

| Project   Properties |                          |  |  |  |
|----------------------|--------------------------|--|--|--|
| Topic:               | Noise                    |  |  |  |
| Type of prediction:  | Noise (national methods) |  |  |  |
| Rating following::   | Lden                     |  |  |  |
| Project notes        |                          |  |  |  |

| Work area                     |                                          |                  |            |            |
|-------------------------------|------------------------------------------|------------------|------------|------------|
| Coordinate system:            | Latvian Transversal Mercator coordinates |                  |            |            |
| Coordinate datum:             | LKS92 (LV), geozentral, GRS80            |                  |            |            |
|                               | from ...                                 | to ...           | Dimensions | Area       |
| x /m                          | 357470.00                                | 366660.00        | 9190.00    | 124.34 km² |
| y /m                          | 321520.00                                | 335050.00        | 13530.00   |            |
| z /m                          | -10.00                                   | 110.00           | 120.00     |            |
| Terrain height in the corners |                                          |                  |            |            |
| xmin / ymax (z4)              | 0.00                                     | xmax / ymax (z3) | -0.00      |            |
| xmin / ymin (z1)              | 0.00                                     | xmax / ymin (z2) | 0.00       |            |

| Attribution of element groups to variants |           |               |  |  |  |
|-------------------------------------------|-----------|---------------|--|--|--|
| Element group                             | Variant 0 | A alternativa |  |  |  |
| Group 0                                   | +         | +             |  |  |  |
| 3 m/s                                     | +         | +             |  |  |  |
| 4 m/s                                     | +         | +             |  |  |  |
| 5 m/s                                     | +         | +             |  |  |  |
| 6 m/s                                     | +         | +             |  |  |  |
| 7 m/s                                     | +         | +             |  |  |  |
| 8 m/s                                     | +         | +             |  |  |  |
| 9 m/s                                     | +         | +             |  |  |  |
| 10 m/s                                    | +         | +             |  |  |  |
| 11 m/s                                    | +         | +             |  |  |  |
| 12 m/s                                    | +         | +             |  |  |  |
| 13 m/s                                    | +         | +             |  |  |  |
| 14 m/s                                    | +         | +             |  |  |  |
| >= 15 m/s                                 | +         | +             |  |  |  |

| Available calculation areas |           |           |           |           |       |       |     |      |           |          |               |  |
|-----------------------------|-----------|-----------|-----------|-----------|-------|-------|-----|------|-----------|----------|---------------|--|
| Name                        | x min /m  | x max /m  | y min /m  | y max /m  | dx /m | dy /m | nx  | ny   | Reference | Height/m | Range         |  |
| Grid 0                      | 357478.94 | 366646.53 | 321633.86 | 335037.38 | 10.00 | 10.00 | 917 | 1341 | relative  | 4.00     | Land-use only |  |

| Calculation parameters                                    |                      |                      |  | Copy from "Reference Setting" |                  |  |
|-----------------------------------------------------------|----------------------|----------------------|--|-------------------------------|------------------|--|
| Calculation model: General                                |                      |                      |  | Point calculation             | Grid calculation |  |
| Adapt assessment area seamlessly to the receiver position |                      |                      |  |                               |                  |  |
| L /m                                                      |                      |                      |  |                               |                  |  |
| Terrain triangulation edges are obstacle                  | Yes                  | Yes                  |  |                               |                  |  |
| consider negative loop way at terrain triangular lines    | Yes                  | Yes                  |  |                               |                  |  |
| Improved interpolation in boundary areas                  | Yes                  | Yes                  |  |                               |                  |  |
| Free field in front of refl. surfaces/m                   |                      |                      |  |                               |                  |  |
| acc. to sources                                           | 1.0                  | 1.0                  |  |                               |                  |  |
| acc. to immission points                                  | 1.0                  | 1.0                  |  |                               |                  |  |
| House: white border in grid                               | No                   | No                   |  |                               |                  |  |
| Intermediate messages:                                    | No                   | No                   |  |                               |                  |  |
| Calculation model: Parameters                             | "reference settings" | "reference settings" |  |                               |                  |  |
| Limiting range of sound sources:                          |                      |                      |  |                               |                  |  |
| * Limit the search radius (distance source-IP):           | No                   | No                   |  |                               |                  |  |
| * minimum level difference /dB:                           | No                   | No                   |  |                               |                  |  |
| Projection of line sound sources                          | Yes                  | Yes                  |  |                               |                  |  |
| Projection of area sound sources                          | Yes                  | Yes                  |  |                               |                  |  |
| Limit projection                                          | No                   | No                   |  |                               |                  |  |
| * Radius /m around source:                                |                      |                      |  |                               |                  |  |

