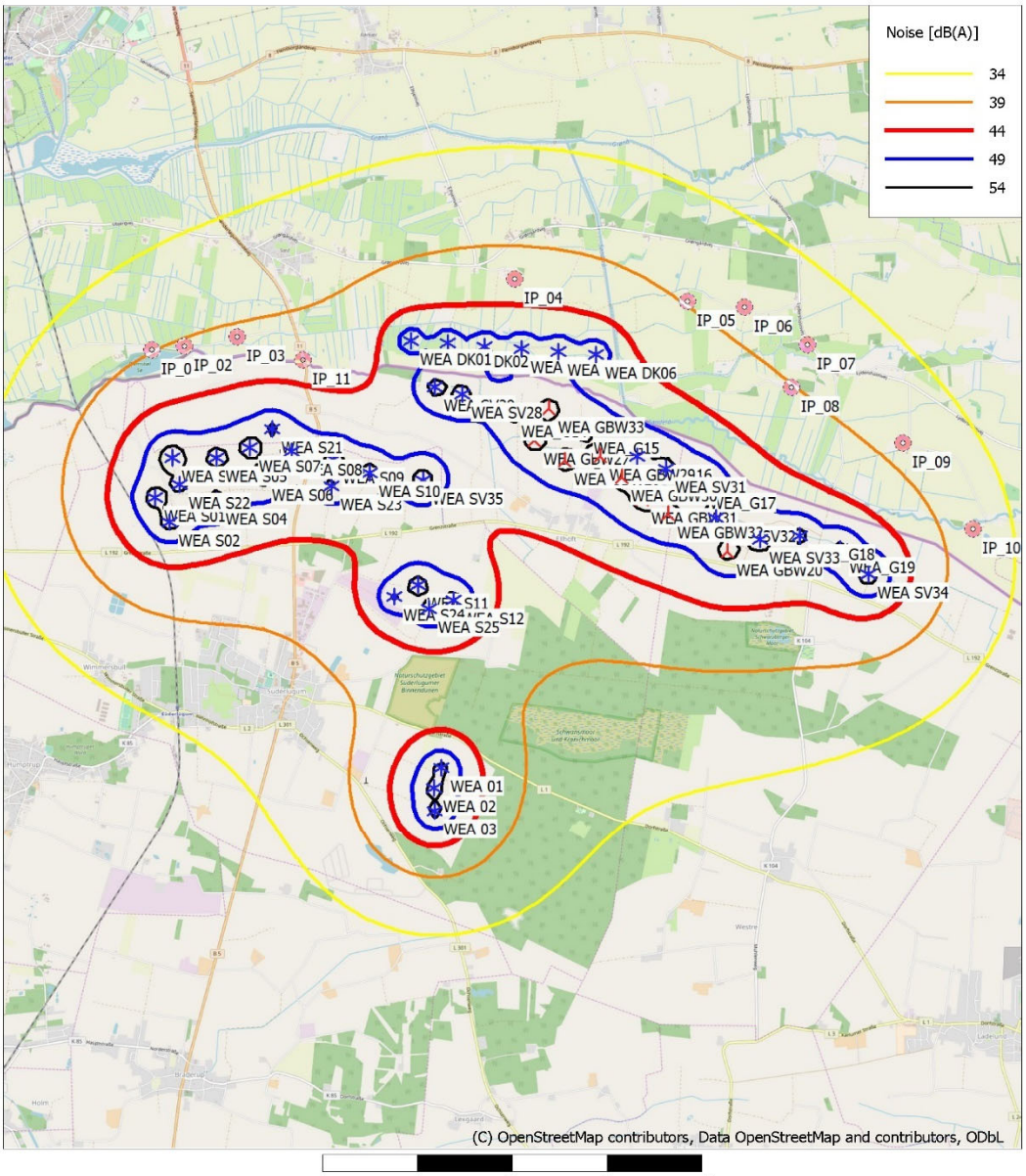
Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Map 8,0 m/s

Calculation: Total Impact (Existing and planned WTG)



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:60.000, Map center UTM (north)-ETRS89 Zone: 32 East: 496.437 North: 6.081.826

New WTG Existing WTG Noise sensitive area

Noise calculation model: Danish 2019. Wind speed: 8,0 m/s
Height above sea level from active line object

13.15 Assumptions for calculation (existing & planned WTG's)

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:16/3.5.584

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)

Noise calculation model:
Danish 2019
Wind speed (in 10 m height):
6,0 m/s - 8,0 m/s, Schritt 2,0 m/s
Terrain reduction:
-1.5 dB(A) Onshore
-3 dB(A) Offshore
Meteorological coefficient, C0:
0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Pure tones penalty is added to total noise impact at receptors
Noise sensitive area
Height above ground level, when no value in NSA object:
1,5 m; Don't allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in NSA has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)
Octave data required
Frequency dependent air absorption

63	125	250	500	1.000	2.000	4.000	8.000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0,11	0,38	1,02	2,00	3,60	8,80	29,00	104,50

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTG: NORDEX N133/4.8 4800 133.0 !O!
Noise: N133/4.8MW (STE) Mode 0

Source	Source/Date	Creator	Edited
Nordex Dok.: F008_272_A19_IN	13.01.2022	USER	30.08.2022 15:10

Daten für WEA-Konfiguration mit STE im Mode 0 zzgl. 1,7 dB Herstellerunsicherheit

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	6,0	106,2	No	87,9	94,9	98,7	99,6	100,1	98,8	94,5	85,3
From Windcat	8,0	106,2	No	87,9	94,9	98,7	99,6	100,1	98,8	94,5	85,3

WTG: Siemens SWT-2.3-93 2300 92.6 !O!
Noise: Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)

Source	Source/Date	Creator	Edited
SIEMENS Rev.4	27.04.2016	EMD	02.05.2016 13:18

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From other hub height	93,0	6,0	103,8	No	82,0	92,0	94,5	97,8	98,3	96,7	92,3	80,4
From other hub height	93,0	8,0	105,4	No	85,2	92,9	94,9	98,7	100,1	99,2	95,0	82,4

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)
WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S32 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb, Oktaven aus 10264960-A-3-A skaliert

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	100,0	6,0	106,8	No	86,5	94,9	99,1	101,3	100,8	98,8	94,8	-999,0
Individual	100,0	8,0	107,0	No	86,7	95,1	99,3	101,5	101,0	99,0	95,0	-999,0

WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S33 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb
Oktaven aus 10264960-A-3-A skaliert

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	100,0	6,0	106,8	No	68,5	94,9	99,1	101,3	100,8	98,8	94,8	-999,0
Individual	100,0	8,0	107,0	No	86,7	95,1	99,3	101,5	101,0	99,0	95,0	-999,0

WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S34 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb
Oktaven 10264960-A-3-A skaliert

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	100,0	6,0	106,8	No	86,5	94,9	99,1	101,3	100,8	98,8	94,8	-999,0
Individual	100,0	8,0	107,0	No	86,7	95,1	99,3	101,5	101,0	99,0	95,0	-999,0

WTG: ENERCON E-101 3000 101.0 !-!
Noise: WEA S35 Enercon E-101

Source	Source/Date	Creator	Edited
101264960-A-3-A	26.11.2021	USER	11.12.2020 07:20

6 m/s, 7 m/s: ENERCON Dok. ID: D0467531-0

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	99,0	6,0	102,0	No	82,2	88,9	94,5	97,8	96,1	92,2	84,4	66,3
Individual	99,0	8,0	106,6	No	87,5	94,9	100,8	102,3	99,8	95,3	87,3	-999,0

WTG: Siemens SWT-3.0-113 3000 113.0 !O!
Noise: Level 0 - Calculated - Std. 105.5dB - 04-2016

Source	Source/Date	Creator	Edited
Manufacturer	26.04.2016	EMD	27.07.2016 14:05

Noise Curve Rev. 0
Siemens Wind Power and its affiliates reserve the right to change the above specifications without prior notice.

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	92,5	6,0	104,2	No	90,1	93,7	96,7	96,8	97,8	96,9	93,7	84,5
From Windcat	92,5	8,0	105,5	No	92,2	94,2	97,5	97,9	99,3	98,5	95,4	86,3

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)
WTG: Siemens SWT-3.0-101 3000 101.0 !O!
Noise: Level 0 - Calculated - Std. 107dB - 4-2016 rev4

Source	Source/Date	Creator	Edited
Siemens Rev. 4.	26.04.2016	EMD	11.05.2016 14:27

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	79,5	6,0	104,5	No	86,0	90,2	94,9	97,2	100,2	97,7	92,2	78,2
From Windcat	79,5	8,0	107,0	No	87,4	93,8	97,7	99,5	102,5	100,6	94,5	80,9

WTG: VESTAS V112-3.3 Gridstreame 3300 112.0 !O!
Noise: WEA01 bis WEA 03 Vestas V112/3.3WM

Source	Source/Date	Creator	Edited
10264960-A-3-A genehmigter max. LWA 104,4dB(A) für den Tagbetrieb	26.11.2021	USER	26.11.2021 11:18

						Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones		63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	94,0	6,0	96,3	No	From nearest other wind speed	75,3	85,4	88,6	90,3	91,3	87,8	82,3	68,3
Individual	94,0	8,0	104,4	No		83,4	93,5	96,7	98,4	99,4	95,9	90,4	76,4

WTG: VESTAS V112-3.3 Gridstreame 3300 112.0 !O!
Noise: WEA01 bis WEA 03 Vestas V112/3.3WM

Source	Source/Date	Creator	Edited
10264960-A-3-A genehmigter max. LWA 104,4dB(A) für den Tagbetrieb	26.11.2021	USER	26.11.2021 11:18

						Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones		63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	94,0	6,0	96,3	No	From nearest other wind speed	75,3	85,4	88,6	90,3	91,3	87,8	82,3	68,3
Individual	94,0	8,0	104,4	No		83,4	93,5	96,7	98,4	99,4	95,9	90,4	76,4

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK01 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-1-A Mode SO1	26.11.2021	USER	26.11.2021 11:26

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,3	No	79,1	85,9	90,6	89,6	89,1	88,3	83,4	68,0
Individual	8,0	101,2	No	82,7	89,6	59,3	96,6	96,6	93,7	87,4	69,5

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)
WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK02 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 12:54

Mode SO1

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,3	No	79,1	85,9	90,6	89,6	89,1	88,3	83,4	68,0
Individual	8,0	101,2	No	82,7	89,6	59,3	96,6	96,6	93,7	87,4	69,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK03 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 12:54

Mode SO1

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,3	No	79,1	85,9	90,6	89,6	89,1	88,3	83,4	68,0
Individual	8,0	101,2	No	82,7	89,6	59,3	96,6	96,6	93,7	87,4	69,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK04 Vestas V126/3.45MW Mode 0

Source	Source/Date	Creator	Edited
10264960-A-1-A	26.11.2021	USER	26.11.2021 11:26

Mode 0

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,0	No	78,8	85,3	90,3	89,3	88,8	88,0	83,1	67,8
Individual	8,0	102,2	No	82,5	89,4	95,2	96,7	96,7	93,6	87,2	69,2

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK05 Vestas V126/3.45MW Mode PO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 13:00

Mode PO1

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,0	No	78,8	85,6	90,3	89,3	88,8	88,0	83,1	67,8
Individual	8,0	102,2	No	82,5	89,4	95,2	96,7	96,7	93,6	87,2	69,2

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK06 Vestas V126/3.45MW Mode PO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 13:00

Mode PO1

				Octave data							
Status	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Individual	6,0	96,0	No	78,8	85,6	90,3	89,3	88,8	88,0	83,1	67,8
Individual	8,0	102,2	No	82,5	89,4	95,2	96,7	96,7	93,6	87,2	69,2

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)
WTG: Siemens SWT-3.2-113 2A 3200 113.0 !O!
Noise: Level 1 - Calculated - -1dB - 04-2016

Source	Source/Date	Creator	Edited
Manufacturer	26.04.2016	EMD	23.05.2016 10:15

Noise Curve Rev. 0.
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					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	115,0	6,0	104,6	No	91,0	94,5	97,0	97,1	98,1	97,3	93,9	84,7
From Windcat	92,5	6,0	104,1	No	90,3	93,8	96,5	96,6	97,6	96,8	93,4	84,1
From Windcat	115,0	8,0	105,0	No	91,5	94,0	96,7	97,3	98,9	98,0	94,6	85,7
From Windcat	92,5	8,0	105,0	No	91,5	94,0	96,7	97,3	98,9	98,0	94,6	85,7

WTG: Siemens SWT-DD-130 4300 130.0 !O!
Noise: Mode 2 - Calculated - -1dB rev1- 06-2018

Source	Source/Date	Creator	Edited
Manufacturer	11.06.2018	EMD	11.06.2018 10:27

Noise Curve Rev. 1.
Siemens Wind Power and its affiliates reserve the right to change the above specifications without prior notice.

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	115,0	6,0	106,0	No	85,1	92,3	95,1	97,7	100,3	101,1	97,2	84,1
From Windcat	115,0	8,0	106,0	No	88,6	92,9	94,3	97,6	100,7	100,8	97,0	84,9

WTG: NORDEX N117/3600 3600 116.8 !O!
Noise: Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01

Source	Source/Date	Creator	Edited
NORDEX F008_256_A19_R01	24.01.2020	USER	25.11.2021 14:34

					Octave data							
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	91,0	6,0	103,0	No	83,4	89,6	93,3	93,9	96,0	97,0	96,6	87,1
From Windcat	91,0	8,0	103,5	No	84,2	90,4	93,3	93,8	96,6	98,0	97,0	87,7

Noise sensitive area: IP_01 IP 01 Bremsbolvej 2 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_02 IP 02 Bremsbolvej 3 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)

Noise sensitive area: IP_03 IP 03 Bremsbolvej (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_04 IP 04 Sændholm (1) (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_05 IP 05 Karlsminde (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_06 IP 06 Karlsmindevej 1 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_07 IP 07 Lydersholmvej 13 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_08 IP 08 Vindvedvej (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG)

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_09 IP 09 Hovmosevej 1 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_10 IP 10 Hovmosevej 15 (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

Noise sensitive area: IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)

Predefined calculation standard: Offenes Land
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
42,0 dB(A)	44,0 dB(A)

No distance demand
Pure tone penalty: 0 dB

13.16 Main result for the preload (existing WTG's), low frequency noise

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:20/3.5.584

DECIBEL - Main Result

Calculation: Preload (existing WTG) - low frequency

Noise calculation model:
Danish low frequency 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner
Den lavfrekvente støj beregnes indendøre og må ikke overstige 20 dB ved vindhastigheder på 6 og 8 m/s i 10 m højde

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef		Last wind speed	LwaRef	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]		[m/s]	[dB(A)]	
WEA 01	495.686	6.079.791	10,0	WEA 01 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9	a	8,0	95,2	a
WEA 02	495.610	6.079.576	12,4	WEA 02 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9	a	8,0	95,2	a
WEA 03	495.624	6.079.335	15,0	WEA 03 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9	a	8,0	95,2	a
WEA DK01	495.371	6.084.317	1,4	WEA DK01 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK01 Vestas V126/3.45MW Mode SO1	6,0	92,9	a	8,0	95,2	a
WEA DK02	495.762	6.084.286	1,9	WEA DK02 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK02 Vestas V126/3.45MW Mode SO1	6,0	92,9	a	8,0	95,2	a
WEA DK03	496.153	6.084.255	2,5	WEA DK03 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK03 Vestas V126/3.45MW Mode SO1	6,0	92,9	a	8,0	95,2	a
WEA DK04	496.544	6.084.224	2,5	WEA DK04 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK04 Vestas V126/3.45MW Mode 0	6,0	92,9	a	8,0	95,2	a
WEA DK05	496.935	6.084.193	2,5	WEA DK05 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK05 Vestas V126/3.45MW Mode PO1	6,0	92,9	a	8,0	95,2	a
WEA DK06	497.326	6.084.162	2,8	WEA DK06 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK06 Vestas V126/3.45MW Mode PO1	6,0	92,9	a	8,0	95,2	a
WEA S01	492.658	6.082.655	2,5	WEA S01 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S02	492.814	6.082.403	3,0	WEA S02 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S03	492.838	6.083.076	2,1	WEA S03 Siemens SWT 3.0 MW-101	Yes	Siemens	SWT-3.0-101-3.000	3.000	101,0	79,5	EMD	Level 0 - Calculated - Std. 107dB - 4-2016 rev4	6,0	91,7		8,0	94,8	
WEA S04	493.311	6.082.624	2,8	WEA S04 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S05	493.310	6.083.077	2,1	WEA S05 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S06	493.800	6.082.876	2,4	WEA S06 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S07	493.664	6.083.188	1,9	WEA S07 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S08	494.108	6.083.148	1,9	WEA S08 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S09	494.553	6.083.062	2,5	WEA S09 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S10	494.932	6.082.916	3,2	WEA S10 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S11	495.444	6.081.727	4,4	WEA S11 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S12	495.821	6.081.567	4,7	WEA S12 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3		8,0	96,5	
WEA S21	493.902	6.083.384	1,5	WEA S21 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A) octave - F008 256 A19 R01	6,0	92,9	a	8,0	95,2	a
WEA S22	492.923	6.082.793	2,5	WEA S22 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A) octave - F008 256 A19 R01	6,0	92,9	a	8,0	95,2	a
WEA S23	494.523	6.082.775	3,2	WEA S23 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A) octave - F008 256 A19 R01	6,0	92,9	a	8,0	95,2	a
WEA S24	495.187	6.081.609	4,5	WEA S24 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A) octave - F008 256 A19 R01	6,0	92,9	a	8,0	95,2	a
WEA S25	495.560	6.081.479	4,6	WEA S25 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A) octave - F008 256 A19 R01	6,0	92,9	a	8,0	95,2	a
WEA SV28	495.915	6.083.742	2,5	WEA S28 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4	f	8,0	93,7	f
WEA SV29	495.628	6.083.820	1,8	WEA S29 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4	f	8,0	93,7	f
WEA SV31	498.071	6.082.956	4,4	WEA S31 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4	f	8,0	93,7	f
WEA SV32	498.597	6.082.432	4,9	WEA S32 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S32 REpower 6M	6,0	92,9	a	8,0	95,2	a
WEA SV33	499.073	6.082.208	5,0	WEA S33 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S33 REpower 6M	6,0	92,9	a	8,0	95,2	a
WEA SV34	500.215	6.081.841	5,0	WEA S34 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S34 REpower 6M	6,0	92,9	a	8,0	95,2	a
WEA SV35	495.497	6.082.837	3,3	WEA S35 Enercon E-101	No	ENERCON	E-101-3.000	3.000	101,0	99,0	USER	WEA S35 Enercon E-101	6,0	92,9	a	8,0	95,2	a
WEA_G14	496.446	6.083.550	2,5	WEA 14 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4		8,0	96,0	
WEA_G15	497.204	6.083.372	2,9	WEA 15 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	115,0	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	96,1		8,0	96,0	
WEA_G16	497.767	6.083.089	4,3	WEA 16 Nordex N133/4.8 MW STE	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9	a	8,0	95,2	a
WEA_G17	498.443	6.082.792	4,6	WEA 17 Siemens SWT DD-130 4.3 MW	Yes	Siemens	SWT-DD-130-4.300	4.300	130,0	115,0	EMD	Mode 2 - Calculated - -1dB rev1- 06-2018	6,0	92,9	a	8,0	95,2	a
WEA_G18	499.487	6.082.246	5,0	WEA 18 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4		8,0	96,0	
WEA_G19	499.918	6.082.108	5,0	WEA 19 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4		8,0	96,0	

f) From other hub height
a) Generic data based on turbine power (very uncertain)

Calculation Results

Sound level

Noise sensitive area

No.	Name	Easting	Northing	Z	Immission height	Wind speed	Demands Noise	Sound level From WTGs	Demands fulfilled ? Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	20,0	14,9	Yes
IP_01						8,0	20,0	16,8	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	20,0	15,6	Yes
IP_02						8,0	20,0	17,5	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	20,0	16,0	Yes
IP_03						8,0	20,0	17,9	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	20,0	16,8	Yes
IP_04						8,0	20,0	19,0	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	20,0	13,5	Yes
IP_05						8,0	20,0	15,5	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	20,0	12,2	Yes
IP_06						8,0	20,0	14,2	Yes
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	20,0	11,8	Yes
IP_07						8,0	20,0	13,7	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: Preload (existing WTG) - low frequency

