

Meter_gen Explanation

This meter_gen works with 5 parameters and 1 ratio to calculate.

- Time: The consumption is not the same for the night and the day. When everybody is sleeping, the consumption is less than when everybody's awake.
- Working day / Weekend: The consumption is less when everybody's working, and the house is empty.
- Season : We need less consumption in summer than in winter, because the heater is less useful.
- Size of accommodation: A big house consume more consumption than a smaller house.
- Type of consumption: Gas or Electric
- Climate's ratio: This ratio is calculated with French climate. There are 4 climates in France, Mountain climate, oceanic climate, mediterranean climate and continental climate. Each meter (city) is defined by a climate.

All data about consumption is on the dashboard below.

This data is calculated for a french accommodation. Every values can be change if needed.

Calculation of consumption

Which values for each possibility

Gas

Electric

| Hot season | | | | | | Hot Season | | | | | |
|-------------|------|------|------|------|-------|-------------|-------|-------|-------|------|-------|
| Work Day | 20 | 50 | 70 | 100 | | 20 | 50 | 70 | 100 | | |
| 00h -> 6h | 245 | 416 | 588 | 710 | 10,5 | 1102 | 2070 | 3025 | 3883 | 10,5 | |
| 6h -> 9h | 857 | 1458 | 2058 | 2486 | 36,8 | 3859 | 7245 | 10588 | 13591 | 36,8 | |
| 9h -> 17h | 245 | 416 | 588 | 710 | 10,5 | 1102 | 2070 | 3025 | 3883 | 10,5 | |
| 17h -> 00h | 980 | 1666 | 2352 | 2842 | 42,1 | 4410 | 8280 | 12100 | 15533 | 42,1 | |
| | | | | | | | | | | | |
| Week-end | | | | | | | | | | | |
| 00h -> 6h | 204 | 347 | 489 | 591 | 8,3 | 1159 | 2176 | 3180 | 4082 | 10,5 | |
| 6h -> 9h | 713 | 1213 | 1712 | 2069 | 29,2 | 4056 | 7615 | 11129 | 14287 | 36,8 | |
| 9h -> 17h | 713 | 1213 | 1712 | 2069 | 29,2 | 4056 | 7615 | 11129 | 14287 | 36,8 | |
| 17h -> 00h | 815 | 1386 | 1957 | 2365 | 33,3 | 4635 | 8703 | 12719 | 16328 | 42,1 | |
| | | | | | 100,0 | | | | | | 100,0 |
| Cold Season | | | | | | Cold Season | | | | | |
| Work Day | 20 | 50 | 70 | 100 | | 20 | 50 | 70 | 100 | | |
| 00h -> 6h | 665 | 1132 | 1597 | 1930 | 21,4 | 2996 | 5624 | 8220 | 10551 | 21,4 | |
| 6h -> 9h | 776 | 1320 | 1864 | 2252 | 25,0 | 3495 | 6562 | 9590 | 12310 | 25,0 | |
| 9h -> 17h | 444 | 754 | 1065 | 1287 | 14,3 | 1997 | 3750 | 5480 | 7034 | 14,3 | |
| 17h -> 00h | 1220 | 2075 | 2929 | 3539 | 39,3 | 5492 | 10311 | 15070 | 19344 | 39,3 | |
| | | | | | | | | | | | |
| Week-end | | | | | | | | | | | |
| 00h -> 6h | 579 | 984 | 1389 | 1679 | 17,6 | 3164 | 5941 | 8682 | 11145 | 21,4 | |
| 6h -> 9h | 772 | 1312 | 1853 | 2239 | 23,5 | 4219 | 7921 | 11576 | 14859 | 28,6 | |
| 9h -> 17h | 868 | 1476 | 2084 | 2519 | 26,5 | 4746 | 8911 | 13023 | 16717 | 32,1 | |
| 17h -> 00h | 1061 | 1805 | 2547 | 3078 | 32,4 | 5800 | 10891 | 15917 | 20432 | 39,3 | |
| | | | | | 100 | | | | | | 100 |

Climate Ratio

Next dashboard, explain how we calculated the climate's ratio

First, we separated all department by climate

| Region | |
|----------------------|---|
| Mediterranean | 7 26 30 84 4 6 83 13 34 31 11 |
| Oceanic | 29 22 56 35 44 85 49 79 17 16 33 40 32 82 47 24 46 19 87 53 37 50 14 76 80 62 59 2 8 51 10 89 58 91 |
| Mountain | 64 65 9 66 81 12 68 15 23 63 43 38 5 73 74 39 25 88 48 |
| Continental | 1 55 52 70 54 57 67 90 69 20 |

Secondly, we got min and max temperature from France by month and by climate.