|                                                     |     |     |  |  |
|-----------------------------------------------------|-----|-----|--|--|
| * Radius /m around IP:                              |     |     |  |  |
| Minimum length for sections /m                      | 1.0 | 1.0 |  |  |
| Variable min. length for sections:                  |     |     |  |  |
| * in percent of the distance from the IP source     | No  | No  |  |  |
| Add. factor for distance criterion                  | 1.0 | 1.0 |  |  |
| Barrier attenuation differing from guideline:       | No  | No  |  |  |
| * Cut-off limit for insertion loss:                 |     |     |  |  |
| * Limit /dB for single screens:                     |     |     |  |  |
| * Limit /dB for multiple screens:                   |     |     |  |  |
| Calculate attenuation for VDI 2720, ISO9613         |     |     |  |  |
| * Lateral pathway                                   | Yes | Yes |  |  |
| * Lateral pathway for image sources                 | No  | No  |  |  |
|                                                     |     |     |  |  |
| Reflection                                          |     |     |  |  |
| Reflection (max. order)                             | 1   | 1   |  |  |
| Limit the search radius (distance source-IP):       | No  | No  |  |  |
| * Search radius /m                                  |     |     |  |  |
| Limiting range of reflecting surfaces /m:           |     |     |  |  |
| * Radius around source or IP /m:                    | No  | No  |  |  |
| * minimum level difference /dB:                     | No  | No  |  |  |
| Image source from projection                        | Yes | Yes |  |  |
| No refl. if entirely screened                       | Yes | Yes |  |  |
| Save rays as help lines                             | No  | No  |  |  |
|                                                     |     |     |  |  |
|                                                     |     |     |  |  |
| section control                                     |     |     |  |  |
| Section control acc. Schall 03 [2012]:              | Yes | Yes |  |  |
| Section control for other calculation methods, too: | No  | No  |  |  |
| Accelerated iteration (approximation):              | No  | No  |  |  |
| Requested accuracy /dB:                             | 0.1 | 0.1 |  |  |
| Show intermediate results:                          | No  | No  |  |  |

| Global parameters                                      | Copy from "Reference Setting" |         |       |  |  |  |
|--------------------------------------------------------|-------------------------------|---------|-------|--|--|--|
| Default for G outside DBOD-elements                    | 1.00                          |         |       |  |  |  |
| Temperature /°C                                        | 5                             |         |       |  |  |  |
| Relative humidity /%                                   | 80                            |         |       |  |  |  |
| Living area per inhab-/m² (=0.8*gross)                 | 40.00                         |         |       |  |  |  |
| Average storey height /m                               | 2.80                          |         |       |  |  |  |
| Simplified meteorology (Guideline Int. Comp. Methods): | Day                           | Evening | Night |  |  |  |
| Simplified meteorology (Guideline Int. Comp. Methods): | 2.00                          | 1.00    | 0.00  |  |  |  |

