**FÓRMULAS PARA CALCULAR A G ESTIMADA**

**Densidade**

Em que:

*P:* Pressão [Pa];

*R:* Constante Específica dos Gases = 287.058;

*T*: Temperatura [K].

Resultado: Densidade em .

**Conversões a serem realizadas nos dados do arquivo CSV:**

Temperatura: Temperatura + 273.15;

Pressão: Pressão x 100.

**Uma imagem contendo Tabela

Descrição gerada automaticamente**

**Tabela da Curva de Potência (kW x m/s)**

**Regressões Polinomiais para**

**Densidade = 1.02**

Geracao = 0.04582 \* power(V.[PREDICTION] .6) – 1.83445\* power( V.[PREDICTION].5) + 29.69465\* power( V.[PREDICTION].4) – 247.26779\* power(V.[PREDICTION] .3) + 1133.11081\* power( V.[PREDICTION].2) - 2651.7319\* power(V.[PREDICTION] .1) + 2440.26614

**Densidade = 1.04**

y = 0.04238(V.[PREDICTION] .6) - 1.71997(V.[PREDICTION] .5) + 28.13286(V.[PREDICTION] .4) - 236.00657(V.[PREDICTION] .3) + 1087.82802(V.[PREDICTION] .2) - 2553.99536(V.[PREDICTION] .1) + 2351.72213

**Densidade = 1.06**

y = 0.03688 power(V.[PREDICTION] .6) - 1.51700 power(V.[PREDICTION] .5) + 25.10791 power(V.[PREDICTION] .4) - 212.72109 power(V.[PREDICTION] .3) + 990.66068 power(V.[PREDICTION] .2) - 2344.73747 power(V.[PREDICTION] .1) + 2169.49876

**Densidade = 1.08**

y = 0.03935\* power(V.[PREDICTION] .6) - 1.61219\* power(V.[PREDICTION] .5) + 26.55421\* power(V.[PREDICTION] .4) - 223.78369\* power(V.[PREDICTION] .3) + 1.035.67512\* power(V.[PREDICTION] .2) - 2.435.64408\* power(V.[PREDICTION].1) + 2.239.96359

**Densidade = 1.10**

y = 0.03495 (V.[PREDICTION] .6) – 1.44222 (V.[PREDICTION] .5) + 23.88447 (V.[PREDICTION] .4) – 202.00436 (V.[PREDICTION] .3) + 938.96610 (V.[PREDICTION] .2) – 2213.45313 (V.[PREDICTION] .1) + 2033.83237

**Densidade = 1.12**

y = 0.03041(V.[PREDICTION] .6) - 1.29353(V.[PREDICTION] .5) + 21.91920(V.[PREDICTION] .4) - 188.56855(V.[PREDICTION] .3) + 889.05442(V.[PREDICTION] .2) - 2.116.66540(V.[PREDICTION] .1) + 1.956.33114

**Densidade = 1.14**

y = 0.02862(V.[PREDICTION] .6) - 1.22039(V.[PREDICTION] .5) + 20.68813(V.[PREDICTION] .4) - 177.73029(V.[PREDICTION] .3) + 837.20934(V.[PREDICTION] .2) - 1.988.69713(V.[PREDICTION] .1) + 1.829.61682

**Densidade = 1.16**

y = 0.02298(V.[PREDICTION] .6) - 1.02724(V.[PREDICTION] .5) + 18.01168(V.[PREDICTION] .4) - 158.56628(V.[PREDICTION] .3) + 762.91353(V.[PREDICTION] .2) - 1.839.95011(V.[PREDICTION] .1) + 1.708.67585

**Densidade = 1.18**

y = 0.02669(V.[PREDICTION] .6) - 1.15888(V.[PREDICTION] .5) + 19.86589(V.[PREDICTION] .4) - 171.71958(V.[PREDICTION] .3) + 812.19356x(V.[PREDICTION] .2) - 1.930.36544(V.[PREDICTION] .1) + 1.770.58433

**Densidade = 1.20**

y = 0.02064(V.[PREDICTION] .6) - 0.94092(V.[PREDICTION] .5) + 16.66635(V.[PREDICTION] .4) - 147.24010(V.[PREDICTION] .3) + 709.72720(V.[PREDICTION] .2) x2 - 1.707.03346(V.[PREDICTION] .1) + 1.572.44364

**Densidade = 1.22**

y = 0.01637(V.[PREDICTION] .6) - 0.78706(V.[PREDICTION] .5) + 14.41281(V.[PREDICTION] .4) - 130.10066(V.[PREDICTION] .3) + 638.75844(V.[PREDICTION] .2) - 1.553.94099(V.[PREDICTION] .1) + 1.437.37536

Em que:

x: Velocidade do Vento [m/s];

y: Potência [kW].

