

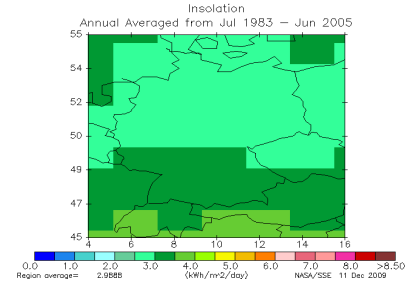
# Germany

(Frankfurt)

## Practical effect to be expected of SolarDrive S2E (200 W)

Utility Vehicle/Trail Type		Flat	Hilly	Mount.	
Consumption per mile	kWh	0.18	0.24	0.32	
Power production	High (best month)	kWh	0.88	0.88	0.88
Extra mileage supplied by S2E	High (best month)	kWh	<b>4.87</b>	<b>3.66</b>	<b>2.74</b>
Power production	Low (weakest month)	kWh	0.13	0.13	0.13
Extra mileage supplied by S2E	Low (weakest month)	kWh	<b>0.70</b>	<b>0.53</b>	<b>0.40</b>
Power production	Yearly Average	kWh	0.49	0.49	0.49
Extra mileage supplied by S2E	Yearly Average	kWh	<b>2.72</b>	<b>2.04</b>	<b>1.53</b>

\*Percentage of Required Power

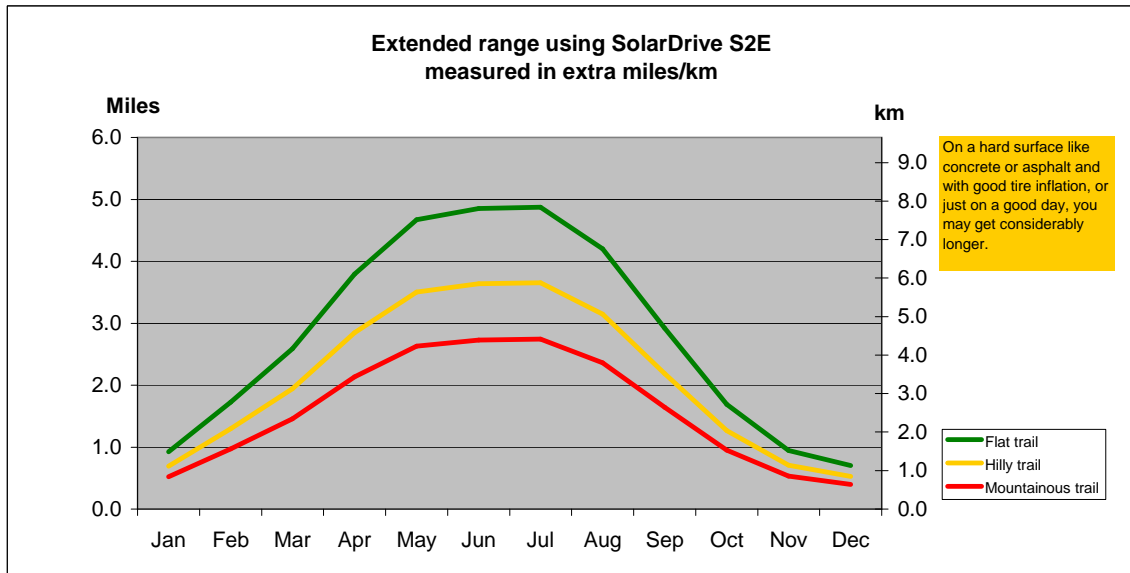


### Basic data

Nominal effect	kW		0.200										Lat.	50.1	Lon.	8.4
<b>Solar insolation</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Average</b>			
kWh/m2/day**	0.88	1.65	2.50	3.72	4.66	4.88	4.94	4.26	2.91	1.66	0.91	0.67	2.80			
Avg. day temperature (C)	2.8	4.1	7.9	12.7	18.3	21.1	23.4	23.7	18.3	13.2	6.6	3.5	13.0			
Avg. day temperature (F)	37.0	39.3	46.2	54.9	64.9	70.0	74.1	74.7	64.9	55.8	43.9	38.2	55.4			
Temperature loss factor	1.01	1.00	0.99	0.98	0.96	0.95	0.94	0.94	0.96	0.98	1.00	1.00	0.93			
System loss factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Expected output kWh	0.17	0.31	0.47	0.68	0.84	0.87	0.88	0.76	0.53	0.30	0.17	0.13	0.49			

<b>Extra miles per day</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Average</b>
(1 mile 0 1.609 km)													
<b>Flat trail</b>	0.9	1.7	2.6	3.8	4.7	4.9	4.9	4.2	2.9	1.7	0.9	0.7	2.7
<b>Hilly trail</b>	0.7	1.3	1.9	2.8	3.5	3.6	3.7	3.1	2.2	1.3	0.7	0.5	2.0
<b>Mountainous trail</b>	0.5	1.0	1.5	2.1	2.6	2.7	2.7	2.4	1.6	1.0	0.5	0.4	1.5

<b>Electricity savings in percent assuming your utility vehicle drives 7 miles in average per day</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Average</b>
<b>Flat trail</b>	13%	25%	37%	54%	67%	69%	70%	60%	42%	24%	14%	10%	39%
<b>Hilly trail</b>	10%	19%	28%	41%	50%	52%	52%	45%	31%	18%	10%	8%	29%
<b>Mountainous trail</b>	7%	14%	21%	31%	38%	39%	39%	34%	23%	14%	8%	6%	22%



**Potential CO2 savings/car/year\*\*\* 88 to 152 kilos or 195 to 335 lbs.**

\*\*Source: NASA Langley Research Center Atmospheric Science Data Center (22 year average)

\*\*\*CO2 savings are calculated compared to grid electricity supplied from modern power plants burning fossil fuels (0.49-0.85 kg CO2/kWh)

\*\*\*\*If battery charge level is low from the start the S2E must be allowed the necessary time to charge as the energy is accumulated over the day

Disclaimer:

SolarDrive takes no responsibility for the correctness of the basic data obtained from NASA nor for the actual experienced results. The figures above is presented as a guideline only. The actual result may be influenced by many other factors as well e.g. length of course, battery watering, altitude, time of year, time of day, present weather conditions, local shades from houses, trees, mountains, tire inflation, general maintenance etc.