| Parameters of library: CNOSSOS-EU         | Copy from "Reference Setting" |  |  |  |  |  |
|-------------------------------------------|-------------------------------|--|--|--|--|--|
| Selection of meteo parameters             |                               |  |  |  |  |  |
| Day (12h)                                 | 100 % favourable              |  |  |  |  |  |
| Night (8h)                                | 100 % favourable              |  |  |  |  |  |
| Evening (4h)                              | 100 % favourable              |  |  |  |  |  |
| lateral pathway at point sources          | Yes                           |  |  |  |  |  |
| improved algorithm for double diffraction | Yes                           |  |  |  |  |  |
| Accounts for vegetation                   | No                            |  |  |  |  |  |
| Accounts for housing                      | No                            |  |  |  |  |  |
| Accounts for ground effect                | Yes                           |  |  |  |  |  |

| Emission spectra (Internal database) |            |      |       |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|--------------------------------------|------------|------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Name                                 | Σ<br>dB(A) | Type |       | 16<br>Hz             | 32<br>Hz             | 63<br>Hz             | 125<br>Hz            | 250<br>Hz            | 500<br>Hz            | 1000<br>Hz           | 2000<br>Hz           | 4000<br>Hz           | 8000<br>Hz           |
| Vestas V172 3 m/s                    | 97.8       | A    | dB(A) | 34.7<br>41.3<br>47.5 | 53.7<br>59.4<br>64.5 | 69.1<br>73.2<br>76.6 | 79.4<br>81.7<br>83.5 | 84.8<br>86.0<br>86.9 | 87.7<br>88.2<br>88.3 | 88.0<br>87.4<br>86.3 | 84.9<br>83.1<br>80.9 | 78.3<br>78.3<br>72.0 | 68.3<br>64.2<br>59.7 |
| Vestas V172 4 m/s                    | 97.8       | A    | dB(A) | 33.9<br>40.6<br>46.8 | 53.1<br>58.9<br>64.1 | 68.7<br>72.8<br>76.3 | 79.2<br>81.6<br>83.4 | 84.7<br>86.0<br>86.9 | 87.7<br>88.2<br>88.3 | 88.1<br>87.4<br>86.4 | 84.9<br>83.1<br>80.9 | 78.3<br>75.3<br>71.9 | 68.2<br>64.1<br>59.5 |

