

40.062953°, 094.42614°

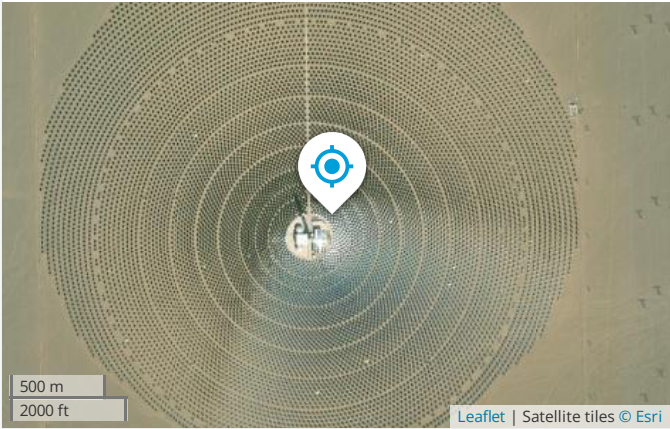
40.062953°, 094.42614°  
Liuge Expressway, Dunhuang City, Gansu, China  
Time zone: UTC+08, Asia/Shanghai [CST]

Report generated: 14 Aug 2025

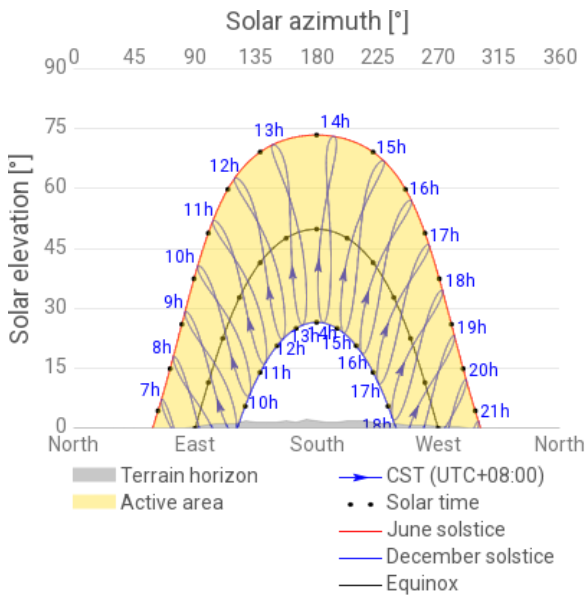
SITE INFO

Map data		Per year
Direct normal irradiation	DNI	1703.2 kWh/m <sup>2</sup>
Global horizontal irradiation	GHI	1714.6 kWh/m <sup>2</sup>
Diffuse horizontal irradiation	DIF	714.5 kWh/m <sup>2</sup>
Global tilted irradiation at optimum angle	GHI <sub>opta</sub>	2061.5 kWh/m <sup>2</sup>
Optimum tilt of PV modules	OPTA	38 / 180 °
Air temperature	TEMP	12.0 °C
Terrain elevation	ELE	1264 m