...continued from previous page

Noise sensitive area							Demands	Sound level	Demands fulfilled ?
No.	Name	Easting	Northing	Z	Immission height	Wind speed	Noise	From WTGs	Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	20,0	13,2	Yes
IP_08						8,0	20,0	15,1	Yes
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	20,0	12,3	Yes
IP_09						8,0	20,0	14,0	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	20,0	11,2	Yes
IP_10						8,0	20,0	13,0	Yes
IP_11	IP 11 Sonderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	20,0	17,7	Yes
IP_11						8,0	20,0	19,6	Yes

Distances (m)

WTG	IP_01	IP_02	IP_03	IP_04	IP_05	IP_06	IP_07	IP_08	IP_09	IP_10	IP_11
WEA 01	5376	5216	5045	5223	5588	5839	5926	5482	5983	6183	4557
WEA 02	5513	5363	5210	5447	5813	6060	6139	5691	6170	6342	4739
WEA 03	5724	5581	5437	5683	6021	6256	6316	5864	6304	6437	4973
WEA DK01	2743	2393	1837	1274	2965	3553	4201	4069	5330	6283	1164
WEA DK02	3133	2783	2229	977	2584	3167	3810	3677	4941	5903	1546
WEA DK03	3523	3174	2621	770	2206	2784	3419	3286	4553	5525	1933
WEA DK04	3914	3565	3013	734	1834	2403	3028	2894	4165	5149	2321
WEA DK05	4305	3956	3405	890	1473	2027	2638	2503	3779	4775	2710
WEA DK06	4696	4348	3797	1163	1132	1658	2248	2112	3394	4406	3100
WEA S01	1560	1626	1912	4455	6017	6563	7099	6850	7949	8676	2138
WEA S02	1821	1854	2080	4462	5965	6498	7010	6744	7816	8514	2214
WEA S03	1157	1182	1456	4093	5713	6273	6838	6612	7750	8524	1730
WEA S04	1730	1659	1745	3929	5421	5955	6473	6213	7301	8023	1744
WEA S05	1325	1218	1297	3679	5263	5817	6374	6143	7278	8054	1379
WEA S06	1778	1600	1502	3387	4873	5410	5937	5687	6796	7548	1304
WEA S07	1457	1263	1174	3319	4892	5446	6005	5779	6923	7713	1078
WEA S08	1823	1577	1336	2977	4486	5032	5577	5343	6479	7267	968
WEA S09	2242	1972	1646	2697	4107	4638	5161	4914	6036	6815	1096
WEA S10	2643	2365	2006	2556	3830	4341	4832	4566	5663	6424	1385
WEA S11	3756	3527	3248	3388	4146	4539	4846	4481	5356	5914	2675
WEA S12	4146	3908	3606	3450	4020	4370	4621	4234	5045	5558	3001
WEA S21	1519	1265	1037	3013	4606	5165	5738	5524	6687	7502	793
WEA S22	1451	1457	1676	4157	5721	6269	6810	6566	7676	8418	1851
WEA S23	2378	2135	1863	2925	4258	4772	5264	4995	6080	6820	1366
WEA S24	3650	3442	3204	3584	4410	4812	5127	4763	5636	6182	2677
WEA S25	4008	3786	3517	3593	4253	4618	4884	4502	5321	5829	2948
WEA SV28	3319	2980	2459	1335	2587	3130	3694	3495	4701	5597	1728
WEA SV29	3024	2684	2161	1415	2829	3385	3969	3781	4995	5894	1431
WEA SV31	5585	5254	4748	2558	1785	1899	1992	1590	2530	3318	4014
WEA SV32	6228	5905	5416	3297	2312	2251	2077	1603	2141	2733	4681
WEA SV33	6748	6427	5940	3781	2631	2459	2117	1641	1822	2258	5206
WEA SV34	7948	7626	7138	4867	3458	3109	2508	2132	1431	1212	6404
WEA SV35	3181	2887	2481	2332	3386	3867	4318	4032	5105	5854	1798
WEA_G14	3873	3537	3021	1404	2202	2700	3207	2975	4154	5035	2289
WEA_G15	4651	4315	3799	1742	1746	2136	2531	2249	3386	4256	3068
WEA_G16	5259	4927	4418	2269	1723	1942	2154	1795	2823	3643	3685
WEA_G17	5984	5655	5152	2924	1938	1926	1856	1406	2187	2923	4418
WEA_G18	7134	6809	6315	4051	2745	2484	2021	1570	1471	1842	5581
WEA_G19	7586	7262	6768	4467	3073	2746	2185	1780	1299	1426	6033

13.17 Detailed result for the preload (existing WTG's), low frequency noise, graphic

Project:
WP Ellhöft

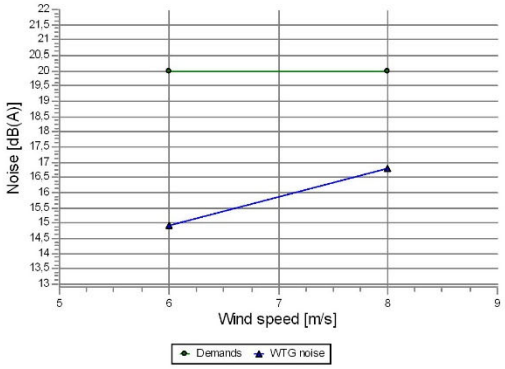
Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:20/3.5.584

DECIBEL - Detailed results, graphic

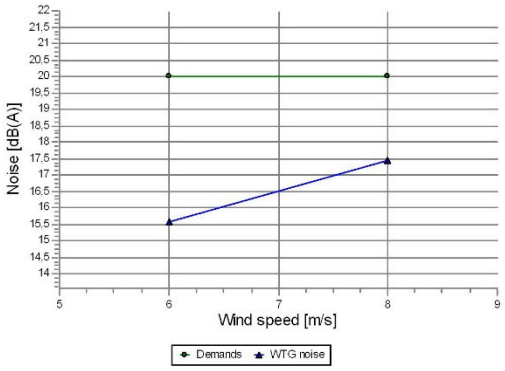
Calculation: Preload (existing WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

IP_01 IP 01 Bremsbolvej 2 (DK)



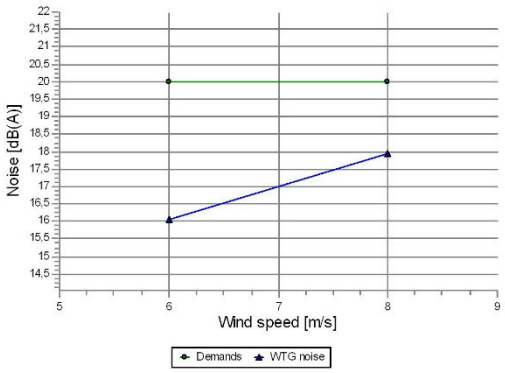
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	14,9	Yes
8,0	20,0	16,8	Yes

IP_02 IP 02 Bremsbolvej 3 (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	15,6	Yes
8,0	20,0	17,5	Yes

IP_03 IP 03 Bremsbolvej (DK)

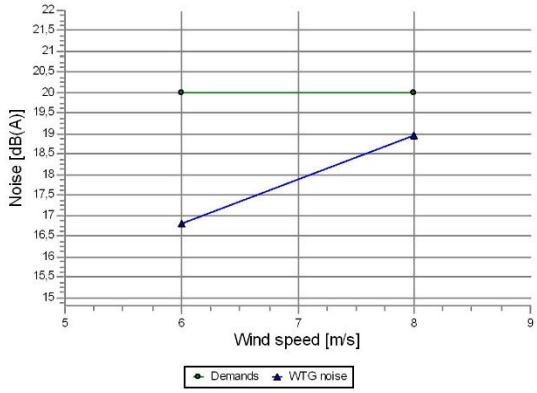


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	16,0	Yes
8,0	20,0	17,9	Yes

DECIBEL - Detailed results, graphic

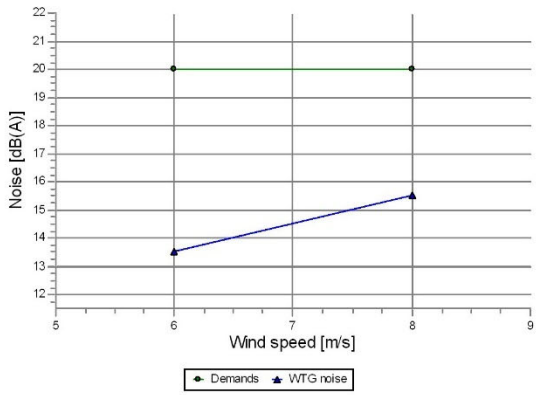
Calculation: Preload (existing WTG) - low frequency **Noise calculation model:** Danish low frequency 2019

IP_04 IP 04 Sændholm (1) (DK)



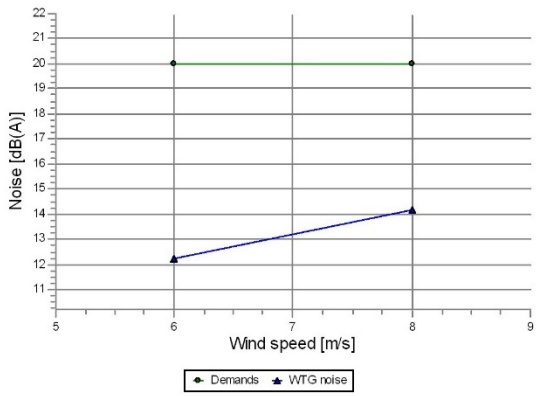
Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	16,8	Yes
8,0	20,0	19,0	Yes

IP_05 IP 05 Karlsminde (DK)



Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	13,5	Yes
8,0	20,0	15,5	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)

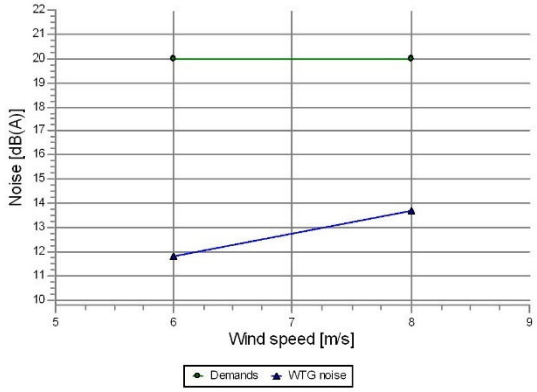


Wind speed [m/s]	Sound level Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	12,2	Yes
8,0	20,0	14,2	Yes

DECIBEL - Detailed results, graphic

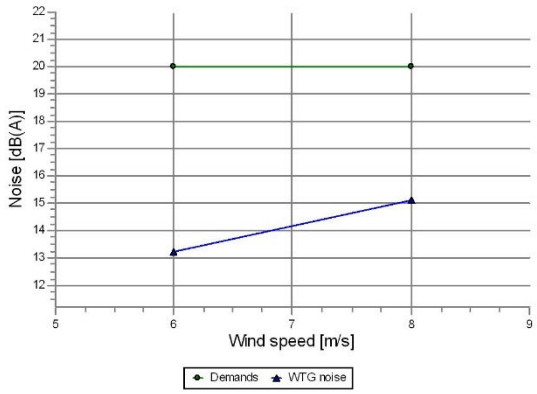
Calculation: Preload (existing WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



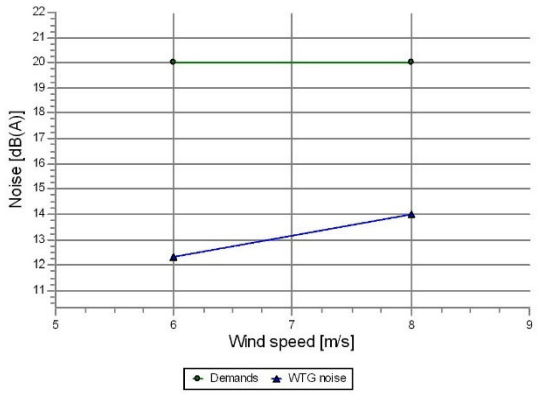
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	11,8	Yes
8,0	20,0	13,7	Yes

IP_08 IP 08 Vindvedvej (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	13,2	Yes
8,0	20,0	15,1	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

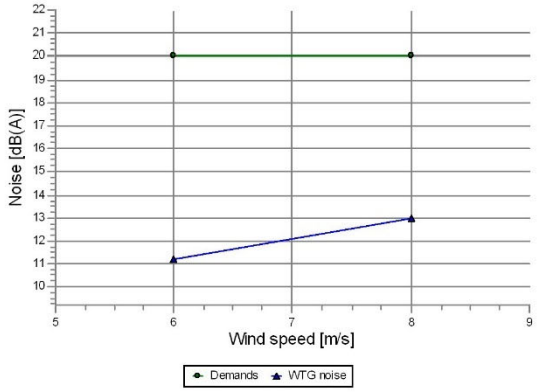


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	12,3	Yes
8,0	20,0	14,0	Yes

DECIBEL - Detailed results, graphic

Calculation: Preload (existing WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

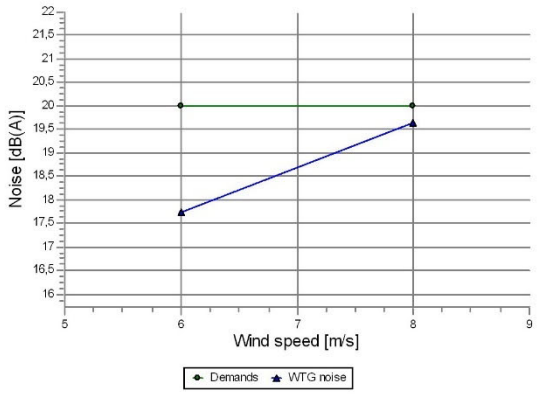
IP_10 IP 10 Hovmosevej 15 (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	11,2	Yes
8,0	20,0	13,0	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	17,7	Yes
8,0	20,0	19,6	Yes

13.18 Main result for the additional noise impact (planned WTG's), low frequency noise

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:21/3.5.584

DECIBEL - Main Result

Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency

Noise calculation model:
Danish low frequency 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner
Den lavfrekvente støj beregnes indendøre og må ikke overstige 20 dB ved vindhastigheder på 6 og 8 m/s i 10 m højde

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
WEA GBW20	498.724	6.082.083	5,0	WEA GBW20 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW27	496.676	6.083.254	3,1	WEA GBW27 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW28	497.003	6.083.037	3,7	WEA GBW28 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW29	497.378	6.083.087	3,8	WEA GBW29 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW30	497.605	6.082.864	4,5	WEA GBW30 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW31	497.822	6.082.634	4,6	WEA GBW31 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW32	498.094	6.082.475	4,8	WEA GBW32 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW33	496.832	6.083.593	2,5	WEA GBW33 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a

a) Generic data based on turbine power (very uncertain)

Calculation Results

Sound level

Noise sensitive area No.	Name	Easting	Northing	Z [m]	Immission height [m]	Wind speed [m/s]	Demands Noise [dB(A)]	Sound level From WTGs [dB(A)]	Demands fulfilled ? Noise
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	20,0	0,4	Yes
IP_01						8,0	20,0	2,9	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	20,0	1,1	Yes
IP_02						8,0	20,0	3,6	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	20,0	2,2	Yes
IP_03						8,0	20,0	4,7	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	20,0	8,4	Yes
IP_04						8,0	20,0	10,8	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	20,0	8,3	Yes
IP_05						8,0	20,0	10,7	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	20,0	7,2	Yes
IP_06						8,0	20,0	9,7	Yes
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	20,0	6,5	Yes
IP_07						8,0	20,0	9,0	Yes
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	20,0	8,1	Yes
IP_08						8,0	20,0	10,5	Yes
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	20,0	5,1	Yes
IP_09						8,0	20,0	7,6	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	20,0	3,2	Yes
IP_10						8,0	20,0	5,7	Yes
IP_11	IP 11 Sønderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	20,0	4,2	Yes
IP_11						8,0	20,0	6,7	Yes

Distances (m)

	WTG							
NSA	WEA GBW20	WEA GBW27	WEA GBW28	WEA GBW29	WEA GBW30	WEA GBW31	WEA GBW32	WEA GBW33
IP_01	6456	4158	4529	4880	5155	5427	5734	4248
IP_02	6140	3829	4203	4550	4829	5105	5414	3908
IP_03	5665	3329	3711	4047	4335	4620	4932	3385
IP_04	3647	1712	1988	2074	2376	2683	2961	1407

To be continued on next page...

DECIBEL - Main Result

Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency

...continued from previous page

	WTG							
NSA	WEA GBW20	WEA GBW27	WEA GBW28	WEA GBW29	WEA GBW30	WEA GBW31	WEA GBW32	WEA GBW33
IP_05	2675	2197	2134	1884	1989	2147	2260	1860
IP_06	2584	2638	2503	2194	2219	2299	2332	2334
IP_07	2341	3067	2847	2490	2415	2392	2321	2821
IP_08	1862	2790	2528	2157	2039	1978	1877	2586
IP_09	2184	3911	3589	3212	3003	2827	2603	3773
IP_10	2615	4745	4384	4024	3763	3520	3238	4673
IP_11	4933	2595	2976	3313	3601	3886	4199	2656

13.19 Detailed result for additional noise impact (planned WTG's), low frequency noise, graphic

Project:
WP Ellhöft

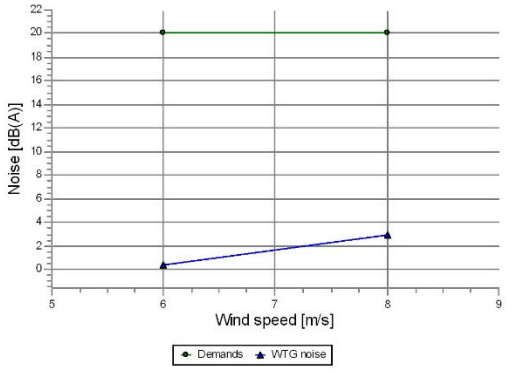
Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:21/3.5.584

DECIBEL - Detailed results, graphic

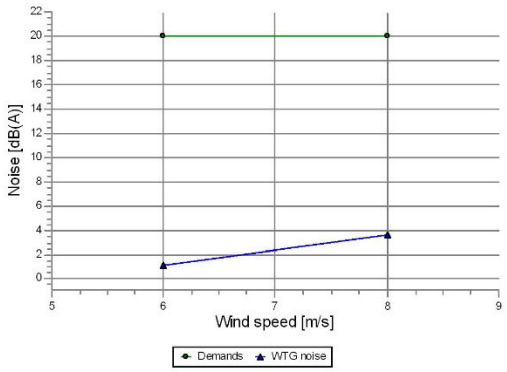
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency **Noise calculation model:** Danish low frequency 2019

IP_01 IP 01 Bremsbolvej 2 (DK)



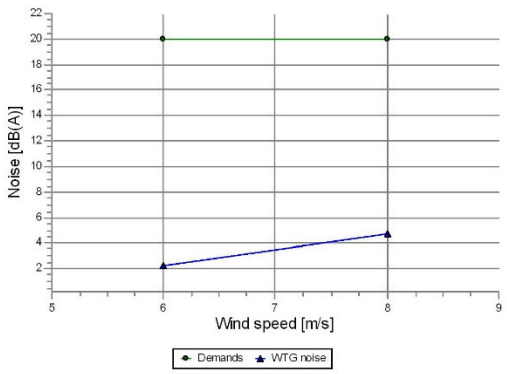
	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	0,4	Yes
8,0	20,0	2,9	Yes

IP_02 IP 02 Bremsbolvej 3 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	1,1	Yes
8,0	20,0	3,6	Yes

IP_03 IP 03 Bremsbolvej (DK)