|                    |       |   |       |                      |                      |                      |                      |                      |                         |                      |                      |                      |                      |
|--------------------|-------|---|-------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|
| Vestas V172 5 m/s  | 98.4  | A | dB(A) | 34.5<br>41.2<br>47.5 | 53.8<br>59.6<br>64.8 | 69.5<br>73.6<br>77.1 | 80.0<br>82.3<br>84.1 | 85.4<br>86.7<br>87.5 | 88.4<br>88.9<br>89.0    | 88.6<br>87.9<br>86.8 | 85.4<br>83.5<br>81.2 | 78.6<br>75.5<br>72.1 | 68.3<br>64.0<br>59.4 |
| Vestas V172 6 m/s  | 101.8 | A | dB(A) | 38.3<br>44.6<br>50.9 | 56.8<br>62.6<br>68.0 | 72.8<br>77.1<br>80.7 | 83.8<br>86.3<br>88.2 | 89.6<br>90.5<br>91.3 | 91.7<br>92.1<br>92.2    | 91.8<br>91.1<br>90.0 | 88.4<br>86.5<br>84.2 | 81.5<br>78.4<br>74.9 | 71.0<br>66.8<br>62.1 |
| Vestas V172 7 m/s  | 105.4 | A | dB(A) | 42.1<br>48.4<br>54.7 | 60.6<br>66.4<br>71.7 | 76.6<br>80.8<br>84.5 | 87.5<br>90.0<br>91.9 | 93.2<br>94.1<br>94.9 | 95.3<br>95.8<br>95.8    | 95.4<br>94.6<br>93.5 | 91.9<br>90.0<br>87.7 | 85.0<br>81.8<br>78.3 | 74.4<br>70.1<br>65.5 |
| Vestas V172 8 m/s  | 108.8 | A | dB(A) | 45.5<br>51.7<br>57.6 | 63.5<br>69.0<br>74.5 | 79.4<br>83.8<br>87.7 | 90.9<br>93.6<br>95.6 | 97.1<br>98.1<br>98.5 | 98.9<br>99.0<br>99.0    | 98.6<br>97.8<br>96.6 | 95.1<br>93.1<br>90.8 | 88.0<br>84.9<br>81.4 | 77.5<br>73.1<br>68.4 |
| Vestas V172 9 m/s  | 110.1 | A | dB(A) | 46.9<br>53.2<br>59.1 | 65.0<br>70.4<br>75.9 | 80.8<br>85.2<br>89.0 | 92.3<br>94.9<br>97.0 | 98.5<br>99.4<br>99.9 | 100.3<br>100.3<br>100.3 | 99.9<br>99.1<br>97.9 | 96.3<br>94.3<br>92.0 | 89.2<br>86.1<br>82.5 | 78.6<br>74.3<br>69.6 |
| Vestas V172 10 m/s | 110.1 | A | dB(A) | 46.9<br>53.2<br>59.1 | 64.9<br>70.4<br>75.9 | 80.8<br>85.2<br>89.0 | 92.3<br>94.9<br>97.0 | 98.4<br>99.4<br>99.9 | 100.3<br>100.3<br>100.3 | 99.9<br>99.1<br>97.9 | 96.3<br>94.4<br>92.0 | 89.3<br>86.1<br>82.6 | 78.7<br>74.3<br>69.6 |
| Vestas V172 11 m/s | 110.1 | A | dB(A) | 46.9<br>53.1<br>59.0 | 64.9<br>70.4<br>75.8 | 80.7<br>85.1<br>89.0 | 92.2<br>94.9<br>96.9 | 98.4<br>99.4<br>99.8 | 100.2<br>100.3<br>100.3 | 99.9<br>99.1<br>97.9 | 96.4<br>94.4<br>92.1 | 89.3<br>86.2<br>82.7 | 78.8<br>74.5<br>69.8 |
| Vestas V172 12 m/s | 110.1 | A | dB(A) | 47.0<br>53.2<br>59.1 | 65.0<br>70.4<br>75.8 | 80.8<br>85.2<br>89.0 | 92.2<br>94.9<br>96.9 | 98.4<br>99.4<br>99.8 | 100.2<br>100.2<br>100.3 | 99.9<br>99.1<br>98.0 | 96.4<br>94.5<br>92.2 | 89.4<br>86.3<br>82.8 | 79.0<br>74.7<br>70.0 |
| Vestas V172 13 m/s | 110.1 | A | dB(A) | 47.4<br>53.6<br>59.4 | 65.3<br>70.7<br>76.1 | 80.9<br>85.3<br>89.1 | 92.3<br>94.9<br>97.0 | 98.4<br>99.4<br>99.8 | 100.2<br>100.2<br>100.2 | 99.9<br>99.1<br>97.9 | 96.4<br>94.5<br>92.2 | 89.5<br>86.4<br>82.9 | 79.0<br>74.8<br>70.2 |
| Vestas V172 14 m/s | 110.1 | A | dB(A) | 48.0<br>54.1<br>59.9 | 65.7<br>71.0<br>76.4 | 81.2<br>85.5<br>89.3 | 92.5<br>95.0<br>97.0 | 98.5<br>99.4<br>99.8 | 100.2<br>100.2<br>100.2 | 99.8<br>99.0<br>97.9 | 96.3<br>94.4<br>92.1 | 89.4<br>86.3<br>82.9 | 79.0<br>74.8<br>70.2 |
| Vestas V172 15 m/s | 110.1 | A | dB(A) | 48.6<br>54.7<br>60.4 | 66.1<br>71.5<br>76.7 | 81.5<br>85.8<br>89.5 | 92.6<br>95.2<br>97.2 | 98.6<br>99.5<br>99.9 | 100.2<br>100.2<br>100.2 | 99.8<br>99.0<br>97.8 | 96.3<br>94.3<br>92.0 | 89.3<br>86.2<br>82.8 | 79.0<br>74.7<br>70.1 |