

Annual CO₂-Report 2017
MEP Solar Miet & Service II GmbH

Reporting date: 16 October 2017

Average specific energy yield

883 kWh/kWp. The average energy yield of a representative sample of 2.477 MEP clients at this reporting date. Based on individual prognosis for each client depending on: location, orientation of the modules, tilt angle to the horizontal. Calculated with PV*Sol, Valentin Software GmbH, Berlin.

Annual yield degradation

0,1 %. "A study examining 14 plants in Germany fitted with multicrystalline and monocrystalline modules showed an average degradation of a 0.1 percent relative drop in efficiency per year across the entire plant, including the modules [ISE2]. In this context, the common assumption that plants experience annual output losses of 0.5 percent seems conservative. Comprehensive tests conducted by Fraunhofer ISE have shown that lightinduced degradation of between one and two percent occurs during the first few days of operation depending on the material used in the solar cells. The indicated rated power of modules normally refers to output following this initial degradation." Source: "Aktuelle Fakten zur Photovoltaik in Deutschland 2017", version August 15, 2017, Fraunhofer ISE, p.41. <https://www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/aktuelle-fakten-zur-photovoltaik-in-deutschland.pdf>

CO₂-factor acc. §42 EnWG

527 g CO₂/kWh. Estimated faktor for 2016. Source: "Entwicklung der spezifischen Kohlendioxid -Emissionen des deutschen Strommix in den Jahren 1990 – 2016." Umwelt Bundesamt, May 2017, p.8. https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-05-22_climate-change_15-2017_strommix.pdf

Seasonal distribution of horizontal irradiance

Average years 2000-2016. Source: Monatsbericht zur Entwicklung der erneuerbaren Stromerzeugung und Leistung in Deutschland. Deutscher Wetterdienst (DWD) Umweltbundesamt, July 2017, p. 21. http://www.umweltbundesamt.de/sites/default/files/medien/372/dokumente/2017-07_agee-stat_monatsbericht_ee_0.pdf

Month	Share
January	2,12%
February	3,63%
March	7,41%
April	11,46%
May	14,31%
June	15,37%
July	14,91%
August	12,79%
September	8,87%
October	5,19%
November	2,35%
December	1,61%

PV system size (kWp)	Number of installations	Total nominal power (kWp)
2,04	181	369 kWp
2,55	445	1.135 kWp
3,06	490	1.499 kWp
3,57	482	1.721 kWp
4,08	451	1.840 kWp
4,59	286	1.313 kWp
5,10	347	1.770 kWp
5,61	141	791 kWp
6,12	137	838 kWp
6,63	105	696 kWp
7,14	89	635 kWp
7,65	46	352 kWp
8,16	39	318 kWp
8,67	20	173 kWp
9,18	16	147 kWp
9,69	92	891 kWp
	3.367	14.490 kWp

Portfolio Size

Portfolio	Size
Original	3.375
Demounted	8
At reporting date	3.367

Total nominal power: **14.490** kWp

Average specific energy yield: **883** kWh/kWp

Annual yield degradation: **0,10** %

CO₂-factor acc. §42 EnWG: **527** g CO₂/kWh

**Total yield and avoided emissions of the portfolio
of underlying solar lease contracts**

Month	kWh TOTAL	CO ₂ e [t] TOTAL
January 2017	183.162 kWh	97 t
February 2017	337.545 kWh	178 t
March 2017	719.828 kWh	379 t
April 2017	1.266.196 kWh	667 t
May 2017	1.655.320 kWh	872 t
June 2017	1.944.229 kWh	1.025 t
July 2017	1.906.082 kWh	1.005 t
August 2017	1.635.355 kWh	862 t
September 2017	1.134.069 kWh	598 t
October 2017	663.480 kWh	350 t
November 2017	299.957 kWh	158 t
December 2017	205.830 kWh	108 t

TOTAL kWh generated Jan-Dec 2017: 11.951.053 kWh**TOTAL CO₂e [t]: 6.298 t****TOTAL kWh generated in 20 years: 254.456.210 kWh****TOTAL CO₂e [t]: 134.098 t**