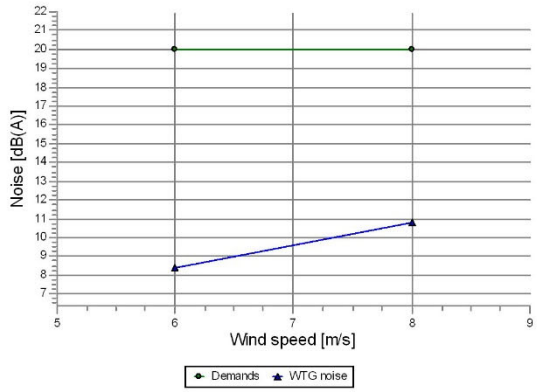


	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	2,2	Yes
8,0	20,0	4,7	Yes

DECIBEL - Detailed results, graphic

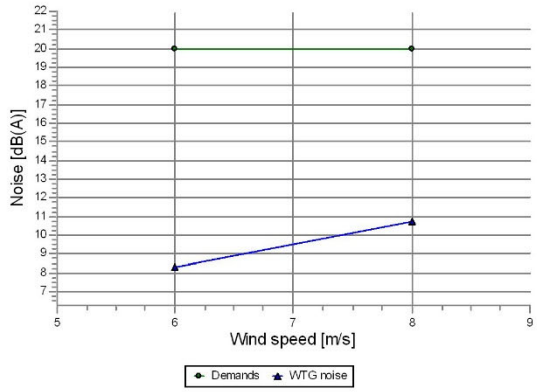
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency **Noise calculation model:** Danish low frequency 2019

IP_04 IP 04 Sændholm (1) (DK)



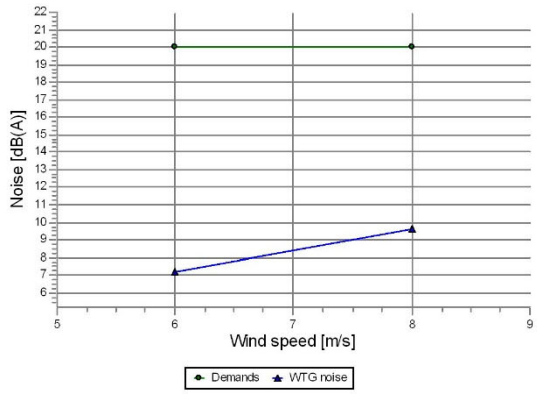
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,4	Yes
8,0	20,0	10,8	Yes

IP_05 IP 05 Karlsminde (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,3	Yes
8,0	20,0	10,7	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)

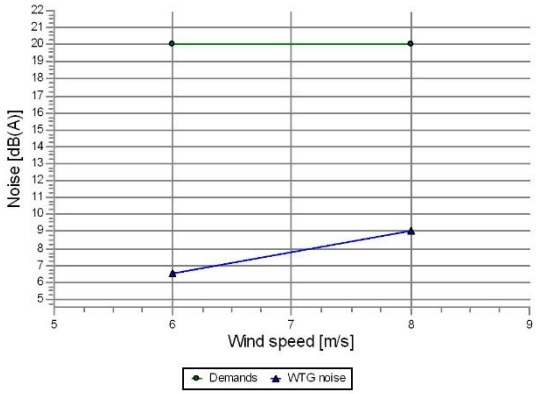


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	7,2	Yes
8,0	20,0	9,7	Yes

DECIBEL - Detailed results, graphic

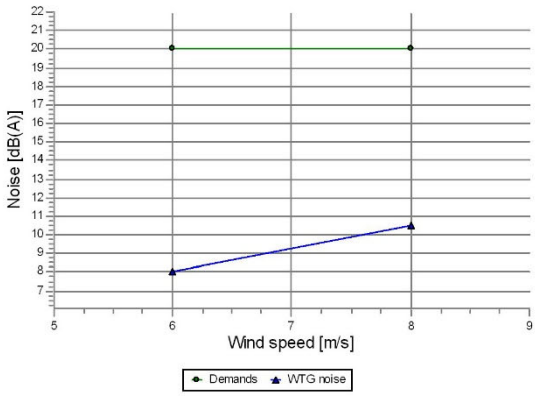
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency **Noise calculation model:** Danish low frequency 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



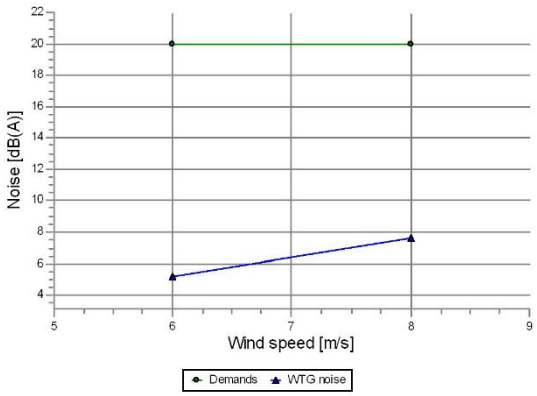
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	6,5	Yes
8,0	20,0	9,0	Yes

IP_08 IP 08 Vindvedvej (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,1	Yes
8,0	20,0	10,5	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

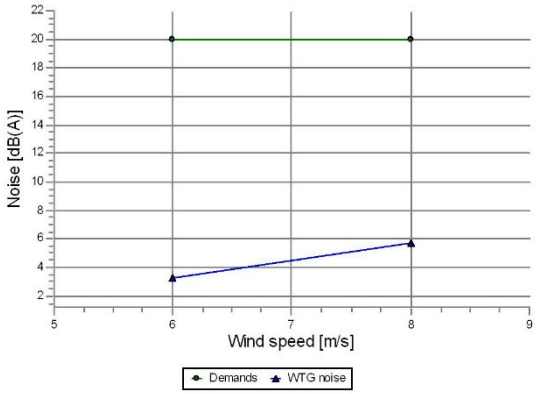


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	5,1	Yes
8,0	20,0	7,6	Yes

DECIBEL - Detailed results, graphic

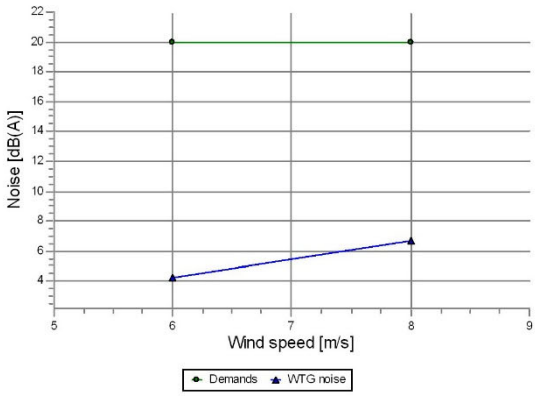
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency **Noise calculation model:** Danish low frequency 2019

IP_10 IP 10 Hovmosevej 15 (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	3,2	Yes
8,0	20,0	5,7	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	4,2	Yes
8,0	20,0	6,7	Yes

13.20 Main result for the total noise impact (existing & planned WTG's), low frequency noise

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:22/3.5.584

DECIBEL - Main Result

Calculation: Total Impact (Existing and planned WTG) - low frequency

Noise calculation model:
Danish low frequency 2019

The calculation is based on "BEK nr 135 af 07/02/2019" from the Danish Environmental Agency.

The noise impact from WTGs are not allowed to exceed the following limits: (Wind speeds in 10 m height)
1) At outdoor areas maximum 15 m from neighbor settlements in the open land.
a) 44 db(A) at wind speed 8 m/s.
b) 42 db(A) at wind speed 6 m/s.
2) At outdoor areas in residential or recreational areas.
a) 39 db(A) at wind speed 8 m/s in residential areas.
b) 37 db(A) at wind speed 6 m/s in residential areas.
The low frequency noise impact from WTGs are not allowed to exceed 20 dB indoor at wind speeds 8 and 6 m/s
The limits are not to be taken into acount for houses belonging to WTG owner
Den lavfrekvente støj beregnes indendøre og må ikke overstige 20 dB ved vindhastigheder på 6 og 8 m/s i 10 m højde

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
WEA 01	495.686	6.079.791	10,0	WEA 01 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9 a	8,0	95,2 a
WEA 02	495.610	6.079.576	12,4	WEA 02 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9 a	8,0	95,2 a
WEA 03	495.624	6.079.335	15,0	WEA 03 Vestas V112/3.3MW	Yes	VESTAS	V112-3.3 Gridstreame-3.300	3.300	112,0	94,0	USER	WEA01 bis WEA 03 Vestas V112/3.3WM	6,0	92,9 a	8,0	95,2 a
WEA DK01	495.371	6.084.317	1,4	WEA DK01 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK01 Vestas V126/3.45MW Mode SO1	6,0	92,9 a	8,0	95,2 a
WEA DK02	495.762	6.084.286	1,9	WEA DK02 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK02 Vestas V126/3.45MW Mode SO1	6,0	92,9 a	8,0	95,2 a
WEA DK03	496.153	6.084.255	2,5	WEA DK03 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK03 Vestas V126/3.45MW Mode SO1	6,0	92,9 a	8,0	95,2 a
WEA DK04	496.544	6.084.224	2,5	WEA DK04 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK04 Vestas V126/3.45MW Mode 0	6,0	92,9 a	8,0	95,2 a
WEA DK05	496.935	6.084.193	2,5	WEA DK05 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK05 Vestas V126/3.45MW Mode PO1	6,0	92,9 a	8,0	95,2 a
WEA DK06	497.326	6.084.162	2,8	WEA DK06 Vestas V126-3.45MW	Yes	VESTAS	V126-3.45 HTq-3.450	3.450	126,0	87,0	USER	WEA DK06 Vestas V126/3.45MW Mode PO1	6,0	92,9 a	8,0	95,2 a
WEA GBW20	496.724	6.082.083	5,0	WEA GBW20 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW27	496.676	6.083.354	3,1	WEA GBW27 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW28	497.003	6.083.037	3,7	WEA GBW28 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW29	497.378	6.083.087	3,8	WEA GBW29 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW30	497.605	6.082.864	4,5	WEA GBW30 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW31	497.822	6.082.634	4,6	WEA GBW31 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW32	498.094	6.082.475	4,8	WEA GBW32 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA GBW33	496.832	6.083.593	2,5	WEA GBW33 Nordex N133/4.8	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA S01	492.658	6.082.655	2,5	WEA S01 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S02	492.814	6.082.403	3,0	WEA S02 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S03	492.838	6.083.076	2,1	WEA S03 Siemens SWT 3.0 MW-101	Yes	Siemens	SWT-3.0-101-3.000	3.000	101,0	79,5	EMD	Level 0 - Calculated - Std. 107dB - 4-2016 rev4	6,0	91,7	8,0	94,8
WEA S04	493.311	6.082.624	2,8	WEA S04 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S05	493.310	6.083.077	2,1	WEA S05 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S06	493.800	6.082.876	2,4	WEA S06 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S07	493.664	6.083.188	1,9	WEA S07 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S08	494.108	6.083.148	1,9	WEA S08 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S09	494.553	6.083.062	2,5	WEA S09 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S10	494.932	6.082.916	3,2	WEA S10 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S11	495.444	6.081.727	4,4	WEA S11 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S12	495.821	6.081.567	4,7	WEA S12 Siemens SWT 3.0 MW-113	Yes	Siemens	SWT-3.0-113-3.000	3.000	113,0	92,5	EMD	Level 0 - Calculated - Std. 105.5dB - 04-2016	6,0	95,3	8,0	96,5
WEA S21	493.902	6.083.384	1,5	WEA S21 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	92,9 a	8,0	95,2 a
WEA S22	492.923	6.082.793	2,5	WEA S22 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	92,9 a	8,0	95,2 a
WEA S23	494.523	6.082.775	3,2	WEA S23 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	92,9 a	8,0	95,2 a
WEA S24	495.187	6.081.609	4,5	WEA S24 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	92,9 a	8,0	95,2 a
WEA S25	495.560	6.081.479	4,6	WEA S25 Nordex N117/3,6 MW	Yes	NORDEX	N117/3600-3.600	3.600	116,8	91,0	USER	Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01	6,0	92,9 a	8,0	95,2 a
WEA SV28	495.915	6.083.742	2,5	WEA S28 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4 f	8,0	93,7 f
WEA SV29	495.628	6.083.820	1,8	WEA S29 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4 f	8,0	93,7 f
WEA SV31	498.071	6.082.956	4,4	WEA S31 Siemens SWT 2.3	Yes	Siemens	SWT-2.3-93-2.300	2.300	92,6	93,0	EMD	Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)	6,0	92,4 f	8,0	93,7 f
WEA SV32	498.597	6.082.432	4,9	WEA S32 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S32 REpower 6M	6,0	92,9 a	8,0	95,2 a
WEA SV33	499.073	6.082.208	5,0	WEA S33 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S33 REpower 6M	6,0	92,9 a	8,0	95,2 a
WEA SV34	500.215	6.081.841	5,0	WEA S34 REpower 6M	Yes	REpower	6 M-6.000	6.000	126,0	100,0	USER	WEA S34 REpower 6M	6,0	92,9 a	8,0	95,2 a
WEA SV35	495.497	6.082.837	3,3	WEA S35 Enercon E-101	No	ENERCON	E-101-3.000	3.000	101,0	99,0	USER	WEA S35 Enercon E-101	6,0	92,9 a	8,0	95,2 a
WEA_G14	496.446	6.083.550	2,5	WEA 14 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4	8,0	96,0
WEA_G15	497.204	6.083.372	2,9	WEA 15 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	115,0	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	96,1	8,0	96,0
WEA_G16	497.767	6.083.089	4,3	WEA 16 Nordex N133/4.8 MW STE	Yes	NORDEX	N133/4.8-4.800	4.800	133,0	110,0	USER	N133/4.8MW (STE) Mode 0	6,0	92,9 a	8,0	95,2 a
WEA_G17	498.443	6.082.792	4,6	WEA 17 Siemens SWT DD-130 4.3 MW	Yes	Siemens	SWT-DD-130-4.300	4.300	130,0	115,0	EMD	Mode 2 - Calculated - -1dB rev1- 06-2018	6,0	92,9 a	8,0	95,2 a
WEA_G18	499.487	6.082.246	5,0	WEA 18 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4	8,0	96,0
WEA_G19	499.918	6.082.108	5,0	WEA 19 Siemens SWT 3.2-113	Yes	Siemens	SWT-3.2-113 2A-3.200	3.200	113,0	92,5	EMD	Level 1 - Calculated - -1dB - 04-2016	6,0	95,4	8,0	96,0

f) From other hub height
a) Generic data based on turbine power (very uncertain)

Calculation Results

Sound level

Noise sensitive area No.	Name	Easting	Northing	Z	Immission height	Wind speed	Demands Noise	Sound level From WTGs	Demands fulfilled ? Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_01	IP 01 Bremsbolvej 2 (DK)	492.630	6.084.214	1,3	1,5	6,0	20,0	15,1	Yes
IP_01						8,0	20,0	17,0	Yes
IP_02	IP 02 Bremsbolvej 3 (DK)	492.979	6.084.249	1,3	1,5	6,0	20,0	15,7	Yes
IP_02						8,0	20,0	17,6	Yes
IP_03	IP 03 Bremsbolvej (DK)	493.534	6.084.354	1,3	1,5	6,0	20,0	16,2	Yes
IP_03						8,0	20,0	18,1	Yes
IP_04	IP 04 Sændholm (1) (DK)	496.474	6.084.954	4,4	1,5	6,0	20,0	17,4	Yes
IP_04						8,0	20,0	19,6	Yes
IP_05	IP 05 Karlsminde (DK)	498.308	6.084.725	3,8	1,5	6,0	20,0	14,7	Yes
IP_05						8,0	20,0	16,8	Yes
IP_06	IP 06 Karlsmindevej 1 (DK)	498.907	6.084.661	4,7	1,5	6,0	20,0	13,4	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: Total Impact (Existing and planned WTG) - low frequency

...continued from previous page

Noise sensitive area							Demands	Sound level	Demands fulfilled ?
No.	Name	Easting	Northing	Z	Immission height	Wind speed	Noise	From WTGs	Noise
				[m]	[m]	[m/s]	[dB(A)]	[dB(A)]	
IP_06						8,0	20,0	15,5	Yes
IP_07	IP 07 Lydersholmvej 13 (DK)	499.572	6.084.265	5,0	1,5	6,0	20,0	12,9	Yes
IP_07						8,0	20,0	15,0	Yes
IP_08	IP 08 Vindvedvej (DK)	499.409	6.083.814	5,0	1,5	6,0	20,0	14,4	Yes
IP_08						8,0	20,0	16,4	Yes
IP_09	IP 09 Hovmosevej 1 (DK)	500.587	6.083.222	5,0	1,5	6,0	20,0	13,1	Yes
IP_09						8,0	20,0	14,9	Yes
IP_10	IP 10 Hovmosevej 15 (DK)	501.328	6.082.320	5,0	1,5	6,0	20,0	11,9	Yes
IP_10						8,0	20,0	13,7	Yes
IP_11	IP 11 Sonderlogumlandvej 9A/B (DK)	494.226	6.084.108	1,3	1,5	6,0	20,0	17,9	Yes
IP_11						8,0	20,0	19,9	Yes

Distances (m)

WTG	IP_01	IP_02	IP_03	IP_04	IP_05	IP_06	IP_07	IP_08	IP_09	IP_10	IP_11
WEA 01	5376	5216	5045	5223	5588	5839	5926	5482	5983	6183	4557
WEA 02	5513	5363	5210	5447	5813	6060	6139	5691	6170	6342	4739
WEA 03	5724	5581	5437	5683	6021	6256	6316	5864	6304	6437	4973
WEA DK01	2743	2393	1837	1274	2965	3553	4201	4069	5330	6283	1164
WEA DK02	3133	2783	2229	977	2584	3167	3810	3677	4941	5903	1546
WEA DK03	3523	3174	2621	770	2206	2784	3419	3286	4553	5525	1933
WEA DK04	3914	3565	3013	734	1834	2403	3028	2894	4165	5149	2321
WEA DK05	4305	3956	3405	890	1473	2027	2638	2503	3779	4775	2710
WEA DK06	4696	4348	3797	1163	1132	1658	2248	2112	3394	4406	3100
WEA GBW20	6456	6140	5665	3647	2675	2584	2341	1862	2184	2615	4933
WEA GBW27	4158	3829	3329	1712	2197	2638	3067	2790	3911	4745	2595
WEA GBW28	4529	4203	3711	1988	2134	2503	2847	2528	3589	4384	2976
WEA GBW29	4880	4550	4047	2074	1884	2194	2490	2157	3212	4024	3313
WEA GBW30	5155	4829	4335	2376	1989	2219	2415	2039	3003	3763	3601
WEA GBW31	5427	5105	4620	2683	2147	2299	2392	1978	2827	3520	3886
WEA GBW32	5734	5414	4932	2961	2260	2332	2321	1877	2603	3238	4199
WEA GBW33	4248	3908	3385	1407	1860	2334	2821	2586	3773	4673	2656
WEA S01	1560	1626	1912	4455	6017	6563	7099	6850	7949	8676	2138
WEA S02	1821	1854	2080	4462	5965	6498	7010	6744	7816	8514	2214
WEA S03	1157	1182	1456	4093	5713	6273	6838	6612	7750	8524	1730
WEA S04	1730	1659	1745	3929	5421	5955	6473	6213	7301	8023	1744
WEA S05	1325	1218	1297	3679	5263	5817	6374	6143	7278	8054	1379
WEA S06	1778	1600	1502	3387	4873	5410	5937	5687	6796	7548	1304
WEA S07	1457	1263	1174	3319	4892	5446	6005	5779	6923	7713	1078
WEA S08	1823	1577	1336	2977	4486	5032	5577	5343	6479	7267	968
WEA S09	2242	1972	1646	2697	4107	4638	5161	4914	6036	6815	1096
WEA S10	2643	2365	2006	2556	3830	4341	4832	4566	5663	6424	1385
WEA S11	3756	3527	3248	3388	4146	4539	4846	4481	5356	5914	2675
WEA S12	4146	3908	3606	3450	4020	4370	4621	4234	5045	5558	3001
WEA S21	1519	1265	1037	3013	4606	5165	5738	5524	6687	7502	793
WEA S22	1451	1457	1676	4157	5721	6269	6810	6566	7676	8418	1851
WEA S23	2378	2135	1863	2925	4258	4772	5264	4995	6080	6820	1366
WEA S24	3650	3442	3204	3584	4410	4812	5127	4763	5636	6182	2677
WEA S25	4008	3786	3517	3593	4253	4618	4884	4502	5321	5829	2948
WEA SV28	3319	2980	2459	1335	2587	3130	3694	3495	4701	5597	1728
WEA SV29	3024	2684	2161	1415	2829	3385	3969	3781	4995	5894	1431
WEA SV31	5585	5254	4748	2558	1785	1899	1992	1590	2530	3318	4014
WEA SV32	6228	5905	5416	3297	2312	2251	2077	1603	2141	2733	4681
WEA SV33	6748	6427	5940	3781	2631	2459	2117	1641	1822	2258	5206
WEA SV34	7948	7626	7138	4867	3458	3109	2508	2132	1431	1212	6404
WEA SV35	3181	2887	2481	2332	3386	3867	4318	4032	5105	5854	1798
WEA_G14	3873	3537	3021	1404	2202	2700	3207	2975	4154	5035	2289
WEA_G15	4651	4315	3799	1742	1746	2136	2531	2249	3386	4256	3068
WEA_G16	5259	4927	4418	2269	1723	1942	2154	1795	2823	3643	3685
WEA_G17	5984	5655	5152	2924	1938	1926	1856	1406	2187	2923	4418
WEA_G18	7134	6809	6315	4051	2745	2484	2021	1570	1471	1842	5581
WEA_G19	7586	7262	6768	4467	3073	2746	2185	1780	1299	1426	6033

