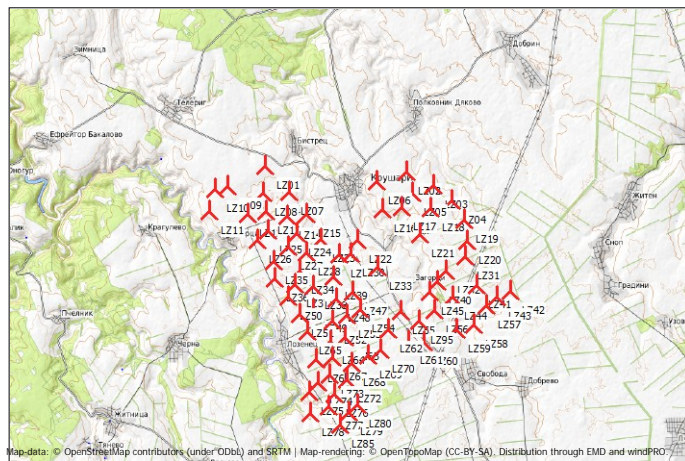
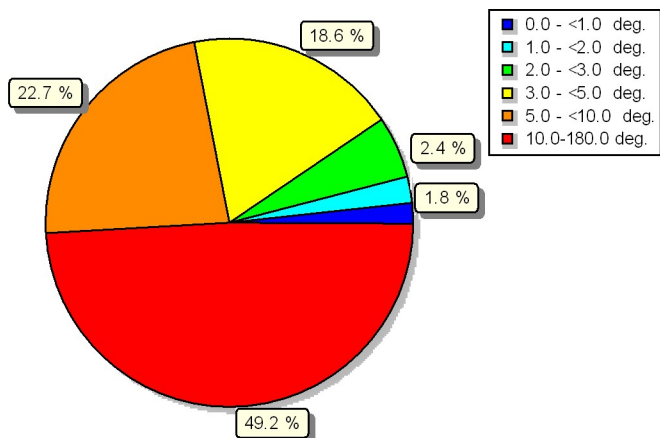


## ZVI - Vertical subtended angle

Calculation: ZVI\_Model\_1

Area with specific vertical subtended angle



New WTG

Scale 1:300,000

## Assumptions for ZVI calculation

Center for calculation	Geo WGS84 East: 27.755919° E North: 43.798637° N
Width of calculation area	15,000 m
Height of calculation area	15,000 m
Calculation step	25 m
Eye height	1.5 m
Calculation area	22,575 ha
WTG Calculation height	Total height
Obstacles used in calculation	0
DHM object	Project Wizard Elevation Data Grid (SRTM: Shuttle DTM 1 arc-second)
No area objects used in calculation	
No grid objects used in calculation	
New WTGs used in calculation	80
Existing WTGs used in calculation	0

No maximum distance to WTG

## ZVI Results

Vertical subtended angle [deg]	Area [ha]	Area [%]
0.0 - <1.0	395	1.8
1.0 - <2.0	543	2.4
2.0 - <3.0	1209	5.4
3.0 - <5.0	4200	18.6
5.0 - <10.0	5128	22.7
10.0 - <=180.0	11100	49.2

## WTGs

	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Longitude	Latitude	Z
									[m]
LZ01	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.714866° E	43.824626° N	211.0
LZ02	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.784451° E	43.822584° N	209.0
LZ03	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.797803° E	43.817890° N	208.5
LZ04	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.806632° E	43.812454° N	199.5
LZ05	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.787330° E	43.815272° N	214.0
LZ06	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.769493° E	43.819163° N	212.0
LZ07	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.726368° E	43.815519° N	208.3
LZ08	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.713708° E	43.815324° N	198.2
LZ09	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.695726° E	43.817396° N	214.7
LZ10	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.689688° E	43.816464° N	209.0
LZ11	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.686964° E	43.808480° N	210.5
LZ12	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.706185° E	43.807863° N	208.0
LZ13	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.715232° E	43.808702° N	199.7
LZ14	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.725760° E	43.806759° N	212.8
LZ15	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.734995° E	43.807452° N	196.8
LZ16	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.772299° E	43.809164° N	204.0
LZ17	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.782096° E	43.809881° N	204.2
LZ18	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.796294° E	43.809684° N	212.9
LZ19	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.813020° E	43.805512° N	214.0
LZ20	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.814270° E	43.797849° N	210.1
LZ21	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.791097° E	43.800551° N	210.0
LZ22	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.760219° E	43.798385° N	214.0
LZ23	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.742267° E	43.798574° N	210.2
LZ24	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.730245° E	43.800760° N	202.8
LZ25	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.715645° E	43.801930° N	211.0

