

DECIBEL - Main Result

Calculation: Mūra_Nordex N-54

Noise calculation model:

ISO 9613-2 General

Wind speed (at 10 m height):

10,0 m/s

Ground attenuation:

General, Ground factor: 0,5

Meteorological coefficient, CO:

Selected option: All receptors downwind of all wind turbines (Cmet = 0)

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:

Fixed penalty added to source noise of WTGs with pure tones

Model: 5,0 dB(A)

Height above ground level, when no value in NSA object:

2,0 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)

All coordinates are in

Geo [deg]-WGS84



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:10 000

New WTG

Noise sensitive area

WTGs

Longitude	Latitude	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]
				Valid	Manufact.	Type-generator				Creator	Name		
1 23,052046° E	58,864438° N	0,0	NORDEX N-54/1000 1000-...	No	NORDEX	N-54/1000-1 000/200	1 000	54,0	60,0	EMD	WiCo 10/99 60m 10m/s	10,0	101,7 h
h) Generic octave distribution used													

Calculation Results

Sound level

Noise sensitive area

No.	Name	Longitude	Latitude	Z	Immission height	Noise	Sound level
				[m]	[m]	[dB(A)]	From WTGs [dB(A)]
Fredi	Noise sensitive area: User defined (8)	23,042943° E	58,866402° N	1,7	2,0	40,0	39,2
Kalmeri	Noise sensitive area: User defined (5)	23,043180° E	58,864067° N	6,3	2,0	40,0	40,2
Kiviranniku	Noise sensitive area: User defined (1)	23,046682° E	58,863285° N	5,8	2,0	40,0	44,5
Passi	Noise sensitive area: User defined (4)	23,044016° E	58,864328° N	4,5	2,0	40,0	41,3
Posti	Noise sensitive area: User defined (7)	23,043437° E	58,866258° N	1,7	2,0	40,0	39,8
Suuremaja	Noise sensitive area: User defined (2)	23,045454° E	58,863340° N	5,3	2,0	40,0	42,7
Tambi	Noise sensitive area: User defined (3)	23,045003° E	58,862342° N	10,0	2,0	40,0	41,2
Veeru	Noise sensitive area: User defined (6)	23,042557° E	58,865104° N	4,6	2,0	40,0	39,5

Distances (m)

NSA	WTG
	1
Fredi	569
Kalmeri	513
Kiviranniku	335
Passi	463
Posti	536
Suuremaja	399
Tambi	469
Veeru	552

DECIBEL - Detailed results

Calculation: Mürä_Nordex N-54 Noise calculation model: ISO 9613-2 General 10,0 m/s

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: Fredi Noise sensitive area: User defined (8)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	569	572	39,17	101,7	5,0	0,00	66,14	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Kalmeri Noise sensitive area: User defined (5)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	513	516	40,24	101,7	5,0	0,00	65,25	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Kiviranniku Noise sensitive area: User defined (1)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	335	339	44,46	101,7	5,0	0,00	61,61	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Passi Noise sensitive area: User defined (4)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	463	466	41,27	101,7	5,0	0,00	64,38	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Posti Noise sensitive area: User defined (7)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	536	539	39,78	101,7	5,0	0,00	65,64	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Suuremaja Noise sensitive area: User defined (2)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	399	403	42,74	101,7	5,0	0,00	63,11	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

DECIBEL - Detailed results

Calculation: Mürä_Nordex N-54 Noise calculation model: ISO 9613-2 General 10,0 m/s

Noise sensitive area: Tambi Noise sensitive area: User defined (3)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	469	471	41,17	101,7	5,0	0,00	64,46	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

Noise sensitive area: Veeru Noise sensitive area: User defined (6)

Wind speed: 10,0 m/s

WTG

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Pure tones [dB]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
1	552	555	39,48	101,7	5,0	0,00	65,89	-	-	0,00	0,00	-

- Data undefined due to calculation with octave data

DECIBEL - Assumptions for noise calculation

Calculation: Mūra_Nordex N-54

Noise calculation model:

ISO 9613-2 General

Wind speed (at 10 m height):

10,0 m/s

Ground attenuation:

General, Ground factor: 0,5

Meteorological coefficient, CO:

Selected option: All receptors downwind of all wind turbines (Cmet = 0)

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:

Fixed penalty added to source noise of WTGs with pure tones

Model: 5,0 dB(A)

Height above ground level, when no value in NSA object:

2,0 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]
0,10	0,40	1,00	1,90	3,70	9,70	32,80	117,00

All coordinates are in

Geo [deg]-WGS84

WTG: NORDEX N-54/1000 1000-200 54.0 !-!