13.21 Detailed result for total noise impact (existing & planned WTG's), low frequency noise, graphic

Project:
WP Ellhöft

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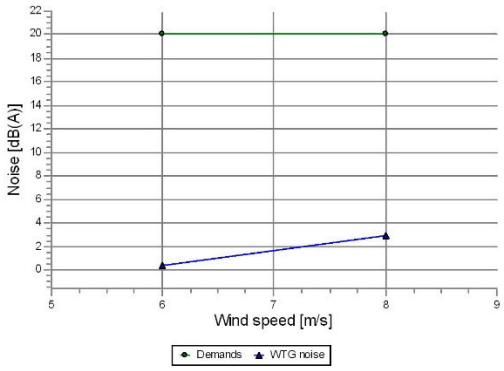
Calculated:
30.08.2022 15:21/3.5.584

DECIBEL - Detailed results, graphic

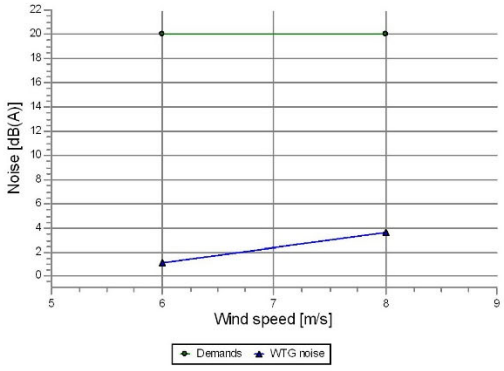
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency**Noise calculation model:** Danish low frequency 2019

IP_01 IP 01 Bremsbolvej 2 (DK)



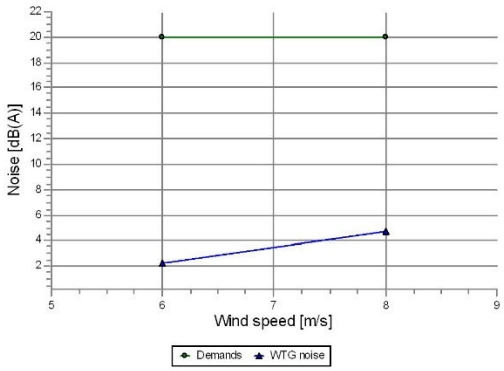
	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	0,4	Yes
8,0	20,0	2,9	Yes

IP_02 IP 02 Bremsbolvej 3 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	1,1	Yes
8,0	20,0	3,6	Yes

IP_03 IP 03 Bremsbolvej (DK)

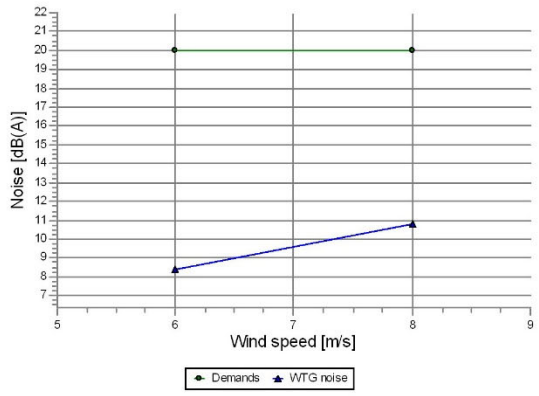


	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	2,2	Yes
8,0	20,0	4,7	Yes

DECIBEL - Detailed results, graphic

Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency**Noise calculation model:** Danish low frequency 2019

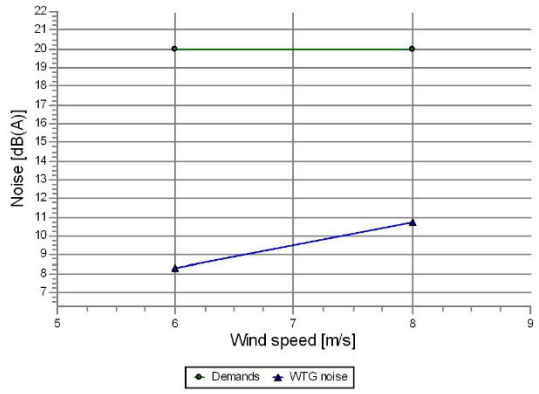
IP_04 IP 04 Sændholm (1) (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,4	Yes
8,0	20,0	10,8	Yes

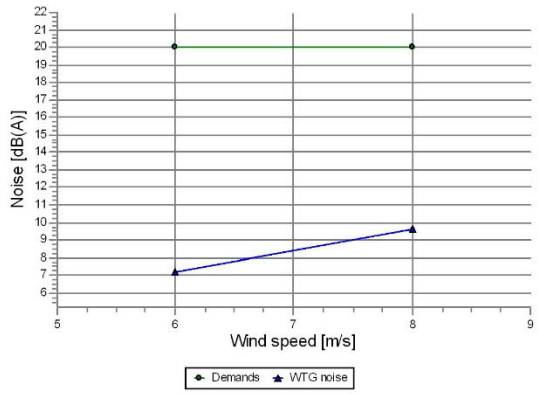
IP_05 IP 05 Karlsminde (DK)



Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,3	Yes
8,0	20,0	10,7	Yes

IP_06 IP 06 Karlsmindevej 1 (DK)



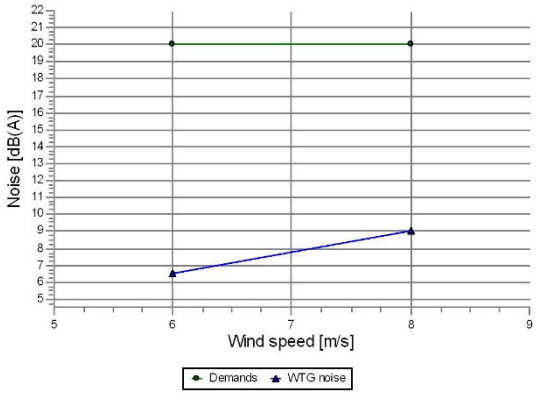
Sound level

Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	7,2	Yes
8,0	20,0	9,7	Yes

DECIBEL - Detailed results, graphic

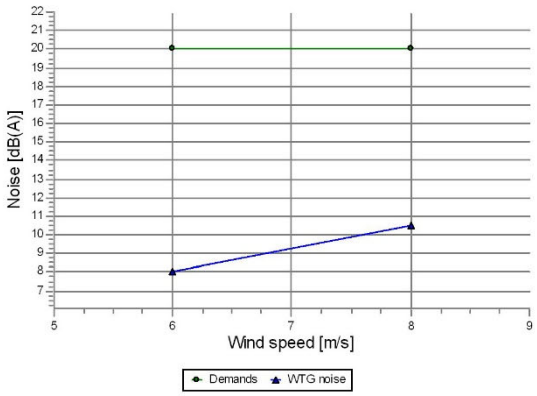
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency**Noise calculation model:** Danish low frequency 2019

IP_07 IP 07 Lydersholmvej 13 (DK)



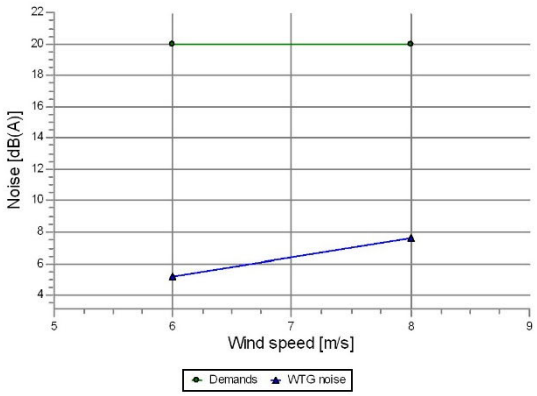
Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	6,5	Yes
8,0	20,0	9,0	Yes

IP_08 IP 08 Vindvedvej (DK)



Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	8,1	Yes
8,0	20,0	10,5	Yes

IP_09 IP 09 Hovmosevej 1 (DK)

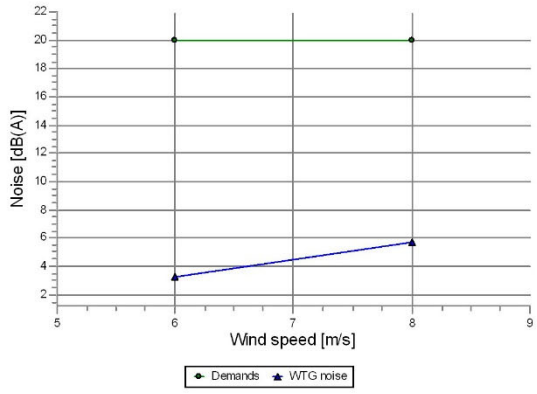


Sound level			
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	5,1	Yes
8,0	20,0	7,6	Yes

DECIBEL - Detailed results, graphic

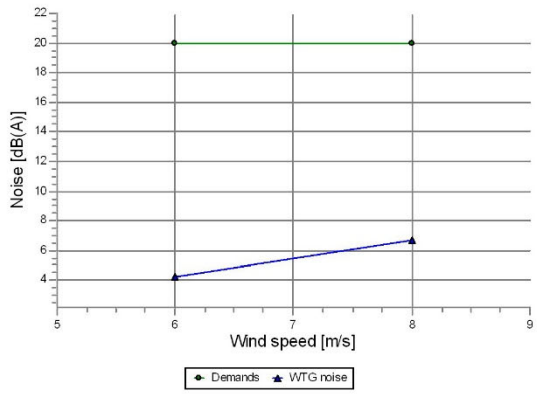
Calculation: Additional Impact (8*Nordex N133/4.8MW STE) - low frequency**Noise calculation model:** Danish low frequency 2019

IP_10 IP 10 Hovmosevej 15 (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	3,2	Yes
8,0	20,0	5,7	Yes

IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)



	Sound level		
Wind speed [m/s]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?
6,0	20,0	4,2	Yes
8,0	20,0	6,7	Yes

13.22 Detailed result for total noise impact (existing & planned WTG's), low frequency noise

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
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DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:22/3.5.584