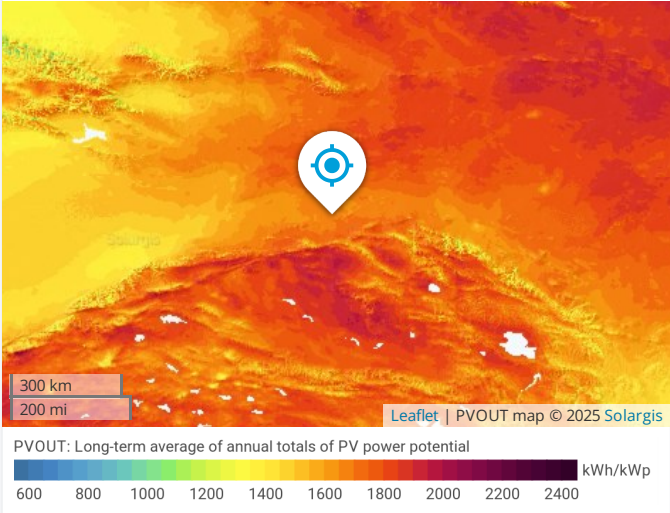
Map



Horizon and sunpath



PVOUT map



PV ELECTRICITY AND SOLAR RADIATION

PV system configuration



Pv system: **Ground-mounted large scale**

Azimuth of PV panels: **Default (180°)**

Tilt of PV panels: **42°**

Installed capacity: **100000000 kWp**

Annual averages

Total photovoltaic power output and Global tilted irradiation

164605.258

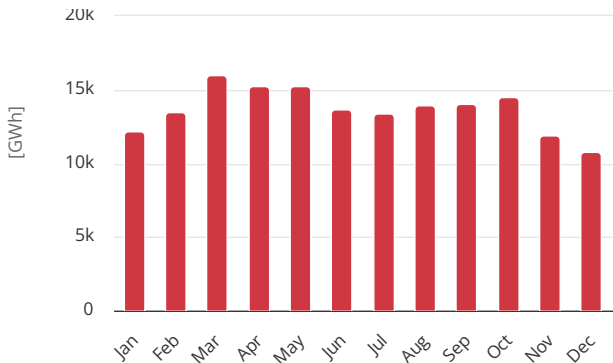
GWh per year

2052.3

kWh/m<sup>2</sup> per year

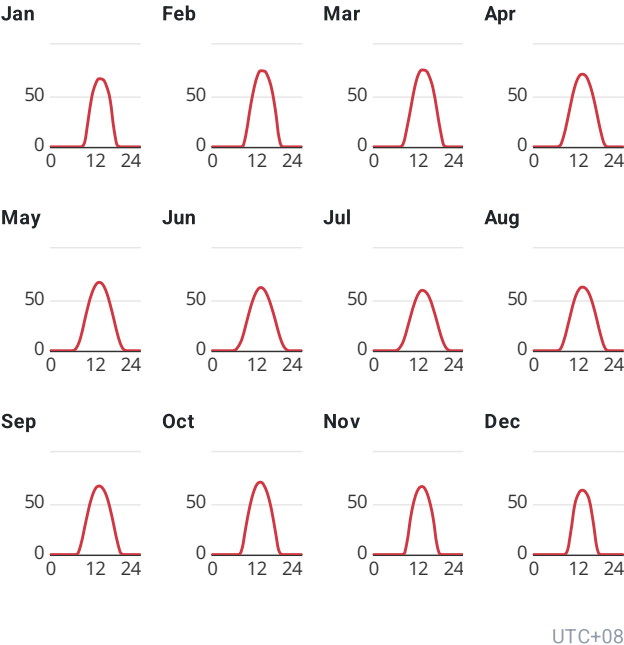
Monthly averages

Total photovoltaic power output



Average hourly profiles

Total photovoltaic power output [GWh]



Average hourly profiles

Total photovoltaic power output [GWh]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 - 1												
1 - 2												
2 - 3												
3 - 4												
4 - 5												
5 - 6												
6 - 7												
7 - 8												
8 - 9												
9 - 10	3.410	11.041	19.713	25.310	27.986	24.797	21.590	22.285	24.797	26.192	13.309	3.557
10 - 11	24.870	33.398	38.603	42.798	43.196	38.473	34.767	37.056	41.668	45.294	37.818	23.400
11 - 12	48.323	53.299	57.818	58.298	55.636	50.304	46.865	50.587	55.663	59.746	54.521	48.192
12 - 13	61.077	67.767	70.540	67.806	63.812	58.382	55.435	58.959	64.432	68.443	63.876	59.170
13 - 14	66.555	74.321	75.133	70.982	66.817	61.759	59.018	62.146	66.996	70.778	66.489	62.890
14 - 15	65.827	74.048	74.486	69.289	64.590	59.569	57.410	60.670	64.586	67.079	62.829	60.752
15 - 16	59.230	68.434	68.379	61.625	56.975	52.577	51.749	54.857	57.236	57.812	52.373	52.336
16 - 17	45.361	56.500	56.505	49.075	44.794	41.983	41.301	44.092	44.417	42.779	35.532	31.824
17 - 18	17.391	35.676	36.200	32.490	30.367	29.441	28.869	30.061	27.930	22.392	10.099	6.873
18 - 19	1.052	8.391	15.028	15.456	15.555	15.984	15.789	15.400	11.264	3.165	0.135	
19 - 20		0.017	0.929		0.377	1.095	0.945	0.127	0.822			
20 - 21												
21 - 22												
22 - 23												
23 - 24												
Sum	393	483	517	507	491	457	432	450	469	469	397	349

