

Ciclos de Generación de Potencia con Excel

Introducción

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Consumo Energético

Global primary energy consumption

Global primary energy consumption, measured in terawatt-hours (TWh) per year. Here 'other renewables' are renewable technologies not including solar, wind, hydropower and traditional biofuels.

Our World
in Data

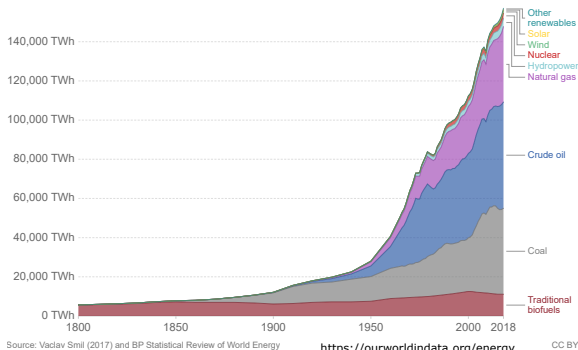


Figura: Consumo energético global desde 1800

Consumo Energético



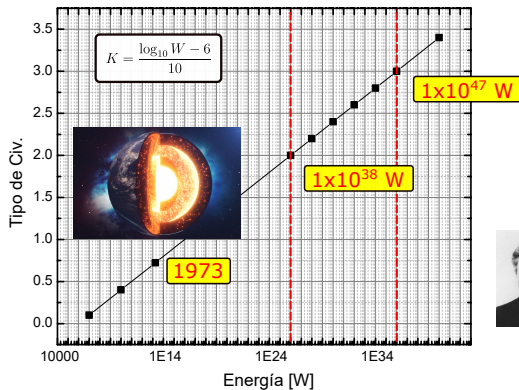
Figura: Plantea Nuclear de Laguna Verde, Ver., Mex. $1,6 \times 10^9$ [W]

Consumo Energético



Figura: Central Hidroeléctrica Tres Gargantas, Stp., China $2,3 \times 10^{10}$ [W]

Consumo Energético



https://en.wikipedia.org/wiki/Kardashev_scale

Figura: Avance del consumo energético humano

Consumo Energético

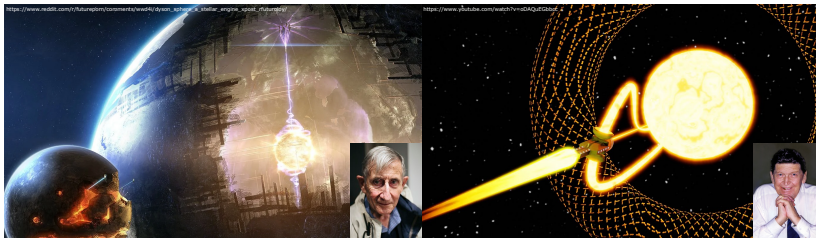


Figura: Producción organizada

ENERGÍA

Termodinámica

Energía de un sistema

$$U = q + w \quad (1)$$

Para un sistema reversible

$$dU = TdS - pdV \quad (2)$$

Variables medibles

$$dU = \mathbf{T}dS - \mathbf{p}d\mathbf{V} \quad (3)$$

Presión

Definición

$$p = \lim_{A \rightarrow 0} \frac{F_{normal}}{A} \quad (4)$$

Presión

<https://img4adpot.com/product/pressure-25x25mm-w-15-05x25-u-type-manometer>



<https://www.fluidpowerworld.com/whats-new/gauges/>



<https://www.indianart.com/product/pressure-differential-diaphragm-pressure-gauge-1218862197.html>



<https://www.indianart.com/product/pressure-vibration-sensor-11024109712.html>



$$P = dgh$$

$$P = \frac{M}{aRD} \left(\frac{E2I}{\mu - \sin \mu} \right)$$

$$P = \frac{\left(\frac{\partial \rho}{\rho} \right)}{\rho_{\text{material}}}$$

Figura: Instrumentos de medición de presión