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

Assumptions

Cmet: Meteorological correction

Calculation Results

Noise sensitive area: IP_01 IP 01 Bremsbolvej 2 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.376	5.377	**-9,44**	92,9	-	0,00
WEA 02	5.513	5.514	**-9,68**	92,9	-	0,00
WEA 03	5.724	5.725	**-10,04**	92,9	-	0,00
WEA DK01	2.743	2.744	**-3,16**	92,9	-	0,00
WEA DK02	3.133	3.134	**-4,38**	92,9	-	0,00
WEA DK03	3.523	3.524	**-5,46**	92,9	-	0,00
WEA DK04	3.914	3.915	**-6,44**	92,9	-	0,00
WEA DK05	4.305	4.306	**-7,33**	92,9	-	0,00
WEA DK06	4.696	4.697	**-8,15**	92,9	-	0,00
WEA GBW20	6.456	6.457	**-11,20**	92,9	-	0,00
WEA GBW27	4.158	4.160	**-7,01**	92,9	-	0,00
WEA GBW28	4.529	4.530	**-7,81**	92,9	-	0,00
WEA GBW29	4.880	4.881	**-8,52**	92,9	-	0,00
WEA GBW30	5.155	5.156	**-9,04**	92,9	-	0,00
WEA GBW31	5.427	5.428	**-9,53**	92,9	-	0,00
WEA GBW32	5.734	5.735	**-10,05**	92,9	-	0,00
WEA GBW33	4.248	4.249	**-7,21**	92,9	-	0,00
WEA S01	1.560	1.562	**4,15**	95,3	-	0,00
WEA S02	1.821	1.823	**2,76**	95,3	-	0,00
WEA S03	1.157	1.160	**3,55**	91,7	-	0,00
WEA S04	1.730	1.733	**3,22**	95,3	-	0,00
WEA S05	1.325	1.328	**5,60**	95,3	-	0,00
WEA S06	1.778	1.780	**2,97**	95,3	-	0,00
WEA S07	1.457	1.460	**4,75**	95,3	-	0,00
WEA S08	1.823	1.825	**2,75**	95,3	-	0,00
WEA S09	2.242	2.244	**0,88**	95,3	-	0,00
WEA S10	2.643	2.644	**-0,62**	95,3	-	0,00
WEA S11	3.756	3.757	**-3,86**	95,3	-	0,00
WEA S12	4.146	4.147	**-4,79**	95,3	-	0,00
WEA S21	1.519	1.521	**2,18**	92,9	-	0,00
WEA S22	1.451	1.454	**2,59**	92,9	-	0,00
WEA S23	2.378	2.380	**-1,86**	92,9	-	0,00
WEA S24	3.650	3.651	**-5,79**	92,9	-	0,00
WEA S25	4.008	4.009	**-6,67**	92,9	-	0,00
WEA SV28	3.319	3.320	**-7,30**	92,4	-	0,00
WEA SV29	3.024	3.025	**-6,42**	92,4	-	0,00
WEA SV31	5.585	5.585	**-12,36**	92,4	-	0,00
WEA SV32	6.228	6.228	**-10,85**	92,9	-	0,00
WEA SV33	6.748	6.749	**-11,62**	92,9	-	0,00
WEA SV34	7.948	7.948	**-13,22**	92,9	-	0,00
WEA SV35	3.181	3.182	**-4,52**	92,9	-	0,00
WEA_G14	3.873	3.874	**-3,89**	95,4	-	0,00
WEA_G15	4.651	4.652	**-4,88**	96,1	-	0,00
WEA_G16	5.259	5.260	**-9,23**	92,9	-	0,00
WEA_G17	5.984	5.986	**-10,46**	92,9	-	0,00
WEA_G18	7.134	7.134	**-9,71**	95,4	-	0,00
WEA_G19	7.586	7.587	**-10,32**	95,4	-	0,00
Sum			**15,06**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.376	5.377	**-6,97**	95,2	-	0,00
WEA 02	5.513	5.514	**-7,21**	95,2	-	0,00
WEA 03	5.724	5.725	**-7,57**	95,2	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA DK01	2.743	2.744	**-0,70**	95,2	-	0,00
WEA DK02	3.133	3.134	**-1,92**	95,2	-	0,00
WEA DK03	3.523	3.524	**-3,00**	95,2	-	0,00
WEA DK04	3.914	3.915	**-3,98**	95,2	-	0,00
WEA DK05	4.305	4.306	**-4,87**	95,2	-	0,00
WEA DK06	4.696	4.697	**-5,69**	95,2	-	0,00
WEA GBW20	6.456	6.457	**-8,72**	95,2	-	0,00
WEA GBW27	4.158	4.160	**-4,54**	95,2	-	0,00
WEA GBW28	4.529	4.530	**-5,35**	95,2	-	0,00
WEA GBW29	4.880	4.881	**-6,05**	95,2	-	0,00
WEA GBW30	5.155	5.156	**-6,57**	95,2	-	0,00
WEA GBW31	5.427	5.428	**-7,06**	95,2	-	0,00
WEA GBW32	5.734	5.735	**-7,58**	95,2	-	0,00
WEA GBW33	4.248	4.249	**-4,74**	95,2	-	0,00
WEA S01	1.560	1.562	**5,67**	96,5	-	0,00
WEA S02	1.821	1.823	**4,28**	96,5	-	0,00
WEA S03	1.157	1.160	**6,49**	94,8	-	0,00
WEA S04	1.730	1.733	**4,74**	96,5	-	0,00
WEA S05	1.325	1.328	**7,12**	96,5	-	0,00
WEA S06	1.778	1.780	**4,50**	96,5	-	0,00
WEA S07	1.457	1.460	**6,27**	96,5	-	0,00
WEA S08	1.823	1.825	**4,27**	96,5	-	0,00
WEA S09	2.242	2.244	**2,41**	96,5	-	0,00
WEA S10	2.643	2.644	**0,92**	96,5	-	0,00
WEA S11	3.756	3.757	**-2,31**	96,5	-	0,00
WEA S12	4.146	4.147	**-3,23**	96,5	-	0,00
WEA S21	1.519	1.521	**4,64**	95,2	-	0,00
WEA S22	1.451	1.454	**5,05**	95,2	-	0,00
WEA S23	2.378	2.380	**0,60**	95,2	-	0,00
WEA S24	3.650	3.651	**-3,33**	95,2	-	0,00
WEA S25	4.008	4.009	**-4,20**	95,2	-	0,00
WEA SV28	3.319	3.320	**-4,09**	93,7	-	0,00
WEA SV29	3.024	3.025	**-3,23**	93,7	-	0,00
WEA SV31	5.585	5.585	**-8,97**	93,7	-	0,00
WEA SV32	6.228	6.228	**-8,38**	95,2	-	0,00
WEA SV33	6.748	6.749	**-9,15**	95,2	-	0,00
WEA SV34	7.948	7.948	**-10,75**	95,2	-	0,00
WEA SV35	3.181	3.182	**-2,06**	95,2	-	0,00
WEA_G14	3.873	3.874	**-3,06**	96,0	-	0,00
WEA_G15	4.651	4.652	**-4,77**	96,0	-	0,00
WEA_G16	5.259	5.260	**-6,76**	95,2	-	0,00
WEA_G17	5.984	5.986	**-7,99**	95,2	-	0,00
WEA_G18	7.134	7.134	**-8,86**	96,0	-	0,00
WEA_G19	7.586	7.587	**-9,46**	96,0	-	0,00
Sum			**16,97**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_02 IP 02 Bremsbolvej 3 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.216	5.217	**-9,15**	92,9	-	0,00
WEA 02	5.363	5.364	**-9,41**	92,9	-	0,00
WEA 03	5.581	5.582	**-9,79**	92,9	-	0,00
WEA DK01	2.393	2.394	**-1,91**	92,9	-	0,00
WEA DK02	2.783	2.785	**-3,29**	92,9	-	0,00
WEA DK03	3.174	3.175	**-4,50**	92,9	-	0,00
WEA DK04	3.565	3.566	**-5,57**	92,9	-	0,00
WEA DK05	3.956	3.957	**-6,54**	92,9	-	0,00
WEA DK06	4.348	4.349	**-7,43**	92,9	-	0,00
WEA GBW20	6.140	6.141	**-10,71**	92,9	-	0,00
WEA GBW27	3.829	3.830	**-6,24**	92,9	-	0,00
WEA GBW28	4.203	4.204	**-7,11**	92,9	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA GBW29	4.550	4.551	**-7,86**	92,9	-	0,00
WEA GBW30	4.829	4.830	**-8,42**	92,9	-	0,00
WEA GBW31	5.105	5.106	**-8,95**	92,9	-	0,00
WEA GBW32	5.414	5.415	**-9,50**	92,9	-	0,00
WEA GBW33	3.908	3.910	**-6,43**	92,9	-	0,00
WEA S01	1.626	1.629	**3,77**	95,3	-	0,00
WEA S02	1.854	1.856	**2,60**	95,3	-	0,00
WEA S03	1.182	1.185	**3,37**	91,7	-	0,00
WEA S04	1.659	1.662	**3,59**	95,3	-	0,00
WEA S05	1.218	1.222	**6,34**	95,3	-	0,00
WEA S06	1.600	1.603	**3,92**	95,3	-	0,00
WEA S07	1.263	1.267	**6,02**	95,3	-	0,00
WEA S08	1.577	1.580	**4,05**	95,3	-	0,00
WEA S09	1.972	1.974	**2,04**	95,3	-	0,00
WEA S10	2.365	2.366	**0,40**	95,3	-	0,00
WEA S11	3.527	3.528	**-3,28**	95,3	-	0,00
WEA S12	3.908	3.909	**-4,23**	95,3	-	0,00
WEA S21	1.265	1.268	**3,81**	92,9	-	0,00
WEA S22	1.457	1.460	**2,55**	92,9	-	0,00
WEA S23	2.135	2.137	**-0,88**	92,9	-	0,00
WEA S24	3.442	3.443	**-5,25**	92,9	-	0,00
WEA S25	3.786	3.787	**-6,13**	92,9	-	0,00
WEA SV28	2.980	2.981	**-6,28**	92,4	-	0,00
WEA SV29	2.684	2.685	**-5,30**	92,4	-	0,00
WEA SV31	5.254	5.255	**-11,75**	92,4	-	0,00
WEA SV32	5.905	5.906	**-10,33**	92,9	-	0,00
WEA SV33	6.427	6.428	**-11,15**	92,9	-	0,00
WEA SV34	7.626	7.627	**-12,82**	92,9	-	0,00
WEA SV35	2.887	2.889	**-3,63**	92,9	-	0,00
WEA_G14	3.537	3.538	**-3,04**	95,4	-	0,00
WEA_G15	4.315	4.317	**-4,17**	96,1	-	0,00
WEA_G16	4.927	4.928	**-8,61**	92,9	-	0,00
WEA_G17	5.655	5.656	**-9,92**	92,9	-	0,00
WEA_G18	6.809	6.810	**-9,26**	95,4	-	0,00
WEA_G19	7.262	7.262	**-9,89**	95,4	-	0,00
Sum			**15,74**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.216	5.217	**-6,68**	95,2	-	0,00
WEA 02	5.363	5.364	**-6,94**	95,2	-	0,00
WEA 03	5.581	5.582	**-7,32**	95,2	-	0,00
WEA DK01	2.393	2.394	**0,55**	95,2	-	0,00
WEA DK02	2.783	2.785	**-0,83**	95,2	-	0,00
WEA DK03	3.174	3.175	**-2,04**	95,2	-	0,00
WEA DK04	3.565	3.566	**-3,11**	95,2	-	0,00
WEA DK05	3.956	3.957	**-4,08**	95,2	-	0,00
WEA DK06	4.348	4.349	**-4,96**	95,2	-	0,00
WEA GBW20	6.140	6.141	**-8,24**	95,2	-	0,00
WEA GBW27	3.829	3.830	**-3,77**	95,2	-	0,00
WEA GBW28	4.203	4.204	**-4,64**	95,2	-	0,00
WEA GBW29	4.550	4.551	**-5,39**	95,2	-	0,00
WEA GBW30	4.829	4.830	**-5,95**	95,2	-	0,00
WEA GBW31	5.105	5.106	**-6,48**	95,2	-	0,00
WEA GBW32	5.414	5.415	**-7,04**	95,2	-	0,00
WEA GBW33	3.908	3.910	**-3,97**	95,2	-	0,00
WEA S01	1.626	1.629	**5,29**	96,5	-	0,00
WEA S02	1.854	1.856	**4,12**	96,5	-	0,00
WEA S03	1.182	1.185	**6,30**	94,8	-	0,00
WEA S04	1.659	1.662	**5,12**	96,5	-	0,00
WEA S05	1.218	1.222	**7,86**	96,5	-	0,00
WEA S06	1.600	1.603	**5,44**	96,5	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S07	1.263	1.267	**7,54**	96,5	-	0,00
WEA S08	1.577	1.580	**5,57**	96,5	-	0,00
WEA S09	1.972	1.974	**3,57**	96,5	-	0,00
WEA S10	2.365	2.366	**1,93**	96,5	-	0,00
WEA S11	3.527	3.528	**-1,73**	96,5	-	0,00
WEA S12	3.908	3.909	**-2,68**	96,5	-	0,00
WEA S21	1.265	1.268	**6,26**	95,2	-	0,00
WEA S22	1.457	1.460	**5,01**	95,2	-	0,00
WEA S23	2.135	2.137	**1,58**	95,2	-	0,00
WEA S24	3.442	3.443	**-2,78**	95,2	-	0,00
WEA S25	3.786	3.787	**-3,67**	95,2	-	0,00
WEA SV28	2.980	2.981	**-3,09**	93,7	-	0,00
WEA SV29	2.684	2.685	**-2,13**	93,7	-	0,00
WEA SV31	5.254	5.255	**-8,39**	93,7	-	0,00
WEA SV32	5.905	5.906	**-7,86**	95,2	-	0,00
WEA SV33	6.427	6.428	**-8,68**	95,2	-	0,00
WEA SV34	7.626	7.627	**-10,34**	95,2	-	0,00
WEA SV35	2.887	2.889	**-1,17**	95,2	-	0,00
WEA_G14	3.537	3.538	**-2,22**	96,0	-	0,00
WEA_G15	4.315	4.317	**-4,07**	96,0	-	0,00
WEA_G16	4.927	4.928	**-6,14**	95,2	-	0,00
WEA_G17	5.655	5.656	**-7,45**	95,2	-	0,00
WEA_G18	6.809	6.810	**-8,41**	96,0	-	0,00
WEA_G19	7.262	7.262	**-9,03**	96,0	-	0,00
Sum			**17,63**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_03 IP 03 Bremsbolvej (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.045	5.046	**-8,83**	92,9	-	0,00
WEA 02	5.210	5.211	**-9,14**	92,9	-	0,00
WEA 03	5.437	5.438	**-9,54**	92,9	-	0,00
WEA DK01	1.837	1.839	**0,48**	92,9	-	0,00
WEA DK02	2.229	2.231	**-1,27**	92,9	-	0,00
WEA DK03	2.621	2.622	**-2,74**	92,9	-	0,00
WEA DK04	3.013	3.014	**-4,02**	92,9	-	0,00
WEA DK05	3.405	3.406	**-5,15**	92,9	-	0,00
WEA DK06	3.797	3.798	**-6,16**	92,9	-	0,00
WEA GBW20	5.665	5.666	**-9,94**	92,9	-	0,00
WEA GBW27	3.329	3.331	**-4,94**	92,9	-	0,00
WEA GBW28	3.711	3.712	**-5,95**	92,9	-	0,00
WEA GBW29	4.047	4.049	**-6,76**	92,9	-	0,00
WEA GBW30	4.335	4.337	**-7,40**	92,9	-	0,00
WEA GBW31	4.620	4.621	**-8,00**	92,9	-	0,00
WEA GBW32	4.932	4.933	**-8,62**	92,9	-	0,00
WEA GBW33	3.385	3.386	**-5,09**	92,9	-	0,00
WEA S01	1.912	1.914	**2,32**	95,3	-	0,00
WEA S02	2.080	2.082	**1,56**	95,3	-	0,00
WEA S03	1.456	1.458	**1,52**	91,7	-	0,00
WEA S04	1.745	1.747	**3,14**	95,3	-	0,00
WEA S05	1.297	1.300	**5,79**	95,3	-	0,00
WEA S06	1.502	1.505	**4,48**	95,3	-	0,00
WEA S07	1.174	1.177	**6,68**	95,3	-	0,00
WEA S08	1.336	1.339	**5,53**	95,3	-	0,00
WEA S09	1.646	1.648	**3,66**	95,3	-	0,00
WEA S10	2.006	2.008	**1,89**	95,3	-	0,00
WEA S11	3.248	3.250	**-2,52**	95,3	-	0,00
WEA S12	3.606	3.607	**-3,48**	95,3	-	0,00
WEA S21	1.037	1.041	**5,56**	92,9	-	0,00
WEA S22	1.676	1.679	**1,30**	92,9	-	0,00
WEA S23	1.863	1.865	**0,35**	92,9	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S24	3.204	3.206	**-4,59**	92,9	-	0,00
WEA S25	3.517	3.518	**-5,45**	92,9	-	0,00
WEA SV28	2.459	2.460	**-4,49**	92,4	-	0,00
WEA SV29	2.161	2.163	**-3,29**	92,4	-	0,00
WEA SV31	4.748	4.749	**-10,75**	92,4	-	0,00
WEA SV32	5.416	5.417	**-9,51**	92,9	-	0,00
WEA SV33	5.940	5.941	**-10,39**	92,9	-	0,00
WEA SV34	7.138	7.139	**-12,17**	92,9	-	0,00
WEA SV35	2.481	2.483	**-2,24**	92,9	-	0,00
WEA_G14	3.021	3.022	**-1,58**	95,4	-	0,00
WEA_G15	3.799	3.801	**-2,98**	96,1	-	0,00
WEA_G16	4.418	4.419	**-7,58**	92,9	-	0,00
WEA_G17	5.152	5.153	**-9,03**	92,9	-	0,00
WEA_G18	6.315	6.316	**-8,53**	95,4	-	0,00
WEA_G19	6.768	6.768	**-9,20**	95,4	-	0,00
Sum			**16,22**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.045	5.046	**-6,36**	95,2	-	0,00
WEA 02	5.210	5.211	**-6,67**	95,2	-	0,00
WEA 03	5.437	5.438	**-7,08**	95,2	-	0,00
WEA DK01	1.837	1.839	**2,93**	95,2	-	0,00
WEA DK02	2.229	2.231	**1,19**	95,2	-	0,00
WEA DK03	2.621	2.622	**-0,28**	95,2	-	0,00
WEA DK04	3.013	3.014	**-1,56**	95,2	-	0,00
WEA DK05	3.405	3.406	**-2,68**	95,2	-	0,00
WEA DK06	3.797	3.798	**-3,69**	95,2	-	0,00
WEA GBW20	5.665	5.666	**-7,47**	95,2	-	0,00
WEA GBW27	3.329	3.331	**-2,48**	95,2	-	0,00
WEA GBW28	3.711	3.712	**-3,48**	95,2	-	0,00
WEA GBW29	4.047	4.049	**-4,29**	95,2	-	0,00
WEA GBW30	4.335	4.337	**-4,93**	95,2	-	0,00
WEA GBW31	4.620	4.621	**-5,53**	95,2	-	0,00
WEA GBW32	4.932	4.933	**-6,15**	95,2	-	0,00
WEA GBW33	3.385	3.386	**-2,63**	95,2	-	0,00
WEA S01	1.912	1.914	**3,85**	96,5	-	0,00
WEA S02	2.080	2.082	**3,09**	96,5	-	0,00
WEA S03	1.456	1.458	**4,45**	94,8	-	0,00
WEA S04	1.745	1.747	**4,67**	96,5	-	0,00
WEA S05	1.297	1.300	**7,31**	96,5	-	0,00
WEA S06	1.502	1.505	**6,00**	96,5	-	0,00
WEA S07	1.174	1.177	**8,19**	96,5	-	0,00
WEA S08	1.336	1.339	**7,04**	96,5	-	0,00
WEA S09	1.646	1.648	**5,19**	96,5	-	0,00
WEA S10	2.006	2.008	**3,42**	96,5	-	0,00
WEA S11	3.248	3.250	**-0,97**	96,5	-	0,00
WEA S12	3.606	3.607	**-1,93**	96,5	-	0,00
WEA S21	1.037	1.041	**8,02**	95,2	-	0,00
WEA S22	1.676	1.679	**3,76**	95,2	-	0,00
WEA S23	1.863	1.865	**2,81**	95,2	-	0,00
WEA S24	3.204	3.206	**-2,12**	95,2	-	0,00
WEA S25	3.517	3.518	**-2,98**	95,2	-	0,00
WEA SV28	2.459	2.460	**-1,34**	93,7	-	0,00
WEA SV29	2.161	2.163	**-0,17**	93,7	-	0,00
WEA SV31	4.748	4.749	**-7,43**	93,7	-	0,00
WEA SV32	5.416	5.417	**-7,04**	95,2	-	0,00
WEA SV33	5.940	5.941	**-7,92**	95,2	-	0,00
WEA SV34	7.138	7.139	**-9,70**	95,2	-	0,00
WEA SV35	2.481	2.483	**0,22**	95,2	-	0,00
WEA_G14	3.021	3.022	**-0,76**	96,0	-	0,00
WEA_G15	3.799	3.801	**-2,88**	96,0	-	0,00

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA_G16	4.418	4.419	**-5,11**	95,2	-	0,00
WEA_G17	5.152	5.153	**-6,56**	95,2	-	0,00
WEA_G18	6.315	6.316	**-7,68**	96,0	-	0,00
WEA_G19	6.768	6.768	**-8,35**	96,0	-	0,00
Sum			**18,12**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_04 IP 04 Sændholm (1) (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.223	5.224	**-9,16**	92,9	-	0,00
WEA 02	5.447	5.448	**-9,56**	92,9	-	0,00
WEA 03	5.683	5.683	**-9,97**	92,9	-	0,00
WEA DK01	1.274	1.277	**3,75**	92,9	-	0,00
WEA DK02	977	980	**6,10**	92,9	-	0,00
WEA DK03	770	774	**8,19**	92,9	-	0,00
WEA DK04	734	738	**8,61**	92,9	-	0,00
WEA DK05	890	894	**6,92**	92,9	-	0,00
WEA DK06	1.163	1.166	**4,56**	92,9	-	0,00
WEA GBW20	3.647	3.649	**-5,79**	92,9	-	0,00
WEA GBW27	1.712	1.715	**1,11**	92,9	-	0,00
WEA GBW28	1.988	1.991	**-0,24**	92,9	-	0,00
WEA GBW29	2.074	2.077	**-0,62**	92,9	-	0,00
WEA GBW30	2.376	2.379	**-1,85**	92,9	-	0,00
WEA GBW31	2.683	2.685	**-2,96**	92,9	-	0,00
WEA GBW32	2.961	2.963	**-3,86**	92,9	-	0,00
WEA GBW33	1.407	1.411	**2,86**	92,9	-	0,00
WEA S01	4.455	4.456	**-5,46**	95,3	-	0,00
WEA S02	4.462	4.463	**-5,48**	95,3	-	0,00
WEA S03	4.093	4.093	**-7,89**	91,7	-	0,00
WEA S04	3.929	3.930	**-4,28**	95,3	-	0,00
WEA S05	3.679	3.680	**-3,67**	95,3	-	0,00
WEA S06	3.387	3.388	**-2,90**	95,3	-	0,00
WEA S07	3.319	3.320	**-2,72**	95,3	-	0,00
WEA S08	2.977	2.978	**-1,71**	95,3	-	0,00
WEA S09	2.697	2.698	**-0,80**	95,3	-	0,00
WEA S10	2.556	2.557	**-0,31**	95,3	-	0,00
WEA S11	3.388	3.389	**-2,90**	95,3	-	0,00
WEA S12	3.450	3.451	**-3,07**	95,3	-	0,00
WEA S21	3.013	3.015	**-4,02**	92,9	-	0,00
WEA S22	4.157	4.158	**-7,01**	92,9	-	0,00
WEA S23	2.925	2.926	**-3,75**	92,9	-	0,00
WEA S24	3.584	3.585	**-5,62**	92,9	-	0,00
WEA S25	3.593	3.594	**-5,65**	92,9	-	0,00
WEA SV28	1.335	1.338	**1,09**	92,4	-	0,00
WEA SV29	1.415	1.418	**0,57**	92,4	-	0,00
WEA SV31	2.558	2.559	**-4,85**	92,4	-	0,00
WEA SV32	3.297	3.298	**-4,85**	92,9	-	0,00
WEA SV33	3.781	3.782	**-6,12**	92,9	-	0,00
WEA SV34	4.867	4.868	**-8,49**	92,9	-	0,00
WEA SV35	2.332	2.334	**-1,68**	92,9	-	0,00
WEA_G14	1.404	1.407	**5,34**	95,4	-	0,00
WEA_G15	1.742	1.746	**4,14**	96,1	-	0,00
WEA_G16	2.269	2.272	**-1,43**	92,9	-	0,00
WEA_G17	2.924	2.926	**-3,75**	92,9	-	0,00
WEA_G18	4.051	4.052	**-4,30**	95,4	-	0,00
WEA_G19	4.467	4.468	**-5,22**	95,4	-	0,00
Sum			**17,39**			

- Data undefined due to calculation with octave data

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

Wind speed: 8,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.223	5.224	**-6,69**	95,2	-	0,00
WEA 02	5.447	5.448	**-7,09**	95,2	-	0,00
WEA 03	5.683	5.683	**-7,50**	95,2	-	0,00
WEA DK01	1.274	1.277	**6,20**	95,2	-	0,00
WEA DK02	977	980	**8,55**	95,2	-	0,00
WEA DK03	770	774	**10,64**	95,2	-	0,00
WEA DK04	734	738	**11,06**	95,2	-	0,00
WEA DK05	890	894	**9,37**	95,2	-	0,00
WEA DK06	1.163	1.166	**7,01**	95,2	-	0,00
WEA GBW20	3.647	3.649	**-3,32**	95,2	-	0,00
WEA GBW27	1.712	1.715	**3,56**	95,2	-	0,00
WEA GBW28	1.988	1.991	**2,22**	95,2	-	0,00
WEA GBW29	2.074	2.077	**1,84**	95,2	-	0,00
WEA GBW30	2.376	2.379	**0,61**	95,2	-	0,00
WEA GBW31	2.683	2.685	**-0,50**	95,2	-	0,00
WEA GBW32	2.961	2.963	**-1,40**	95,2	-	0,00
WEA GBW33	1.407	1.411	**5,31**	95,2	-	0,00
WEA S01	4.455	4.456	**-3,90**	96,5	-	0,00
WEA S02	4.462	4.463	**-3,92**	96,5	-	0,00
WEA S03	4.093	4.093	**-4,98**	94,8	-	0,00
WEA S04	3.929	3.930	**-2,73**	96,5	-	0,00
WEA S05	3.679	3.680	**-2,12**	96,5	-	0,00
WEA S06	3.387	3.388	**-1,36**	96,5	-	0,00
WEA S07	3.319	3.320	**-1,17**	96,5	-	0,00
WEA S08	2.977	2.978	**-0,17**	96,5	-	0,00
WEA S09	2.697	2.698	**0,73**	96,5	-	0,00
WEA S10	2.556	2.557	**1,22**	96,5	-	0,00
WEA S11	3.388	3.389	**-1,36**	96,5	-	0,00
WEA S12	3.450	3.451	**-1,53**	96,5	-	0,00
WEA S21	3.013	3.015	**-1,56**	95,2	-	0,00
WEA S22	4.157	4.158	**-4,54**	95,2	-	0,00
WEA S23	2.925	2.926	**-1,29**	95,2	-	0,00
WEA S24	3.584	3.585	**-3,16**	95,2	-	0,00
WEA S25	3.593	3.594	**-3,18**	95,2	-	0,00
WEA SV28	1.335	1.338	**4,16**	93,7	-	0,00
WEA SV29	1.415	1.418	**3,64**	93,7	-	0,00
WEA SV31	2.558	2.559	**-1,70**	93,7	-	0,00
WEA SV32	3.297	3.298	**-2,39**	95,2	-	0,00
WEA SV33	3.781	3.782	**-3,66**	95,2	-	0,00
WEA SV34	4.867	4.868	**-6,02**	95,2	-	0,00
WEA SV35	2.332	2.334	**0,78**	95,2	-	0,00
WEA_G14	1.404	1.407	**6,15**	96,0	-	0,00
WEA_G15	1.742	1.746	**4,22**	96,0	-	0,00
WEA_G16	2.269	2.272	**1,03**	95,2	-	0,00
WEA_G17	2.924	2.926	**-1,28**	95,2	-	0,00
WEA_G18	4.051	4.052	**-3,48**	96,0	-	0,00
WEA_G19	4.467	4.468	**-4,39**	96,0	-	0,00
Sum			**19,60**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_05 IP 05 Karlsminde (DK)