**Regressões Polinomiais para**

**Densidade = 1.02**

y = -0.152157\* power(V.[PREDICTION] ,6) + 10.693756\* power(V.[PREDICTION] ,5) - 310.617647\* power(V.[PREDICTION] ,4) + 4771.726125\* power(V.[PREDICTION] ,3) - 40912.951432\* power(V.[PREDICTION] ,2) + 186099.229288\* power(V.[PREDICTION] 1) - 351221.525372

**Densidade = 1.04**

y = -0.124967\* power(V.[PREDICTION] ,6) + 8.633544\* power(V.[PREDICTION] ,5) - 245.986174\* power(V.[PREDICTION] ,4) + 3697.682001\* power(V.[PREDICTION] ,3) - 30946.006109\* power(V.[PREDICTION] ,2) + 137148.070514\* power(V.[PREDICTION] ,1) - 251822.697487

**Densidade = 1.06**

y = -0.098301\* power(V.[PREDICTION] ,6) + 6.687903\* power(V.[PREDICTION] ,5) - 187.075917\* power(V.[PREDICTION] ,4) + 2750.820812\* power(V.[PREDICTION] ,3) - 22431.658413\* power(V.[PREDICTION] ,2) + 96563.546543\* power(V.[PREDICTION] ,1) - 171734.570134

**Densidade = 1.08**

y = -0.074248\* power(V.[PREDICTION] ,6) + 4.925370\* power(V.[PREDICTION] ,5) - 133.438411\* power(V.[PREDICTION] ,4) + 1883.750758\* power(V.[PREDICTION] ,3) - 14585.209154\* power(V.[PREDICTION] ,2) + 58902.832622\* power(V.[PREDICTION] ,1) - 96855.540806

**Densidade = 1.10**

y = -0.019869\* power(V.[PREDICTION] ,6) + 0.999819\* power(V.[PREDICTION] ,5) - 15.867773\* power(V.[PREDICTION] ,4) + 14.355984\* power(V.[PREDICTION] ,3) + 2052.010155\* power(V.[PREDICTION] ,2) - 19653.638989\* power(V.[PREDICTION] ,1) + 56872.128962

**Densidade = 1.12**

y = -0.025098\* power(V.[PREDICTION] ,6) + 1.376290\* power(V.[PREDICTION] ,5) - 27.079940\* power(V.[PREDICTION] ,4) + 191.645713\* power(V.[PREDICTION] ,3) + 477.191154\* power(V.[PREDICTION] ,2) - 12181.873102\* power(V.[PREDICTION] ,1) + 42070.863315

**Densidade = 1.14**

y = 0.028235\* power(V.[PREDICTION] ,6) - 2.484223\* power(V.[PREDICTION] ,5) + 88.843137\* power(V.[PREDICTION] ,4) - 1655.984591\* power(V.[PREDICTION] ,3) + 16956.151119\* power(V.[PREDICTION] ,2) - 90136.991435\* power(V.[PREDICTION] ,1) + 194863.838242

**Densidade = 1.16**

y = 0.104052\* power(V.[PREDICTION] ,6) - 7.999457\* power(V.[PREDICTION] ,5) + 255.240070\* power(V.[PREDICTION] ,4) - 4320.239868\* power(V.[PREDICTION] ,3) + 40825.260416\* power(V.[PREDICTION] ,2) - 203556.079333\* power(V.[PREDICTION] ,1) + 418155.285642

**Densidade = 1.18**

y = 0.127059\* power(V.[PREDICTION] ,6) - 9.645671\* power(V.[PREDICTION] ,5) + 304.050528\* power(V.[PREDICTION] ,4) - 5087.213279\* power(V.[PREDICTION] ,3) + 47555.503896\* power(V.[PREDICTION] ,2) - 234803.599422\* power(V.[PREDICTION] ,1) + 478109.843470

**Densidade = 1.20**

y = 0.132288\* power(V.[PREDICTION] ,6) - 10.011885\* power(V.[PREDICTION] ,5) + 314.647310\* power(V.[PREDICTION] ,4) - 5248.832844\* power(V.[PREDICTION] ,3) + 48920.546676\* power(V.[PREDICTION] ,2) - 240834.122688\* power(V.[PREDICTION] ,1) + 488975.158190

**Densidade = 1.22**

y = 0.066047\* power(V.[PREDICTION] ,6) - 5.247376\* power(V.[PREDICTION] ,5) + 172.339049\* power(V.[PREDICTION] ,4) - 2988.955128\* power(V.[PREDICTION] ,3) + 28791.781162\* power(V.[PREDICTION] ,2) - 145473.363921\* power(V.[PREDICTION] ,1) + 301262.823738

Em que:

x: Velocidade do Vento [m/s];

y: Potência [kW].

**Limites Inferior e Superior**

**Cálculo da Geração Diária em MWh**

Em que:

P: Potência [kW];

t: Período = 24h.