

# Minnesota

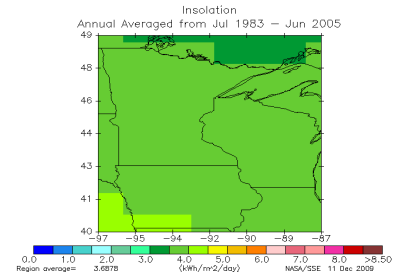
**Average score 59%**

**Highest 132%**  
**Lowest 16%**

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

Trail type - golf course	18 holes	kWh	Light	Medium	Heavy
Consumption			0.80	1.10	1.60
Power production	High (best month)	kWh	1.05	1.05	1.05
PRP* supplied by SolarDrive S2E	High (best month)	kWh	132%	96%	66%
Power production	Low (weakest month)	kWh	0.26	0.26	0.26
PRP* supplied by SolarDrive S2E	Low (weakest month)	kWh	32%	23%	16%
Power production	Yearly Average	kWh	0.65	0.65	0.65
PRP* supplied by SolarDrive S2E	Yearly Average	kWh	82%	59%	41%

\*Percentage of Required Power



## Basic data

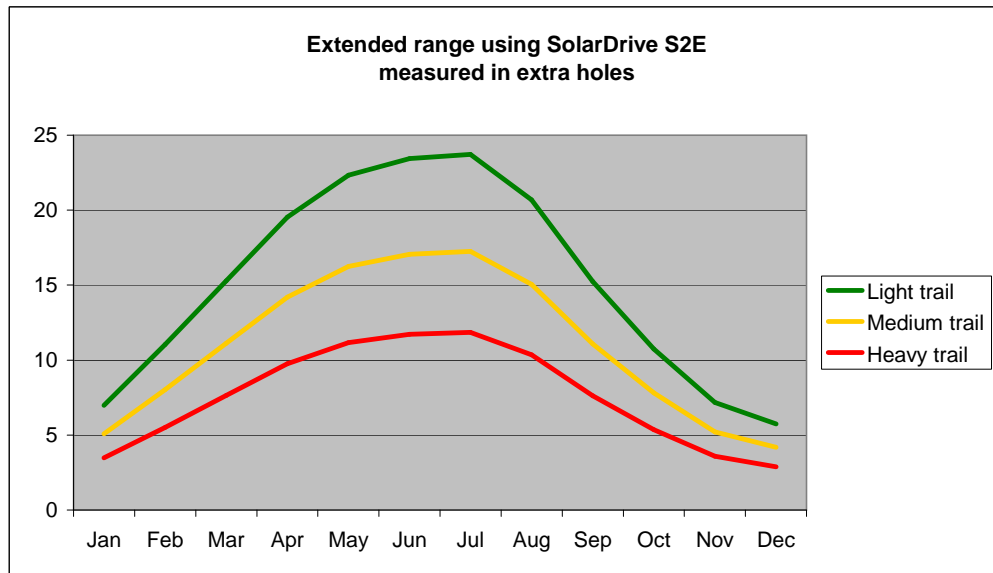
Nominal effect	kW		0.200										Lat.	46.4	Lon.	-94.4
<b>Solar insolation</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Average</b>			
kWh/m2/day**	1.58	2.52	3.56	4.69	5.5	5.87	5.98	5.2	3.76	2.58	1.67	1.31	3.69			
Avg. day temperature (C)	-9.68	-6.56	-0.26	10.2	18.4	23.6	25.9	24.7	18.8	10.4	-0.24	-7.49	9.09			
Avg. day temperature (F)	14.6	20.2	31.5	50.4	65.1	74.5	78.6	76.5	65.8	50.7	31.6	18.5	48.4			
Temperature loss factor	1.04	1.03	1.02	0.98	0.96	0.94	0.94	0.94	0.96	0.98	1.02	1.04	0.94			
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	0.31	0.49	0.68	0.87	0.99	1.04	1.05	0.92	0.68	0.48	0.32	0.26	0.65			

## Percentage of consumption driving 18 golf holes on

	<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>Light trail</b>	39%	61%	85%	108%	124%	130%	132%	115%	85%	60%	40%	32%	82%
<b>Medium trail</b>	28%	45%	62%	79%	90%	95%	96%	84%	62%	43%	29%	23%	59%
<b>Heavy trail</b>	19%	31%	42%	54%	62%	65%	66%	57%	42%	30%	20%	16%	41%

## Additional golf holes using SolarDrive on Top

	<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>Light trail</b>	7	11	15	20	22	23	24	21	15	11	7	6	15
<b>Medium trail</b>	5	8	11	14	16	17	17	15	11	8	5	4	11
<b>Heavy trail</b>	3	6	8	10	11	12	12	10	8	5	4	3	7



**Potential CO2 savings/car/year\*\*\* 118 to 203 kilos or 260 to 447 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.