Wind speed: 6,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.588	5.589	**-9,81**	92,9	-	0,00
WEA 02	5.813	5.814	**-10,18**	92,9	-	0,00
WEA 03	6.021	6.022	**-10,52**	92,9	-	0,00
WEA DK01	2.965	2.966	**-3,87**	92,9	-	0,00
WEA DK02	2.584	2.585	**-2,61**	92,9	-	0,00
WEA DK03	2.206	2.207	**-1,17**	92,9	-	0,00
WEA DK04	1.834	1.836	**0,49**	92,9	-	0,00
WEA DK05	1.473	1.475	**2,46**	92,9	-	0,00
WEA DK06	1.132	1.135	**4,80**	92,9	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA GBW20	2.675	2.677	**-2,93**	92,9	-	0,00
WEA GBW27	2.197	2.200	**-1,14**	92,9	-	0,00
WEA GBW28	2.134	2.136	**-0,88**	92,9	-	0,00
WEA GBW29	1.884	1.887	**0,25**	92,9	-	0,00
WEA GBW30	1.989	1.992	**-0,24**	92,9	-	0,00
WEA GBW31	2.147	2.150	**-0,93**	92,9	-	0,00
WEA GBW32	2.260	2.263	**-1,40**	92,9	-	0,00
WEA GBW33	1.860	1.863	**0,36**	92,9	-	0,00
WEA S01	6.017	6.018	**-8,33**	95,3	-	0,00
WEA S02	5.965	5.965	**-8,25**	95,3	-	0,00
WEA S03	5.713	5.714	**-11,04**	91,7	-	0,00
WEA S04	5.421	5.422	**-7,33**	95,3	-	0,00
WEA S05	5.263	5.264	**-7,04**	95,3	-	0,00
WEA S06	4.873	4.873	**-6,31**	95,3	-	0,00
WEA S07	4.892	4.893	**-6,35**	95,3	-	0,00
WEA S08	4.486	4.487	**-5,53**	95,3	-	0,00
WEA S09	4.107	4.108	**-4,70**	95,3	-	0,00
WEA S10	3.830	3.831	**-4,05**	95,3	-	0,00
WEA S11	4.146	4.147	**-4,79**	95,3	-	0,00
WEA S12	4.020	4.021	**-4,50**	95,3	-	0,00
WEA S21	4.606	4.606	**-7,97**	92,9	-	0,00
WEA S22	5.721	5.722	**-10,03**	92,9	-	0,00
WEA S23	4.258	4.259	**-7,23**	92,9	-	0,00
WEA S24	4.410	4.411	**-7,56**	92,9	-	0,00
WEA S25	4.253	4.254	**-7,22**	92,9	-	0,00
WEA SV28	2.587	2.589	**-4,96**	92,4	-	0,00
WEA SV29	2.829	2.830	**-5,79**	92,4	-	0,00
WEA SV31	1.785	1.788	**-1,54**	92,4	-	0,00
WEA SV32	2.312	2.314	**-1,60**	92,9	-	0,00
WEA SV33	2.631	2.633	**-2,78**	92,9	-	0,00
WEA SV34	3.458	3.459	**-5,29**	92,9	-	0,00
WEA SV35	3.386	3.388	**-5,10**	92,9	-	0,00
WEA_G14	2.202	2.204	**1,30**	95,4	-	0,00
WEA_G15	1.746	1.750	**4,11**	96,1	-	0,00
WEA_G16	1.723	1.727	**1,05**	92,9	-	0,00
WEA_G17	1.938	1.941	**-0,01**	92,9	-	0,00
WEA_G18	2.745	2.747	**-0,71**	95,4	-	0,00
WEA_G19	3.073	3.074	**-1,74**	95,4	-	0,00
Sum			**14,65**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.588	5.589	**-7,34**	95,2	-	0,00
WEA 02	5.813	5.814	**-7,71**	95,2	-	0,00
WEA 03	6.021	6.022	**-8,05**	95,2	-	0,00
WEA DK01	2.965	2.966	**-1,41**	95,2	-	0,00
WEA DK02	2.584	2.585	**-0,15**	95,2	-	0,00
WEA DK03	2.206	2.207	**1,29**	95,2	-	0,00
WEA DK04	1.834	1.836	**2,95**	95,2	-	0,00
WEA DK05	1.473	1.475	**4,92**	95,2	-	0,00
WEA DK06	1.132	1.135	**7,25**	95,2	-	0,00
WEA GBW20	2.675	2.677	**-0,47**	95,2	-	0,00
WEA GBW27	2.197	2.200	**1,32**	95,2	-	0,00
WEA GBW28	2.134	2.136	**1,58**	95,2	-	0,00
WEA GBW29	1.884	1.887	**2,71**	95,2	-	0,00
WEA GBW30	1.989	1.992	**2,21**	95,2	-	0,00
WEA GBW31	2.147	2.150	**1,53**	95,2	-	0,00
WEA GBW32	2.260	2.263	**1,06**	95,2	-	0,00
WEA GBW33	1.860	1.863	**2,82**	95,2	-	0,00
WEA S01	6.017	6.018	**-6,75**	96,5	-	0,00
WEA S02	5.965	5.965	**-6,67**	96,5	-	0,00
WEA S03	5.713	5.714	**-8,14**	94,8	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S04	5.421	5.422	**-5,76**	96,5	-	0,00
WEA S05	5.263	5.264	**-5,48**	96,5	-	0,00
WEA S06	4.873	4.873	**-4,75**	96,5	-	0,00
WEA S07	4.892	4.893	**-4,78**	96,5	-	0,00
WEA S08	4.486	4.487	**-3,97**	96,5	-	0,00
WEA S09	4.107	4.108	**-3,14**	96,5	-	0,00
WEA S10	3.830	3.831	**-2,49**	96,5	-	0,00
WEA S11	4.146	4.147	**-3,23**	96,5	-	0,00
WEA S12	4.020	4.021	**-2,94**	96,5	-	0,00
WEA S21	4.606	4.606	**-5,50**	95,2	-	0,00
WEA S22	5.721	5.722	**-7,56**	95,2	-	0,00
WEA S23	4.258	4.259	**-4,76**	95,2	-	0,00
WEA S24	4.410	4.411	**-5,10**	95,2	-	0,00
WEA S25	4.253	4.254	**-4,75**	95,2	-	0,00
WEA SV28	2.587	2.589	**-1,80**	93,7	-	0,00
WEA SV29	2.829	2.830	**-2,62**	93,7	-	0,00
WEA SV31	1.785	1.788	**1,56**	93,7	-	0,00
WEA SV32	2.312	2.314	**0,86**	95,2	-	0,00
WEA SV33	2.631	2.633	**-0,32**	95,2	-	0,00
WEA SV34	3.458	3.459	**-2,83**	95,2	-	0,00
WEA SV35	3.386	3.388	**-2,63**	95,2	-	0,00
WEA_G14	2.202	2.204	**2,12**	96,0	-	0,00
WEA_G15	1.746	1.750	**4,20**	96,0	-	0,00
WEA_G16	1.723	1.727	**3,50**	95,2	-	0,00
WEA_G17	1.938	1.941	**2,45**	95,2	-	0,00
WEA_G18	2.745	2.747	**0,11**	96,0	-	0,00
WEA_G19	3.073	3.074	**-0,92**	96,0	-	0,00
Sum			**16,75**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_06 IP 06 Karlsmindevej 1 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.839	5.840	**-10,23**	92,9	-	0,00
WEA 02	6.060	6.061	**-10,59**	92,9	-	0,00
WEA 03	6.256	6.257	**-10,89**	92,9	-	0,00
WEA DK01	3.553	3.554	**-5,54**	92,9	-	0,00
WEA DK02	3.167	3.168	**-4,48**	92,9	-	0,00
WEA DK03	2.784	2.785	**-3,29**	92,9	-	0,00
WEA DK04	2.403	2.405	**-1,95**	92,9	-	0,00
WEA DK05	2.027	2.029	**-0,41**	92,9	-	0,00
WEA DK06	1.658	1.660	**1,40**	92,9	-	0,00
WEA GBW20	2.584	2.587	**-2,62**	92,9	-	0,00
WEA GBW27	2.638	2.640	**-2,80**	92,9	-	0,00
WEA GBW28	2.503	2.505	**-2,32**	92,9	-	0,00
WEA GBW29	2.194	2.197	**-1,13**	92,9	-	0,00
WEA GBW30	2.219	2.222	**-1,23**	92,9	-	0,00
WEA GBW31	2.299	2.302	**-1,55**	92,9	-	0,00
WEA GBW32	2.332	2.335	**-1,68**	92,9	-	0,00
WEA GBW33	2.334	2.336	**-1,69**	92,9	-	0,00
WEA S01	6.563	6.564	**-9,17**	95,3	-	0,00
WEA S02	6.498	6.499	**-9,07**	95,3	-	0,00
WEA S03	6.273	6.273	**-11,94**	91,7	-	0,00
WEA S04	5.955	5.956	**-8,23**	95,3	-	0,00
WEA S05	5.817	5.818	**-8,00**	95,3	-	0,00
WEA S06	5.410	5.411	**-7,31**	95,3	-	0,00
WEA S07	5.446	5.447	**-7,37**	95,3	-	0,00
WEA S08	5.032	5.033	**-6,62**	95,3	-	0,00
WEA S09	4.638	4.639	**-5,84**	95,3	-	0,00
WEA S10	4.341	4.342	**-5,22**	95,3	-	0,00
WEA S11	4.539	4.540	**-5,64**	95,3	-	0,00
WEA S12	4.370	4.371	**-5,28**	95,3	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S21	5.165	5.166	**-9,06**	92,9	-	0,00
WEA S22	6.269	6.269	**-10,91**	92,9	-	0,00
WEA S23	4.772	4.773	**-8,31**	92,9	-	0,00
WEA S24	4.812	4.813	**-8,38**	92,9	-	0,00
WEA S25	4.618	4.619	**-8,00**	92,9	-	0,00
WEA SV28	3.130	3.131	**-6,75**	92,4	-	0,00
WEA SV29	3.385	3.386	**-7,49**	92,4	-	0,00
WEA SV31	1.899	1.902	**-2,11**	92,4	-	0,00
WEA SV32	2.251	2.253	**-1,36**	92,9	-	0,00
WEA SV33	2.459	2.461	**-2,16**	92,9	-	0,00
WEA SV34	3.109	3.111	**-4,31**	92,9	-	0,00
WEA SV35	3.867	3.868	**-6,33**	92,9	-	0,00
WEA_G14	2.700	2.702	**-0,55**	95,4	-	0,00
WEA_G15	2.136	2.139	**2,30**	96,1	-	0,00
WEA_G16	1.942	1.945	**-0,03**	92,9	-	0,00
WEA_G17	1.926	1.929	**0,05**	92,9	-	0,00
WEA_G18	2.484	2.485	**0,21**	95,4	-	0,00
WEA_G19	2.746	2.747	**-0,71**	95,4	-	0,00
Sum			**13,42**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.839	5.840	**-7,76**	95,2	-	0,00
WEA 02	6.060	6.061	**-8,11**	95,2	-	0,00
WEA 03	6.256	6.257	**-8,42**	95,2	-	0,00
WEA DK01	3.553	3.554	**-3,08**	95,2	-	0,00
WEA DK02	3.167	3.168	**-2,02**	95,2	-	0,00
WEA DK03	2.784	2.785	**-0,83**	95,2	-	0,00
WEA DK04	2.403	2.405	**0,51**	95,2	-	0,00
WEA DK05	2.027	2.029	**2,05**	95,2	-	0,00
WEA DK06	1.658	1.660	**3,86**	95,2	-	0,00
WEA GBW20	2.584	2.587	**-0,16**	95,2	-	0,00
WEA GBW27	2.638	2.640	**-0,34**	95,2	-	0,00
WEA GBW28	2.503	2.505	**0,14**	95,2	-	0,00
WEA GBW29	2.194	2.197	**1,33**	95,2	-	0,00
WEA GBW30	2.219	2.222	**1,23**	95,2	-	0,00
WEA GBW31	2.299	2.302	**0,91**	95,2	-	0,00
WEA GBW32	2.332	2.335	**0,78**	95,2	-	0,00
WEA GBW33	2.334	2.336	**0,77**	95,2	-	0,00
WEA S01	6.563	6.564	**-7,59**	96,5	-	0,00
WEA S02	6.498	6.499	**-7,49**	96,5	-	0,00
WEA S03	6.273	6.273	**-9,04**	94,8	-	0,00
WEA S04	5.955	5.956	**-6,65**	96,5	-	0,00
WEA S05	5.817	5.818	**-6,43**	96,5	-	0,00
WEA S06	5.410	5.411	**-5,74**	96,5	-	0,00
WEA S07	5.446	5.447	**-5,80**	96,5	-	0,00
WEA S08	5.032	5.033	**-5,05**	96,5	-	0,00
WEA S09	4.638	4.639	**-4,28**	96,5	-	0,00
WEA S10	4.341	4.342	**-3,66**	96,5	-	0,00
WEA S11	4.539	4.540	**-4,08**	96,5	-	0,00
WEA S12	4.370	4.371	**-3,72**	96,5	-	0,00
WEA S21	5.165	5.166	**-6,59**	95,2	-	0,00
WEA S22	6.269	6.269	**-8,44**	95,2	-	0,00
WEA S23	4.772	4.773	**-5,84**	95,2	-	0,00
WEA S24	4.812	4.813	**-5,92**	95,2	-	0,00
WEA S25	4.618	4.619	**-5,53**	95,2	-	0,00
WEA SV28	3.130	3.131	**-3,55**	93,7	-	0,00
WEA SV29	3.385	3.386	**-4,27**	93,7	-	0,00
WEA SV31	1.899	1.902	**1,00**	93,7	-	0,00
WEA SV32	2.251	2.253	**1,10**	95,2	-	0,00
WEA SV33	2.459	2.461	**0,30**	95,2	-	0,00
WEA SV34	3.109	3.111	**-1,85**	95,2	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA SV35	3.867	3.868	**-3,87**	95,2	-	0,00
WEA_G14	2.700	2.702	**0,26**	96,0	-	0,00
WEA_G15	2.136	2.139	**2,39**	96,0	-	0,00
WEA_G16	1.942	1.945	**2,43**	95,2	-	0,00
WEA_G17	1.926	1.929	**2,50**	95,2	-	0,00
WEA_G18	2.484	2.485	**1,02**	96,0	-	0,00
WEA_G19	2.746	2.747	**0,11**	96,0	-	0,00
Sum			**15,50**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_07 IP 07 Lydersholmvej 13 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.926	5.927	**-10,37**	92,9	-	0,00
WEA 02	6.139	6.140	**-10,71**	92,9	-	0,00
WEA 03	6.316	6.316	**-10,98**	92,9	-	0,00
WEA DK01	4.201	4.202	**-7,11**	92,9	-	0,00
WEA DK02	3.810	3.811	**-6,19**	92,9	-	0,00
WEA DK03	3.419	3.420	**-5,19**	92,9	-	0,00
WEA DK04	3.028	3.029	**-4,07**	92,9	-	0,00
WEA DK05	2.638	2.639	**-2,80**	92,9	-	0,00
WEA DK06	2.248	2.250	**-1,35**	92,9	-	0,00
WEA GBW20	2.341	2.344	**-1,72**	92,9	-	0,00
WEA GBW27	3.067	3.069	**-4,19**	92,9	-	0,00
WEA GBW28	2.847	2.849	**-3,50**	92,9	-	0,00
WEA GBW29	2.490	2.493	**-2,28**	92,9	-	0,00
WEA GBW30	2.415	2.417	**-2,00**	92,9	-	0,00
WEA GBW31	2.392	2.395	**-1,91**	92,9	-	0,00
WEA GBW32	2.321	2.324	**-1,64**	92,9	-	0,00
WEA GBW33	2.821	2.823	**-3,42**	92,9	-	0,00
WEA S01	7.099	7.100	**-9,94**	95,3	-	0,00
WEA S02	7.010	7.011	**-9,81**	95,3	-	0,00
WEA S03	6.838	6.839	**-12,77**	91,7	-	0,00
WEA S04	6.473	6.473	**-9,04**	95,3	-	0,00
WEA S05	6.374	6.374	**-8,89**	95,3	-	0,00
WEA S06	5.937	5.938	**-8,20**	95,3	-	0,00
WEA S07	6.005	6.006	**-8,31**	95,3	-	0,00
WEA S08	5.577	5.578	**-7,60**	95,3	-	0,00
WEA S09	5.161	5.162	**-6,86**	95,3	-	0,00
WEA S10	4.832	4.833	**-6,23**	95,3	-	0,00
WEA S11	4.846	4.847	**-6,26**	95,3	-	0,00
WEA S12	4.621	4.622	**-5,81**	95,3	-	0,00
WEA S21	5.738	5.739	**-10,06**	92,9	-	0,00
WEA S22	6.810	6.811	**-11,71**	92,9	-	0,00
WEA S23	5.264	5.265	**-9,24**	92,9	-	0,00
WEA S24	5.127	5.127	**-8,98**	92,9	-	0,00
WEA S25	4.884	4.885	**-8,53**	92,9	-	0,00
WEA SV28	3.694	3.695	**-8,32**	92,4	-	0,00
WEA SV29	3.969	3.970	**-9,01**	92,4	-	0,00
WEA SV31	1.992	1.994	**-2,54**	92,4	-	0,00
WEA SV32	2.077	2.079	**-0,63**	92,9	-	0,00
WEA SV33	2.117	2.119	**-0,80**	92,9	-	0,00
WEA SV34	2.508	2.510	**-2,34**	92,9	-	0,00
WEA SV35	4.318	4.319	**-7,36**	92,9	-	0,00
WEA_G14	3.207	3.208	**-2,13**	95,4	-	0,00
WEA_G15	2.531	2.533	**0,76**	96,1	-	0,00
WEA_G16	2.154	2.157	**-0,96**	92,9	-	0,00
WEA_G17	1.856	1.859	**0,38**	92,9	-	0,00
WEA_G18	2.021	2.023	**2,08**	95,4	-	0,00
WEA_G19	2.185	2.186	**1,37**	95,4	-	0,00
Sum			**12,92**			

- Data undefined due to calculation with octave data

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

Wind speed: 8,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.926	5.927	**-7,90**	95,2	-	0,00
WEA 02	6.139	6.140	**-8,24**	95,2	-	0,00
WEA 03	6.316	6.316	**-8,51**	95,2	-	0,00
WEA DK01	4.201	4.202	**-4,64**	95,2	-	0,00
WEA DK02	3.810	3.811	**-3,73**	95,2	-	0,00
WEA DK03	3.419	3.420	**-2,72**	95,2	-	0,00
WEA DK04	3.028	3.029	**-1,60**	95,2	-	0,00
WEA DK05	2.638	2.639	**-0,34**	95,2	-	0,00
WEA DK06	2.248	2.250	**1,11**	95,2	-	0,00
WEA GBW20	2.341	2.344	**0,74**	95,2	-	0,00
WEA GBW27	3.067	3.069	**-1,72**	95,2	-	0,00
WEA GBW28	2.847	2.849	**-1,04**	95,2	-	0,00
WEA GBW29	2.490	2.493	**0,18**	95,2	-	0,00
WEA GBW30	2.415	2.417	**0,46**	95,2	-	0,00
WEA GBW31	2.392	2.395	**0,55**	95,2	-	0,00
WEA GBW32	2.321	2.324	**0,82**	95,2	-	0,00
WEA GBW33	2.821	2.823	**-0,96**	95,2	-	0,00
WEA S01	7.099	7.100	**-8,35**	96,5	-	0,00
WEA S02	7.010	7.011	**-8,22**	96,5	-	0,00
WEA S03	6.838	6.839	**-9,88**	94,8	-	0,00
WEA S04	6.473	6.473	**-7,45**	96,5	-	0,00
WEA S05	6.374	6.374	**-7,30**	96,5	-	0,00
WEA S06	5.937	5.938	**-6,62**	96,5	-	0,00
WEA S07	6.005	6.006	**-6,73**	96,5	-	0,00
WEA S08	5.577	5.578	**-6,03**	96,5	-	0,00
WEA S09	5.161	5.162	**-5,29**	96,5	-	0,00
WEA S10	4.832	4.833	**-4,67**	96,5	-	0,00
WEA S11	4.846	4.847	**-4,69**	96,5	-	0,00
WEA S12	4.621	4.622	**-4,25**	96,5	-	0,00
WEA S21	5.738	5.739	**-7,59**	95,2	-	0,00
WEA S22	6.810	6.811	**-9,24**	95,2	-	0,00
WEA S23	5.264	5.265	**-6,77**	95,2	-	0,00
WEA S24	5.127	5.127	**-6,52**	95,2	-	0,00
WEA S25	4.884	4.885	**-6,06**	95,2	-	0,00
WEA SV28	3.694	3.695	**-5,08**	93,7	-	0,00
WEA SV29	3.969	3.970	**-5,75**	93,7	-	0,00
WEA SV31	1.992	1.994	**0,57**	93,7	-	0,00
WEA SV32	2.077	2.079	**1,83**	95,2	-	0,00
WEA SV33	2.117	2.119	**1,65**	95,2	-	0,00
WEA SV34	2.508	2.510	**0,12**	95,2	-	0,00
WEA SV35	4.318	4.319	**-4,90**	95,2	-	0,00
WEA_G14	3.207	3.208	**-1,31**	96,0	-	0,00
WEA_G15	2.531	2.533	**0,85**	96,0	-	0,00
WEA_G16	2.154	2.157	**1,50**	95,2	-	0,00
WEA_G17	1.856	1.859	**2,84**	95,2	-	0,00
WEA_G18	2.021	2.023	**2,89**	96,0	-	0,00
WEA_G19	2.185	2.186	**2,19**	96,0	-	0,00
Sum			**14,96**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_08 IP 08 Vindvedvej (DK)