PV ELECTRICITY AND SOLAR RADIATION

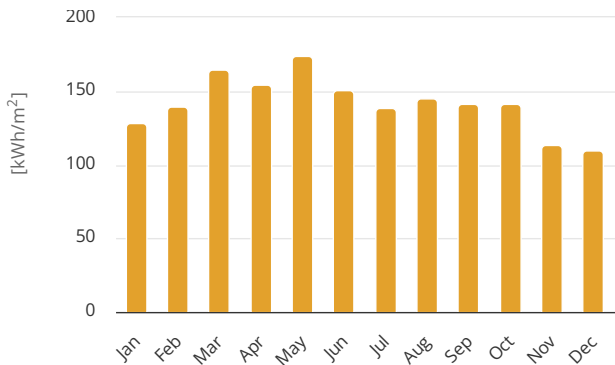
Annual averages

Direct normal irradiation

1702.4
kWh/m² per year

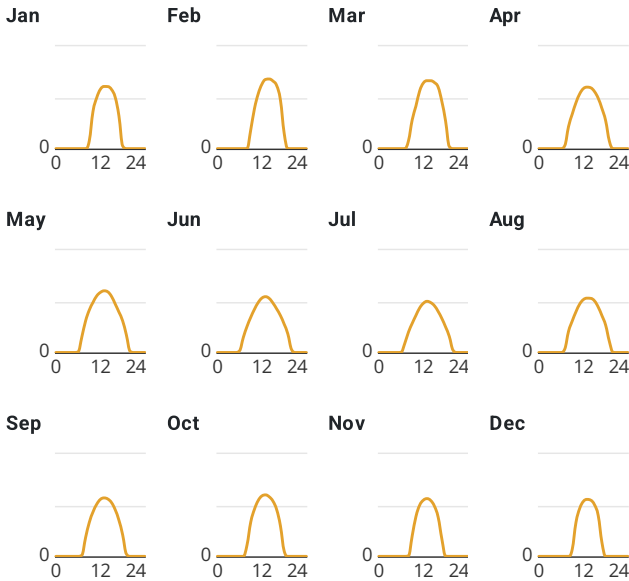
Monthly averages

Direct normal irradiation



Average hourly profiles

Direct normal irradiation [Wh/m²]



UTC+08

Average hourly profiles

Direct normal irradiation [Wh/m²]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 - 1												
1 - 2												
2 - 3												
3 - 4												
4 - 5												
5 - 6												
6 - 7					6	17	2					
7 - 8				30	153	147	89	35	11			
8 - 9			77	216	308	255	200	207	183	111	5	
9 - 10	76	183	281	337	415	344	284	308	331	335	200	69
10 - 11	363	390	415	448	489	422	362	398	434	460	388	331
11 - 12	497	534	563	535	552	488	435	473	509	545	499	468
12 - 13	580	629	641	587	587	532	480	517	557	590	549	537
13 - 14	607	676	664	601	603	545	500	531	571	601	564	557
14 - 15	606	680	663	594	592	528	487	529	560	581	545	549
15 - 16	578	660	645	558	548	483	456	504	525	539	490	504
16 - 17	500	615	601	492	473	425	401	444	455	455	382	399
17 - 18	318	475	459	393	394	361	332	360	352	298	169	135
18 - 19	26	153	269	274	308	278	249	267	210	53	2	
19 - 20			21	74	171	181	157	108	23			
20 - 21					12	29	23	1				
21 - 22												
22 - 23												
23 - 24												
Sum	4,152	4,996	5,299	5,138	5,612	5,035	4,457	4,683	4,721	4,569	3,793	3,548

GLOSSARY

Acronym	Full name	Unit	Type of use
DIF	Diffuse horizontal irradiation	kWh/m², MJ/m²	Average yearly, monthly or daily sum of diffuse horizontal irradiation (© 2025 Solargis)
DNI	Direct normal irradiation	kWh/m², MJ/m²	Average yearly, monthly or daily sum of direct normal irradiation (© 2025 Solargis)
ELE	Terrain elevation	m, ft	Elevation of terrain surface above/below sea level, processed and integrated from SRTM-3 data and related data products (SRTM v4.1 © 2004 - 2025, CGIAR-CSI)
GHI	Global horizontal irradiation	kWh/m², MJ/m²	Average annual, monthly or daily sum of global horizontal irradiation (© 2025 Solargis)
GTI	Global tilted irradiation	kWh/m², MJ/m²	Average annual, monthly or daily sum of global tilted irradiation (© 2025 Solargis)
GTI_opta	Global tilted irradiation at optimum angle	kWh/m², MJ/m²	Average annual, monthly or daily sum of global tilted irradiation for PV modules fix-mounted at optimum angle (© 2025 Solargis)
OPTA	Optimum tilt of PV modules	°	Optimum tilt of fix-mounted PV modules facing towards Equator set for maximizing GTI input (© 2025 Solargis)
PVOUT_total	Total photovoltaic power output	kWh, MWh, GWh	Yearly and monthly average values of photovoltaic electricity (AC) delivered by the total installed capacity of a PV system (© 2025 Solargis)
PVOUT_specific	Specific photovoltaic power output	kWh/kWp	Yearly and monthly average values of photovoltaic electricity (AC) delivered by a PV system and normalized to 1 kWp of installed capacity (© 2025 Solargis)
TEMP	Air temperature	°C, °F	Average yearly, monthly and daily air temperature at 2 m above ground. Calculated from outputs of ERA5 model (© 2025 ECMWF, post-processed by Solargis)

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