To be continued on next page...



## ZVI - Vertical subtended angle

Calculation: ZVI\_Model\_1

...continued from previous page

	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Longitude	Latitude	Z [m]
LZ26	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.711038° E	43.798430° N	209.2
LZ27	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.725908° E	43.796116° N	216.2
LZ28	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.735055° E	43.794017° N	197.1
LZ29	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.751027° E	43.793254° N	197.9
LZ30	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.756643° E	43.793736° N	207.4
LZ31	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.813133° E	43.792619° N	220.7
LZ32	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.803772° E	43.787504° N	219.6
LZ33	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.770259° E	43.788808° N	219.0
LZ34	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.731441° E	43.787461° N	210.8
LZ35	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.718711° E	43.790803° N	216.3
LZ36	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.719699° E	43.784739° N	216.9
LZ37	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.729330° E	43.782816° N	220.9
LZ38	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.737968° E	43.781732° N	212.8
LZ39	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.748506° E	43.785186° N	218.1
LZ40	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.799537° E	43.783725° N	215.7
LZ41	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.819124° E	43.782242° N	212.1
LZ42	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.835492° E	43.780164° N	211.0
LZ43	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.829164° E	43.778031° N	213.0
LZ44	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.807217° E	43.778253° N	212.0
LZ45	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.795677° E	43.779791° N	193.8
LZ47	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.757537° E	43.779987° N	213.9
LZ48	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.749684° E	43.777520° N	212.1
LZ49	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.738018° E	43.773719° N	219.0
LZ50	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.726033° E	43.777934° N	224.3
LZ51	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.731834° E	43.771734° N	220.6
LZ52	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.748040° E	43.769709° N	219.0
LZ53	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.754774° E	43.771480° N	216.7
LZ54	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.761333° E	43.773820° N	217.0
LZ55	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.781309° E	43.772985° N	221.1
LZ56	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.798274° E	43.773312° N	215.4
LZ57	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.823481° E	43.774973° N	205.8
LZ58	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.817420° E	43.768469° N	189.0
LZ59	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.808989° E	43.766482° N	205.1
LZ60	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.792896° E	43.762144° N	227.4
LZ61	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.785254° E	43.762374° N	225.0
LZ62	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.775571° E	43.766573° N	219.3
LZ63	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.754127° E	43.763543° N	221.2
LZ64	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.746648° E	43.762456° N	221.1
LZ65	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.735415° E	43.765531° N	223.6
LZ66	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.739701° E	43.755960° N	224.0
LZ67	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.747714° E	43.756410° N	215.9
LZ68	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.757231° E	43.754450° N	222.0
LZ69	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.765470° E	43.757108° N	226.0
LZ70	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.771760° E	43.759237° N	222.3
LZ72	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.754796° E	43.748806° N	221.0
LZ73	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.746426° E	43.750237° N	213.6
LZ74	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.740341° E	43.747759° N	221.7
LZ75	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.736523° E	43.744218° N	207.3
LZ76	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.748883° E	43.743524° N	222.0
LZ77	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.745828° E	43.739066° N	220.0
LZ78	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.736530° E	43.736687° N	203.6
LZ79	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.755896° E	43.736763° N	229.1
LZ80	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.760262° E	43.739966° N	229.2
LZ85	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.751708° E	43.732597° N	229.0
LZ95	Yes	VESTAS	V172-7.2-7,200	7,200	172.0	200.0	27.790484° E	43.769718° N	225.0