Wind speed: 6,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.482	5.483	**-9,62**	92,9	-	0,00
WEA 02	5.691	5.692	**-9,98**	92,9	-	0,00
WEA 03	5.864	5.865	**-10,27**	92,9	-	0,00
WEA DK01	4.069	4.070	**-6,81**	92,9	-	0,00
WEA DK02	3.677	3.678	**-5,86**	92,9	-	0,00
WEA DK03	3.286	3.287	**-4,82**	92,9	-	0,00
WEA DK04	2.894	2.895	**-3,65**	92,9	-	0,00
WEA DK05	2.503	2.504	**-2,32**	92,9	-	0,00
WEA DK06	2.112	2.114	**-0,78**	92,9	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA GBW20	1.862	1.865	**0,35**	92,9	-	0,00
WEA GBW27	2.790	2.792	**-3,31**	92,9	-	0,00
WEA GBW28	2.528	2.531	**-2,42**	92,9	-	0,00
WEA GBW29	2.157	2.160	**-0,97**	92,9	-	0,00
WEA GBW30	2.039	2.042	**-0,47**	92,9	-	0,00
WEA GBW31	1.978	1.981	**-0,19**	92,9	-	0,00
WEA GBW32	1.877	1.880	**0,28**	92,9	-	0,00
WEA GBW33	2.586	2.589	**-2,62**	92,9	-	0,00
WEA S01	6.850	6.850	**-9,59**	95,3	-	0,00
WEA S02	6.744	6.745	**-9,44**	95,3	-	0,00
WEA S03	6.612	6.613	**-12,45**	91,7	-	0,00
WEA S04	6.213	6.214	**-8,64**	95,3	-	0,00
WEA S05	6.143	6.144	**-8,53**	95,3	-	0,00
WEA S06	5.687	5.688	**-7,79**	95,3	-	0,00
WEA S07	5.779	5.780	**-7,94**	95,3	-	0,00
WEA S08	5.343	5.343	**-7,19**	95,3	-	0,00
WEA S09	4.914	4.915	**-6,39**	95,3	-	0,00
WEA S10	4.566	4.567	**-5,70**	95,3	-	0,00
WEA S11	4.481	4.482	**-5,52**	95,3	-	0,00
WEA S12	4.234	4.235	**-4,98**	95,3	-	0,00
WEA S21	5.524	5.524	**-9,70**	92,9	-	0,00
WEA S22	6.566	6.566	**-11,36**	92,9	-	0,00
WEA S23	4.995	4.996	**-8,74**	92,9	-	0,00
WEA S24	4.763	4.764	**-8,29**	92,9	-	0,00
WEA S25	4.502	4.503	**-7,76**	92,9	-	0,00
WEA SV28	3.495	3.496	**-7,79**	92,4	-	0,00
WEA SV29	3.781	3.782	**-8,55**	92,4	-	0,00
WEA SV31	1.590	1.592	**-0,48**	92,4	-	0,00
WEA SV32	1.603	1.606	**1,70**	92,9	-	0,00
WEA SV33	1.641	1.644	**1,49**	92,9	-	0,00
WEA SV34	2.132	2.134	**-0,87**	92,9	-	0,00
WEA SV35	4.032	4.033	**-6,72**	92,9	-	0,00
WEA_G14	2.975	2.976	**-1,44**	95,4	-	0,00
WEA_G15	2.249	2.252	**1,83**	96,1	-	0,00
WEA_G16	1.795	1.798	**0,68**	92,9	-	0,00
WEA_G17	1.406	1.411	**2,86**	92,9	-	0,00
WEA_G18	1.570	1.573	**4,35**	95,4	-	0,00
WEA_G19	1.780	1.783	**3,22**	95,4	-	0,00
Sum			**14,38**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.482	5.483	**-7,15**	95,2	-	0,00
WEA 02	5.691	5.692	**-7,51**	95,2	-	0,00
WEA 03	5.864	5.865	**-7,80**	95,2	-	0,00
WEA DK01	4.069	4.070	**-4,34**	95,2	-	0,00
WEA DK02	3.677	3.678	**-3,40**	95,2	-	0,00
WEA DK03	3.286	3.287	**-2,35**	95,2	-	0,00
WEA DK04	2.894	2.895	**-1,19**	95,2	-	0,00
WEA DK05	2.503	2.504	**0,14**	95,2	-	0,00
WEA DK06	2.112	2.114	**1,68**	95,2	-	0,00
WEA GBW20	1.862	1.865	**2,81**	95,2	-	0,00
WEA GBW27	2.790	2.792	**-0,85**	95,2	-	0,00
WEA GBW28	2.528	2.531	**0,04**	95,2	-	0,00
WEA GBW29	2.157	2.160	**1,48**	95,2	-	0,00
WEA GBW30	2.039	2.042	**1,99**	95,2	-	0,00
WEA GBW31	1.978	1.981	**2,27**	95,2	-	0,00
WEA GBW32	1.877	1.880	**2,74**	95,2	-	0,00
WEA GBW33	2.586	2.589	**-0,16**	95,2	-	0,00
WEA S01	6.850	6.850	**-8,00**	96,5	-	0,00
WEA S02	6.744	6.745	**-7,85**	96,5	-	0,00
WEA S03	6.612	6.613	**-9,55**	94,8	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S04	6.213	6.214	**-7,06**	96,5	-	0,00
WEA S05	6.143	6.144	**-6,95**	96,5	-	0,00
WEA S06	5.687	5.688	**-6,21**	96,5	-	0,00
WEA S07	5.779	5.780	**-6,37**	96,5	-	0,00
WEA S08	5.343	5.343	**-5,62**	96,5	-	0,00
WEA S09	4.914	4.915	**-4,83**	96,5	-	0,00
WEA S10	4.566	4.567	**-4,13**	96,5	-	0,00
WEA S11	4.481	4.482	**-3,96**	96,5	-	0,00
WEA S12	4.234	4.235	**-3,43**	96,5	-	0,00
WEA S21	5.524	5.524	**-7,23**	95,2	-	0,00
WEA S22	6.566	6.566	**-8,89**	95,2	-	0,00
WEA S23	4.995	4.996	**-6,27**	95,2	-	0,00
WEA S24	4.763	4.764	**-5,82**	95,2	-	0,00
WEA S25	4.502	4.503	**-5,29**	95,2	-	0,00
WEA SV28	3.495	3.496	**-4,57**	93,7	-	0,00
WEA SV29	3.781	3.782	**-5,30**	93,7	-	0,00
WEA SV31	1.590	1.592	**2,60**	93,7	-	0,00
WEA SV32	1.603	1.606	**4,15**	95,2	-	0,00
WEA SV33	1.641	1.644	**3,94**	95,2	-	0,00
WEA SV34	2.132	2.134	**1,59**	95,2	-	0,00
WEA SV35	4.032	4.033	**-4,26**	95,2	-	0,00
WEA_G14	2.975	2.976	**-0,62**	96,0	-	0,00
WEA_G15	2.249	2.252	**1,92**	96,0	-	0,00
WEA_G16	1.795	1.798	**3,14**	95,2	-	0,00
WEA_G17	1.406	1.411	**5,31**	95,2	-	0,00
WEA_G18	1.570	1.573	**5,15**	96,0	-	0,00
WEA_G19	1.780	1.783	**4,03**	96,0	-	0,00
Sum			**16,41**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_09 IP 09 Hovmosevej 1 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.983	5.984	**-10,46**	92,9	-	0,00
WEA 02	6.170	6.170	**-10,76**	92,9	-	0,00
WEA 03	6.304	6.304	**-10,96**	92,9	-	0,00
WEA DK01	5.330	5.330	**-9,35**	92,9	-	0,00
WEA DK02	4.941	4.942	**-8,63**	92,9	-	0,00
WEA DK03	4.553	4.553	**-7,86**	92,9	-	0,00
WEA DK04	4.165	4.166	**-7,02**	92,9	-	0,00
WEA DK05	3.779	3.780	**-6,11**	92,9	-	0,00
WEA DK06	3.394	3.395	**-5,12**	92,9	-	0,00
WEA GBW20	2.184	2.186	**-1,09**	92,9	-	0,00
WEA GBW27	3.911	3.913	**-6,44**	92,9	-	0,00
WEA GBW28	3.589	3.590	**-5,64**	92,9	-	0,00
WEA GBW29	3.212	3.214	**-4,61**	92,9	-	0,00
WEA GBW30	3.003	3.005	**-3,99**	92,9	-	0,00
WEA GBW31	2.827	2.829	**-3,44**	92,9	-	0,00
WEA GBW32	2.603	2.605	**-2,68**	92,9	-	0,00
WEA GBW33	3.773	3.775	**-6,10**	92,9	-	0,00
WEA S01	7.949	7.950	**-11,05**	95,3	-	0,00
WEA S02	7.816	7.817	**-10,88**	95,3	-	0,00
WEA S03	7.750	7.751	**-13,99**	91,7	-	0,00
WEA S04	7.301	7.301	**-10,21**	95,3	-	0,00
WEA S05	7.278	7.279	**-10,18**	95,3	-	0,00
WEA S06	6.796	6.796	**-9,51**	95,3	-	0,00
WEA S07	6.923	6.924	**-9,69**	95,3	-	0,00
WEA S08	6.479	6.480	**-9,05**	95,3	-	0,00
WEA S09	6.036	6.037	**-8,36**	95,3	-	0,00
WEA S10	5.663	5.664	**-7,75**	95,3	-	0,00
WEA S11	5.356	5.357	**-7,21**	95,3	-	0,00
WEA S12	5.045	5.046	**-6,64**	95,3	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S21	6.687	6.688	**-11,54**	92,9	-	0,00
WEA S22	7.676	7.676	**-12,88**	92,9	-	0,00
WEA S23	6.080	6.081	**-10,62**	92,9	-	0,00
WEA S24	5.636	5.636	**-9,89**	92,9	-	0,00
WEA S25	5.321	5.321	**-9,34**	92,9	-	0,00
WEA SV28	4.701	4.702	**-10,66**	92,4	-	0,00
WEA SV29	4.995	4.996	**-11,25**	92,4	-	0,00
WEA SV31	2.530	2.532	**-4,75**	92,4	-	0,00
WEA SV32	2.141	2.144	**-0,91**	92,9	-	0,00
WEA SV33	1.822	1.825	**0,55**	92,9	-	0,00
WEA SV34	1.431	1.434	**2,71**	92,9	-	0,00
WEA SV35	5.105	5.105	**-8,94**	92,9	-	0,00
WEA_G14	4.154	4.155	**-4,54**	95,4	-	0,00
WEA_G15	3.386	3.388	**-1,91**	96,1	-	0,00
WEA_G16	2.823	2.825	**-3,42**	92,9	-	0,00
WEA_G17	2.187	2.190	**-1,10**	92,9	-	0,00
WEA_G18	1.471	1.473	**4,93**	95,4	-	0,00
WEA_G19	1.299	1.303	**6,03**	95,4	-	0,00
Sum			**13,09**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	5.983	5.984	**-7,99**	95,2	-	0,00
WEA 02	6.170	6.170	**-8,29**	95,2	-	0,00
WEA 03	6.304	6.304	**-8,49**	95,2	-	0,00
WEA DK01	5.330	5.330	**-6,88**	95,2	-	0,00
WEA DK02	4.941	4.942	**-6,17**	95,2	-	0,00
WEA DK03	4.553	4.553	**-5,39**	95,2	-	0,00
WEA DK04	4.165	4.166	**-4,56**	95,2	-	0,00
WEA DK05	3.779	3.780	**-3,65**	95,2	-	0,00
WEA DK06	3.394	3.395	**-2,65**	95,2	-	0,00
WEA GBW20	2.184	2.186	**1,37**	95,2	-	0,00
WEA GBW27	3.911	3.913	**-3,97**	95,2	-	0,00
WEA GBW28	3.589	3.590	**-3,17**	95,2	-	0,00
WEA GBW29	3.212	3.214	**-2,15**	95,2	-	0,00
WEA GBW30	3.003	3.005	**-1,53**	95,2	-	0,00
WEA GBW31	2.827	2.829	**-0,97**	95,2	-	0,00
WEA GBW32	2.603	2.605	**-0,22**	95,2	-	0,00
WEA GBW33	3.773	3.775	**-3,64**	95,2	-	0,00
WEA S01	7.949	7.950	**-9,45**	96,5	-	0,00
WEA S02	7.816	7.817	**-9,29**	96,5	-	0,00
WEA S03	7.750	7.751	**-11,10**	94,8	-	0,00
WEA S04	7.301	7.301	**-8,62**	96,5	-	0,00
WEA S05	7.278	7.279	**-8,59**	96,5	-	0,00
WEA S06	6.796	6.796	**-7,92**	96,5	-	0,00
WEA S07	6.923	6.924	**-8,10**	96,5	-	0,00
WEA S08	6.479	6.480	**-7,46**	96,5	-	0,00
WEA S09	6.036	6.037	**-6,78**	96,5	-	0,00
WEA S10	5.663	5.664	**-6,17**	96,5	-	0,00
WEA S11	5.356	5.357	**-5,64**	96,5	-	0,00
WEA S12	5.045	5.046	**-5,08**	96,5	-	0,00
WEA S21	6.687	6.688	**-9,06**	95,2	-	0,00
WEA S22	7.676	7.676	**-10,41**	95,2	-	0,00
WEA S23	6.080	6.081	**-8,15**	95,2	-	0,00
WEA S24	5.636	5.636	**-7,42**	95,2	-	0,00
WEA S25	5.321	5.321	**-6,87**	95,2	-	0,00
WEA SV28	4.701	4.702	**-7,34**	93,7	-	0,00
WEA SV29	4.995	4.996	**-7,91**	93,7	-	0,00
WEA SV31	2.530	2.532	**-1,60**	93,7	-	0,00
WEA SV32	2.141	2.144	**1,55**	95,2	-	0,00
WEA SV33	1.822	1.825	**3,00**	95,2	-	0,00
WEA SV34	1.431	1.434	**5,17**	95,2	-	0,00

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DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

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WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA SV35	5.105	5.105	**-6,48**	95,2	-	0,00
WEA_G14	4.154	4.155	**-3,71**	96,0	-	0,00
WEA_G15	3.386	3.388	**-1,82**	96,0	-	0,00
WEA_G16	2.823	2.825	**-0,96**	95,2	-	0,00
WEA_G17	2.187	2.190	**1,36**	95,2	-	0,00
WEA_G18	1.471	1.473	**5,74**	96,0	-	0,00
WEA_G19	1.299	1.303	**6,84**	96,0	-	0,00
Sum			**14,90**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_10 IP 10 Hovmosevej 15 (DK)

Wind speed: 6,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	6.183	6.184	**-10,78**	92,9	-	0,00
WEA 02	6.342	6.343	**-11,02**	92,9	-	0,00
WEA 03	6.437	6.438	**-11,17**	92,9	-	0,00
WEA DK01	6.283	6.283	**-10,93**	92,9	-	0,00
WEA DK02	5.903	5.903	**-10,33**	92,9	-	0,00
WEA DK03	5.525	5.525	**-9,70**	92,9	-	0,00
WEA DK04	5.149	5.149	**-9,03**	92,9	-	0,00
WEA DK05	4.775	4.776	**-8,31**	92,9	-	0,00
WEA DK06	4.406	4.406	**-7,55**	92,9	-	0,00
WEA GBW20	2.615	2.617	**-2,72**	92,9	-	0,00
WEA GBW27	4.745	4.746	**-8,25**	92,9	-	0,00
WEA GBW28	4.384	4.385	**-7,51**	92,9	-	0,00
WEA GBW29	4.024	4.025	**-6,70**	92,9	-	0,00
WEA GBW30	3.763	3.764	**-6,08**	92,9	-	0,00
WEA GBW31	3.520	3.522	**-5,46**	92,9	-	0,00
WEA GBW32	3.238	3.240	**-4,68**	92,9	-	0,00
WEA GBW33	4.673	4.674	**-8,11**	92,9	-	0,00
WEA S01	8.676	8.677	**-11,92**	95,3	-	0,00
WEA S02	8.514	8.515	**-11,73**	95,3	-	0,00
WEA S03	8.524	8.524	**-14,93**	91,7	-	0,00
WEA S04	8.023	8.023	**-11,14**	95,3	-	0,00
WEA S05	8.054	8.054	**-11,18**	95,3	-	0,00
WEA S06	7.548	7.549	**-10,54**	95,3	-	0,00
WEA S07	7.713	7.713	**-10,75**	95,3	-	0,00
WEA S08	7.267	7.268	**-10,17**	95,3	-	0,00
WEA S09	6.815	6.816	**-9,54**	95,3	-	0,00
WEA S10	6.424	6.424	**-8,96**	95,3	-	0,00
WEA S11	5.914	5.915	**-8,16**	95,3	-	0,00
WEA S12	5.558	5.559	**-7,57**	95,3	-	0,00
WEA S21	7.502	7.502	**-12,66**	92,9	-	0,00
WEA S22	8.418	8.419	**-13,79**	92,9	-	0,00
WEA S23	6.820	6.821	**-11,73**	92,9	-	0,00
WEA S24	6.182	6.183	**-10,78**	92,9	-	0,00
WEA S25	5.829	5.830	**-10,21**	92,9	-	0,00
WEA SV28	5.597	5.597	**-12,38**	92,4	-	0,00
WEA SV29	5.894	5.895	**-12,89**	92,4	-	0,00
WEA SV31	3.318	3.320	**-7,30**	92,4	-	0,00
WEA SV32	2.733	2.735	**-3,13**	92,9	-	0,00
WEA SV33	2.258	2.260	**-1,39**	92,9	-	0,00
WEA SV34	1.212	1.216	**4,19**	92,9	-	0,00
WEA SV35	5.854	5.855	**-10,25**	92,9	-	0,00
WEA_G14	5.035	5.035	**-6,35**	95,4	-	0,00
WEA_G15	4.256	4.258	**-4,04**	96,1	-	0,00
WEA_G16	3.643	3.645	**-5,78**	92,9	-	0,00
WEA_G17	2.923	2.926	**-3,74**	92,9	-	0,00
WEA_G18	1.842	1.845	**2,91**	95,4	-	0,00
WEA_G19	1.426	1.429	**5,21**	95,4	-	0,00
Sum			**11,87**			

