



How to Calculate the Renewable Energy (RE) Emissions Score Annually

$$RE_{score} = \% \text{ of } \frac{\textit{Weighted Avoided Emissions}}{\textit{Total Induced Emissions}}$$

$$RE_{score} = \% \text{ of } \frac{\sum_{i=1}^n PF_i \times RE_i \times ME_i}{\sum_{j=1}^m E_j \times ME_j}$$

Weighted Avoided Emissions

- For each geographically distinct instance (i^{th}) of **RE Procurement**, calculate the **Procurement Factor**. Divide the **Energy Attribute Certificate (EAC) Price** by the **Levelized Cost of Electricity (LCOE)** for a given project, based on the [IEA](#) dataset.
- Multiply the MWh of each instance of **RE Procurement** with its **Procurement Factor** and **Marginal Emissions Rate**, based on either the [EPA](#) or [UNFCCC](#) data. Units for the **Marginal Emissions Rate** should be converted to $\frac{MTCO_2e}{MWh}$ (Metric Tons CO₂ equivalent/Megawatt-hour).
- Sum for all instances of **RE Procurement**. This is the **Weighted Avoided Emissions**.

Total Induced Emissions

- For each geographically distinct instance (j^{th}) of **Electricity Purchases** multiply the MWh with the **Marginal Emissions Rate**, based on either the [EPA](#) or [UNFCCC](#) data. Units for the **Marginal Emissions Rate** should be converted to $\frac{MTCO_2e}{MWh}$ (Metric Tons CO₂ equivalent/Megawatt-hour)
- Sum for all instances of **Electricity Purchases**. This is the **Total Induced Emissions**.

RE Emissions Score

- Divide the **Weighted Avoided Emissions** by the **Total Induced Emissions**. This is the **RE Emissions Score**.

Data Sources

This calculation relies on publicly available data from the [EPA](#), [UNFCCC](#), and [IEA](#), that provides annualized emissions and LCOE data. For more precise calculations, WattTime provides real-time marginal emissions data.