Noise: WiCo 10/99 60m 10m/s

Source	Source/Date	Creator	Edited
WINDConsult WICO 15001699	05.10.1999	EMD	15.06.2001 16:46

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Penalty [dB]	Octave data								
						63	125	250	500	1000	2000	4000	8000	
From Windcat	60,0	10,0	101,7	Yes	0,0	Generic data	83,3	90,3	93,7	96,3	96,1	93,2	88,4	78,9

Noise sensitive area: Fredi Noise sensitive area: User defined (8)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Kalmeri Noise sensitive area: User defined (5)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Kiviranniku Noise sensitive area: User defined (1)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

DECIBEL - Assumptions for noise calculation

Calculation: Mürä_Nordex N-54

Noise sensitive area: Passi Noise sensitive area: User defined (4)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Posti Noise sensitive area: User defined (7)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Suuremaja Noise sensitive area: User defined (2)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Tambi Noise sensitive area: User defined (3)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

Noise sensitive area: Veeru Noise sensitive area: User defined (6)

Predefined calculation standard:

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: Use default value from calculation model

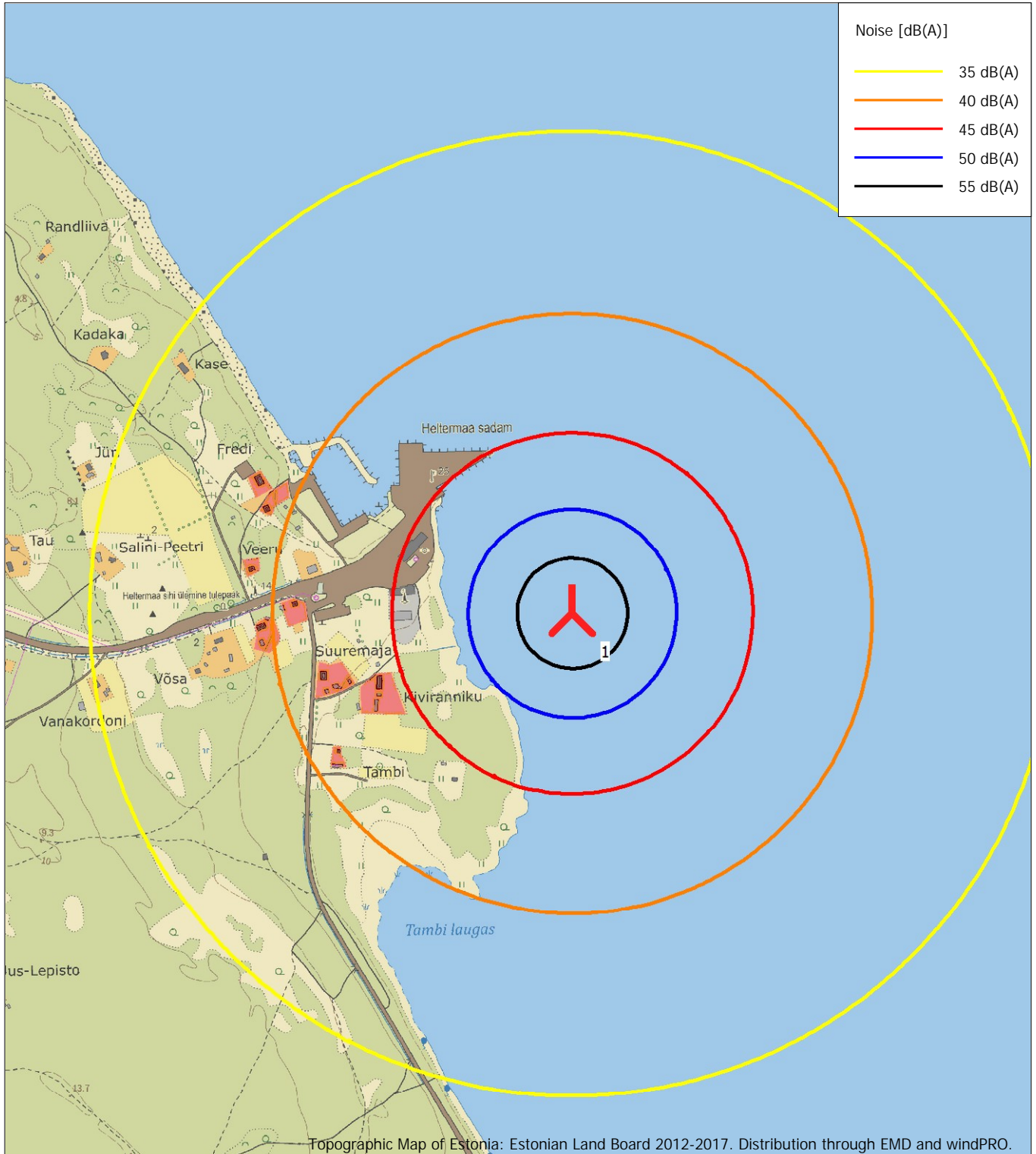
No temporal binning

Noise demand: 40,0 dB(A)

No distance demand

DECIBEL - Map 10,0 m/s

Calculation: Mūra_Nordex N-54



0 100 200 300 400 m

Map: Estonian Topographic Map, Print scale 1:10 000, Map center Geo WGS84 East: 23,049791° E North: 58,864744° N

New WTG

Noise sensitive area

Noise calculation model: ISO 9613-2 General. Wind speed: 10,0 m/s
Height above sea level from active line object