- Data undefined due to calculation with octave data

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

Wind speed: 8,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	6.183	6.184	**-8,31**	95,2	-	0,00
WEA 02	6.342	6.343	**-8,55**	95,2	-	0,00
WEA 03	6.437	6.438	**-8,70**	95,2	-	0,00
WEA DK01	6.283	6.283	**-8,46**	95,2	-	0,00
WEA DK02	5.903	5.903	**-7,86**	95,2	-	0,00
WEA DK03	5.525	5.525	**-7,23**	95,2	-	0,00
WEA DK04	5.149	5.149	**-6,56**	95,2	-	0,00
WEA DK05	4.775	4.776	**-5,84**	95,2	-	0,00
WEA DK06	4.406	4.406	**-5,08**	95,2	-	0,00
WEA GBW20	2.615	2.617	**-0,26**	95,2	-	0,00
WEA GBW27	4.745	4.746	**-5,78**	95,2	-	0,00
WEA GBW28	4.384	4.385	**-5,04**	95,2	-	0,00
WEA GBW29	4.024	4.025	**-4,24**	95,2	-	0,00
WEA GBW30	3.763	3.764	**-3,61**	95,2	-	0,00
WEA GBW31	3.520	3.522	**-2,99**	95,2	-	0,00
WEA GBW32	3.238	3.240	**-2,22**	95,2	-	0,00
WEA GBW33	4.673	4.674	**-5,64**	95,2	-	0,00
WEA S01	8.676	8.677	**-10,31**	96,5	-	0,00
WEA S02	8.514	8.515	**-10,13**	96,5	-	0,00
WEA S03	8.524	8.524	**-12,04**	94,8	-	0,00
WEA S04	8.023	8.023	**-9,54**	96,5	-	0,00
WEA S05	8.054	8.054	**-9,58**	96,5	-	0,00
WEA S06	7.548	7.549	**-8,95**	96,5	-	0,00
WEA S07	7.713	7.713	**-9,16**	96,5	-	0,00
WEA S08	7.267	7.268	**-8,57**	96,5	-	0,00
WEA S09	6.815	6.816	**-7,95**	96,5	-	0,00
WEA S10	6.424	6.424	**-7,38**	96,5	-	0,00
WEA S11	5.914	5.915	**-6,59**	96,5	-	0,00
WEA S12	5.558	5.559	**-5,99**	96,5	-	0,00
WEA S21	7.502	7.502	**-10,18**	95,2	-	0,00
WEA S22	8.418	8.419	**-11,32**	95,2	-	0,00
WEA S23	6.820	6.821	**-9,26**	95,2	-	0,00
WEA S24	6.182	6.183	**-8,31**	95,2	-	0,00
WEA S25	5.829	5.830	**-7,74**	95,2	-	0,00
WEA SV28	5.597	5.597	**-8,99**	93,7	-	0,00
WEA SV29	5.894	5.895	**-9,49**	93,7	-	0,00
WEA SV31	3.318	3.320	**-4,09**	93,7	-	0,00
WEA SV32	2.733	2.735	**-0,67**	95,2	-	0,00
WEA SV33	2.258	2.260	**1,07**	95,2	-	0,00
WEA SV34	1.212	1.216	**6,64**	95,2	-	0,00
WEA SV35	5.854	5.855	**-7,78**	95,2	-	0,00
WEA_G14	5.035	5.035	**-5,52**	96,0	-	0,00
WEA_G15	4.256	4.258	**-3,94**	96,0	-	0,00
WEA_G16	3.643	3.645	**-3,31**	95,2	-	0,00
WEA_G17	2.923	2.926	**-1,28**	95,2	-	0,00
WEA_G18	1.842	1.845	**3,72**	96,0	-	0,00
WEA_G19	1.426	1.429	**6,01**	96,0	-	0,00
Sum			**13,71**			

- Data undefined due to calculation with octave data

Noise sensitive area: IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)

Wind speed: 6,0 m/s
WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	4.557	4.558	**-7,87**	92,9	-	0,00
WEA 02	4.739	4.740	**-8,24**	92,9	-	0,00
WEA 03	4.973	4.975	**-8,70**	92,9	-	0,00
WEA DK01	1.164	1.167	**4,55**	92,9	-	0,00
WEA DK02	1.546	1.549	**2,02**	92,9	-	0,00
WEA DK03	1.933	1.935	**0,02**	92,9	-	0,00
WEA DK04	2.321	2.322	**-1,63**	92,9	-	0,00
WEA DK05	2.710	2.712	**-3,05**	92,9	-	0,00
WEA DK06	3.100	3.102	**-4,28**	92,9	-	0,00

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA GBW20	4.933	4.934	**-8,62**	92,9	-	0,00
WEA GBW27	2.595	2.597	**-2,65**	92,9	-	0,00
WEA GBW28	2.976	2.978	**-3,91**	92,9	-	0,00
WEA GBW29	3.313	3.315	**-4,90**	92,9	-	0,00
WEA GBW30	3.601	3.602	**-5,67**	92,9	-	0,00
WEA GBW31	3.886	3.888	**-6,38**	92,9	-	0,00
WEA GBW32	4.199	4.200	**-7,10**	92,9	-	0,00
WEA GBW33	2.656	2.659	**-2,87**	92,9	-	0,00
WEA S01	2.138	2.140	**1,31**	95,3	-	0,00
WEA S02	2.214	2.216	**0,99**	95,3	-	0,00
WEA S03	1.730	1.732	**-0,03**	91,7	-	0,00
WEA S04	1.744	1.746	**3,15**	95,3	-	0,00
WEA S05	1.379	1.383	**5,24**	95,3	-	0,00
WEA S06	1.304	1.307	**5,74**	95,3	-	0,00
WEA S07	1.078	1.082	**7,42**	95,3	-	0,00
WEA S08	968	972	**8,38**	95,3	-	0,00
WEA S09	1.096	1.100	**7,28**	95,3	-	0,00
WEA S10	1.385	1.388	**5,20**	95,3	-	0,00
WEA S11	2.675	2.677	**-0,73**	95,3	-	0,00
WEA S12	3.001	3.002	**-1,78**	95,3	-	0,00
WEA S21	793	798	**7,92**	92,9	-	0,00
WEA S22	1.851	1.853	**0,41**	92,9	-	0,00
WEA S23	1.366	1.369	**3,13**	92,9	-	0,00
WEA S24	2.677	2.679	**-2,94**	92,9	-	0,00
WEA S25	2.948	2.950	**-3,82**	92,9	-	0,00
WEA SV28	1.728	1.731	**-1,24**	92,4	-	0,00
WEA SV29	1.431	1.434	**0,46**	92,4	-	0,00
WEA SV31	4.014	4.015	**-9,12**	92,4	-	0,00
WEA SV32	4.681	4.683	**-8,12**	92,9	-	0,00
WEA SV33	5.206	5.207	**-9,13**	92,9	-	0,00
WEA SV34	6.404	6.405	**-11,12**	92,9	-	0,00
WEA SV35	1.798	1.800	**0,67**	92,9	-	0,00
WEA_G14	2.289	2.291	**0,95**	95,4	-	0,00
WEA_G15	3.068	3.070	**-1,00**	96,1	-	0,00
WEA_G16	3.685	3.686	**-5,88**	92,9	-	0,00
WEA_G17	4.418	4.419	**-7,58**	92,9	-	0,00
WEA_G18	5.581	5.582	**-7,34**	95,4	-	0,00
WEA_G19	6.033	6.034	**-8,09**	95,4	-	0,00
Sum			**17,92**			

- Data undefined due to calculation with octave data

Wind speed: 8,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA 01	4.557	4.558	**-5,40**	95,2	-	0,00
WEA 02	4.739	4.740	**-5,77**	95,2	-	0,00
WEA 03	4.973	4.975	**-6,23**	95,2	-	0,00
WEA DK01	1.164	1.167	**7,00**	95,2	-	0,00
WEA DK02	1.546	1.549	**4,48**	95,2	-	0,00
WEA DK03	1.933	1.935	**2,48**	95,2	-	0,00
WEA DK04	2.321	2.322	**0,82**	95,2	-	0,00
WEA DK05	2.710	2.712	**-0,59**	95,2	-	0,00
WEA DK06	3.100	3.102	**-1,82**	95,2	-	0,00
WEA GBW20	4.933	4.934	**-6,15**	95,2	-	0,00
WEA GBW27	2.595	2.597	**-0,19**	95,2	-	0,00
WEA GBW28	2.976	2.978	**-1,45**	95,2	-	0,00
WEA GBW29	3.313	3.315	**-2,43**	95,2	-	0,00
WEA GBW30	3.601	3.602	**-3,20**	95,2	-	0,00
WEA GBW31	3.886	3.888	**-3,91**	95,2	-	0,00
WEA GBW32	4.199	4.200	**-4,63**	95,2	-	0,00
WEA GBW33	2.656	2.659	**-0,41**	95,2	-	0,00
WEA S01	2.138	2.140	**2,84**	96,5	-	0,00
WEA S02	2.214	2.216	**2,52**	96,5	-	0,00
WEA S03	1.730	1.732	**2,90**	94,8	-	0,00

To be continued on next page...

DECIBEL - Detailed results

Calculation: Total Impact (Existing and planned WTG) - low frequency**Noise calculation model:** Danish low frequency 2019

...continued from previous page

WTG

No.	Distance [m]	Sound distance [m]	**Calculated [dB(A)]**	LwA,ref [dB(A)]	Aatm [dB]	Agr [dB]
WEA S04	1.744	1.746	**4,67**	96,5	-	0,00
WEA S05	1.379	1.383	**6,76**	96,5	-	0,00
WEA S06	1.304	1.307	**7,26**	96,5	-	0,00
WEA S07	1.078	1.082	**8,94**	96,5	-	0,00
WEA S08	968	972	**9,89**	96,5	-	0,00
WEA S09	1.096	1.100	**8,79**	96,5	-	0,00
WEA S10	1.385	1.388	**6,72**	96,5	-	0,00
WEA S11	2.675	2.677	**0,81**	96,5	-	0,00
WEA S12	3.001	3.002	**-0,24**	96,5	-	0,00
WEA S21	793	798	**10,37**	95,2	-	0,00
WEA S22	1.851	1.853	**2,87**	95,2	-	0,00
WEA S23	1.366	1.369	**5,58**	95,2	-	0,00
WEA S24	2.677	2.679	**-0,48**	95,2	-	0,00
WEA S25	2.948	2.950	**-1,36**	95,2	-	0,00
WEA SV28	1.728	1.731	**1,85**	93,7	-	0,00
WEA SV29	1.431	1.434	**3,53**	93,7	-	0,00
WEA SV31	4.014	4.015	**-5,85**	93,7	-	0,00
WEA SV32	4.681	4.683	**-5,66**	95,2	-	0,00
WEA SV33	5.206	5.207	**-6,66**	95,2	-	0,00
WEA SV34	6.404	6.405	**-8,65**	95,2	-	0,00
WEA SV35	1.798	1.800	**3,13**	95,2	-	0,00
WEA_G14	2.289	2.291	**1,76**	96,0	-	0,00
WEA_G15	3.068	3.070	**-0,91**	96,0	-	0,00
WEA_G16	3.685	3.686	**-3,42**	95,2	-	0,00
WEA_G17	4.418	4.419	**-5,11**	95,2	-	0,00
WEA_G18	5.581	5.582	**-6,50**	96,0	-	0,00
WEA_G19	6.033	6.034	**-7,24**	96,0	-	0,00
Sum			**19,85**			

- Data undefined due to calculation with octave data

13.23 Assumptions for calculation (existing & planned WTG's), low frequency noise

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:22/3.5.584

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

Noise calculation model:
Danish low frequency 2019
Wind speed (in 10 m height):
6,0 m/s - 8,0 m/s, Schritt 2,0 m/s
Terrain reduction:
-1.5 dB(A) Onshore
-3 dB(A) Offshore
Meteorological coefficient, C0:
0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Pure tones penalty is added to total noise impact at receptors
Noise sensitive area
Height above ground level, when no value in NSA object:
1,5 m; Don't allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in NSA has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)
Low frequency calculation

All coordinates are in
UTM (north)-ETRS89 Zone: 32

WTG: NORDEX N133/4.8 4800 133.0 !O!
Noise: N133/4.8MW (STE) Mode 0

Source	Source/Date	Creator	Edited
Nordex Dok.: F008_272_A19_IN	13.01.2022	USER	30.08.2022 15:10

Daten für WEA-Konfiguration mit STE im Mode 0 zzgl. 1,7 dB Herstellerunsicherheit

				Low frequency data											
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	110,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	110,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: Siemens SWT-2.3-93 2300 92.6 !O!
Noise: Level 0 - SWT-2.3-93 Rev.4. 105.4dB(A)

Source	Source/Date	Creator	Edited
SIEMENS Rev.4	27.04.2016	EMD	02.05.2016 13:18

				Low frequency data											
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
From other hub height	93,0	6,0	92,4	40,1	45,2	51,6	58,0	62,5	66,0	70,5	73,5	76,8	79,5	82,0	88,3	88,7
From other hub height	93,0	8,0	93,7	51,0	54,8	59,2	63,7	70,5	72,1	74,8	77,4	79,7	82,6	83,9	90,0	88,5

WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S32 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb, Oktaven aus 10264960-A-3-A skaliert

				Low frequency data											
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	100,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	100,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S33 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb
Oktaven aus 10264960-A-3-A skaliert

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	100,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	100,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: REpower 6 M 6000 126.0 !O!
Noise: WEA S34 REpower 6M

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 10:59

genehmigter max. LWA 107,0 dB(A) für den Tagbetrieb
Oktaven 10264960-A-3-A skaliert

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	100,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	100,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: ENERCON E-101 3000 101.0 !-!
Noise: WEA S35 Enercon E-101

Source	Source/Date	Creator	Edited
101264960-A-3-A	26.11.2021	USER	11.12.2020 07:20

6 m/s, 7 m/s: ENERCON Dok. ID: D0467531-0

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	99,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	99,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: Siemens SWT-3.0-113 3000 113.0 !O!
Noise: Level 0 - Calculated - Std. 105.5dB - 04-2016

Source	Source/Date	Creator	Edited
Manufacturer	26.04.2016	EMD	27.07.2016 14:05

Noise Curve Rev. 0
Siemens Wind Power and its affiliates reserve the right to change the above specifications without prior notice.

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
From Windcat	92,5	6,0	95,3	43,4	51,0	57,6	62,6	67,6	71,6	75,2	78,2	84,2	88,3	86,6	89,0	90,2
From Windcat	92,5	8,0	96,5	47,3	55,0	60,8	65,4	70,3	73,2	77,3	79,8	83,6	91,3	87,9	89,5	90,6

WTG: Siemens SWT-3.0-101 3000 101.0 !O!
Noise: Level 0 - Calculated - Std. 107dB - 4-2016 rev4

Source	Source/Date	Creator	Edited
Siemens	26.04.2016	EMD	11.05.2016 14:27

Rev. 4.

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
From Windcat	79,5	6,0	91,7	41,4	46,4	53,6	59,4	64,6	68,7	73,7	76,3	78,8	84,5	83,9	86,0	86,0
From Windcat	79,5	8,0	94,8	46,4	51,0	56,7	61,9	66,7	71,1	78,1	78,9	81,4	85,2	87,1	89,7	89,9

Project:
WP Ellhöft

Licensed user:
GL Garrad Hassan Deutschland GmbH
Sommerdeich 14 b
DE-25709 Kaiser-Wilhelm-Koog
(0 48 56)901-0

Calculated:
30.08.2022 15:22/3.5.584

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

WTG: VESTAS V112-3.3 Gridstreame 3300 112.0 !O!
Noise: WEA01 bis WEA 03 Vestas V112/3.3WM

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 11:18

genehmigter max. LWA 104,4dB(A) für den Tagbetrieb

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	94,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	94,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V112-3.3 Gridstreame 3300 112.0 !O!
Noise: WEA01 bis WEA 03 Vestas V112/3.3WM

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 11:18

genehmigter max. LWA 104,4dB(A) für den Tagbetrieb

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	94,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	94,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V112-3.3 Gridstreame 3300 112.0 !O!
Noise: WEA01 bis WEA 03 Vestas V112/3.3WM

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 11:18

genehmigter max. LWA 104,4dB(A) für den Tagbetrieb

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	94,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	94,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK01 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-1-A	26.11.2021	USER	26.11.2021 11:26

Mode SO1

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK02 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 12:54

Mode SO1

Low frequency data

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK03 Vestas V126/3.45MW Mode SO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 12:54

Mode SO1

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK04 Vestas V126/3.45MW Mode 0

Source	Source/Date	Creator	Edited
10264960-A-1-A	26.11.2021	USER	26.11.2021 11:26

Mode 0

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK05 Vestas V126/3.45MW Mode PO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 13:00

Mode PO1

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: VESTAS V126-3.45 HTq 3450 126.0 !O!
Noise: WEA DK06 Vestas V126/3.45MW Mode PO1

Source	Source/Date	Creator	Edited
10264960-A-3-A	26.11.2021	USER	26.11.2021 13:00

Mode PO1

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	87,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	87,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: Siemens SWT-3.2-113 2A 3200 113.0 !O!
Noise: Level 1 - Calculated - -1dB - 04-2016

Source	Source/Date	Creator	Edited
Manufacturer	26.04.2016	EMD	23.05.2016 10:15

Noise Curve Rev. 0.
Siemens Wind Power and its affiliates reserve the right to change the above specifications without prior notice.

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
From Windcat	115,0	6,0	96,1	44,5	52,1	58,7	63,7	68,7	72,7	76,3	79,3	85,2	89,3	87,5	89,8	91,0
From Windcat	92,5	6,0	95,4	43,8	51,4	58,0	63,0	68,0	71,9	75,5	78,5	84,5	88,6	86,8	89,1	90,3
From Windcat	115,0	8,0	96,0	46,3	54,0	60,0	64,7	69,7	72,8	76,8	79,3	84,1	90,3	87,5	89,3	90,4
From Windcat	92,5	8,0	96,0	46,3	54,0	60,0	64,7	69,7	72,8	76,8	79,3	84,1	90,3	87,5	89,3	90,4

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency
WTG: Siemens SWT-DD-130 4300 130.0 !O!
Noise: Mode 2 - Calculated - -1dB rev1- 06-2018

Source	Source/Date	Creator	Edited
Manufacturer	11.06.2018	EMD	11.06.2018 10:27

Noise Curve Rev. 1.
Siemens Wind Power and its affiliates reserve the right to change the above specifications without prior notice.

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	115,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	115,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

WTG: NORDEX N117/3600 3600 116.8 !O!
Noise: Serrations Mode 00 - 103.5 db(A)_octave - F008 256 A19 R01

Source	Source/Date	Creator	Edited
NORDEX F008_256_A19_R01	24.01.2020	USER	25.11.2021 14:34

				Low frequency data												
Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
Generic data based on turbine power (very uncertain)	91,0	6,0	92,9	50,8	54,5	58,6	62,3	66,2	69,7	74,0	77,6	80,5	82,5	84,4	88,5	87,5
Generic data based on turbine power (very uncertain)	91,0	8,0	95,2	50,2	54,4	59,0	63,2	67,7	71,5	76,1	80,7	83,6	85,8	87,6	90,2	89,5

Noise sensitive area: IP_01 IP 01 Bremsbolvej 2 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand
dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_02 IP 02 Bremsbolvej 3 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand
dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_03 IP 03 Bremsbolvej (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz	12,5 Hz	16,0 Hz	20,0 Hz	25,0 Hz	31,5 Hz	40,0 Hz	50,0 Hz	63,0 Hz	80,0 Hz	100,0 Hz	125,0 Hz	160,0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_04 IP 04 Sændholm (1) (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz	12,5 Hz	16,0 Hz	20,0 Hz	25,0 Hz	31,5 Hz	40,0 Hz	50,0 Hz	63,0 Hz	80,0 Hz	100,0 Hz	125,0 Hz	160,0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_05 IP 05 Karlsminde (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz	12,5 Hz	16,0 Hz	20,0 Hz	25,0 Hz	31,5 Hz	40,0 Hz	50,0 Hz	63,0 Hz	80,0 Hz	100,0 Hz	125,0 Hz	160,0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_06 IP 06 Karlsmindevej 1 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz	12,5 Hz	16,0 Hz	20,0 Hz	25,0 Hz	31,5 Hz	40,0 Hz	50,0 Hz	63,0 Hz	80,0 Hz	100,0 Hz	125,0 Hz	160,0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency

Noise sensitive area: IP_07 IP 07 Lydersholmvej 13 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_08 IP 08 Vindvedvej (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_09 IP 09 Hovmosevej 1 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

Noise sensitive area: IP_10 IP 10 Hovmosevej 15 (DK)

Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand

dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

DECIBEL - Assumptions for noise calculation

Calculation: Total Impact (Existing and planned WTG) - low frequency
Noise sensitive area: IP_11 IP 11 Sonderlogumlandvej 9A/B (DK)
Predefined calculation standard: Reguläre Wohnstätte
Immission height(a.g.l.): Use standard value from calculation model
Uncertainty margin: Use default value from calculation model

Noise demand:

6,0 [m/s]	8,0 [m/s]
20,0 dB(A)	20,0 dB(A)

No distance demand
dLsigma

10,0 Hz [dB]	12,5 Hz [dB]	16,0 Hz [dB]	20,0 Hz [dB]	25,0 Hz [dB]	31,5 Hz [dB]	40,0 Hz [dB]	50,0 Hz [dB]	63,0 Hz [dB]	80,0 Hz [dB]	100,0 Hz [dB]	125,0 Hz [dB]	160,0 Hz [dB]
4,9	5,9	4,6	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2

Pure tone penalty: 0 dB

About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analysing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.