This data comes from MétéoFrance.

| Temperature | Mediterranean | | Oceanic | | Mountain | | Continental | |
|------------------|---------------|------|---------|------|----------|------|-------------|------|
| | Min | Max | Min | Max | Min | Max | Min | Max |
| January | 4,4 | 13,1 | 1,1 | 12 | -3,8 | 6,7 | -0,8 | 7,2 |
| February | 4,9 | 13,4 | 1,1 | 12,8 | -3,3 | 7,9 | -0,6 | 8,5 |
| March | 7,4 | 16 | 3,6 | 15 | 0,1 | 11,8 | 2,5 | 12,5 |
| April | 9,4 | 18,2 | 5,4 | 16,2 | 3,4 | 15,2 | 5,2 | 15,7 |
| May | 12,9 | 21,8 | 8,5 | 21,2 | 7,3 | 19,9 | 9,2 | 20,2 |
| June | 16,8 | 26,2 | 10,9 | 24,5 | 10,1 | 23,5 | 12,4 | 23,4 |
| July | 19,4 | 29,2 | 13 | 26,9 | 12,2 | 26,4 | 14,4 | 26 |
| August | 19,3 | 28,9 | 13,2 | 27,1 | 11,9 | 25,7 | 14,1 | 25,6 |
| September | 16 | 25,4 | 11,2 | 24 | 8,9 | 21,5 | 10,6 | 21,8 |
| October | 12,6 | 21 | 8,1 | 20 | 5,3 | 16,5 | 7,1 | 17 |
| November | 8,1 | 16,6 | 4,4 | 15,1 | 0,5 | 10,4 | 2,8 | 10,8 |
| December | 5,1 | 13,8 | 1,9 | 12,5 | -2,6 | 7,5 | 0,3 | 7,5 |

So we calculated the average by season.

| Temperature | Mediterranean | | Oceanic | | Mountain | | Continental | |
|-------------|---------------|-------|---------|-------|----------|-------|-------------|-------|
| | Avg | Stdev | Avg | Stdev | Avg | Stdev | Avg | Stdev |
| COLD | 10,28 | 4,79 | 7,95 | 5,99 | 3,52 | 5,96 | 5,07 | 4,85 |
| HOT | 19,79 | 6,10 | 16,44 | 7,42 | 14,84 | 7,60 | 15,91 | 6,73 |

And we did the same thing for sunshine duration.

| Sunshine | Mediterranean | | Oceanic | | Mountain | | Continental | |
|------------------|---------------|-------|---------|-------|----------|-------|-------------|-------|
| | Min | Max | Min | Max | Min | Max | Min | Max |
| January | 141,2 | 157,7 | 61,4 | 100,2 | 110 | 112,7 | 58,1 | 67,9 |
| February | 160,8 | 171,2 | 77,4 | 114,9 | 123,9 | 126,8 | 79,2 | 94,4 |
| March | 209,6 | 217,5 | 118,7 | 169,7 | 164,8 | 177,2 | 128,9 | 151,3 |
| April | 218 | 224 | 156,3 | 182,1 | 171,6 | 179,3 | 166 | 185,4 |
| May | 235,8 | 267,1 | 179,8 | 217,4 | 201,3 | 210,4 | 193,8 | 212,3 |
| June | 268,9 | 306,1 | 190,6 | 238,7 | 224,9 | 242,1 | 202,1 | 239,1 |
| July | 298,2 | 347,5 | 169,4 | 248,5 | 250 | 268 | 212,2 | 248,3 |
| August | 267,4 | 315,8 | 172,9 | 242,3 | 227,5 | 248,8 | 212,1 | 233,6 |
| September | 222,2 | 242 | 160,2 | 202,7 | 184,5 | 206,1 | 164,5 | 185,8 |
| October | 167,6 | 187 | 107,7 | 147,2 | 139,5 | 148,7 | 98,7 | 124,5 |
| November | 149,2 | 149,3 | 70,7 | 103,8 | 94,5 | 100,3 | 55,3 | 72,2 |
| December | 126,1 | 139,3 | 64,8 | 88,3 | 90,9 | 100 | 43,1 | 54,2 |

We calculated the average by season.

| Soleil | Mediterranean | | Oceanic | | Mountain | | Continental | |
|-------------|---------------|-------|---------|-------|----------|-------|-------------|-------|
| | Avg | Stdev | Avg | Stdev | Avg | Stdev | Avg | Stdev |
| COLD | 162,19 | 29,84 | 96,99 | 32,64 | 120,11 | 29,40 | 80,46 | 34,97 |
| HOT | 254,83 | 50,71 | 186,84 | 40,01 | 207,34 | 39,04 | 191,31 | 42,26 |

Finally, we get a ratio by season and by climate.

| Coefs | Mediterranean | | Oceanic | | Montagnard | | Continental | |
|-------|---------------|------------|----------|------------|------------|------------|-------------|------------|
| | Coef Avg | Coef Stdev | Coef Avg | Coef Stdev | Coef Avg | Coef Stdev | Coef Avg | Coef Stdev |
| COLD | 0,66 | 1,24 | 0,87 | 1,00 | 1,72 | 1,02 | 1,33 | 1,21 |
| HOT | 0,84 | 1,13 | 1,03 | 0,98 | 1,11 | 0,96 | 1,06 | 1,06 |