Scope 1, 2 & 3 Emissions

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Understanding Scope 1, 2 & 3 Emissions

In our journey towards a sustainable future, understanding our carbon footprint is crucial.

Let's break down Scope 1, 2, and 3 emissions with examples

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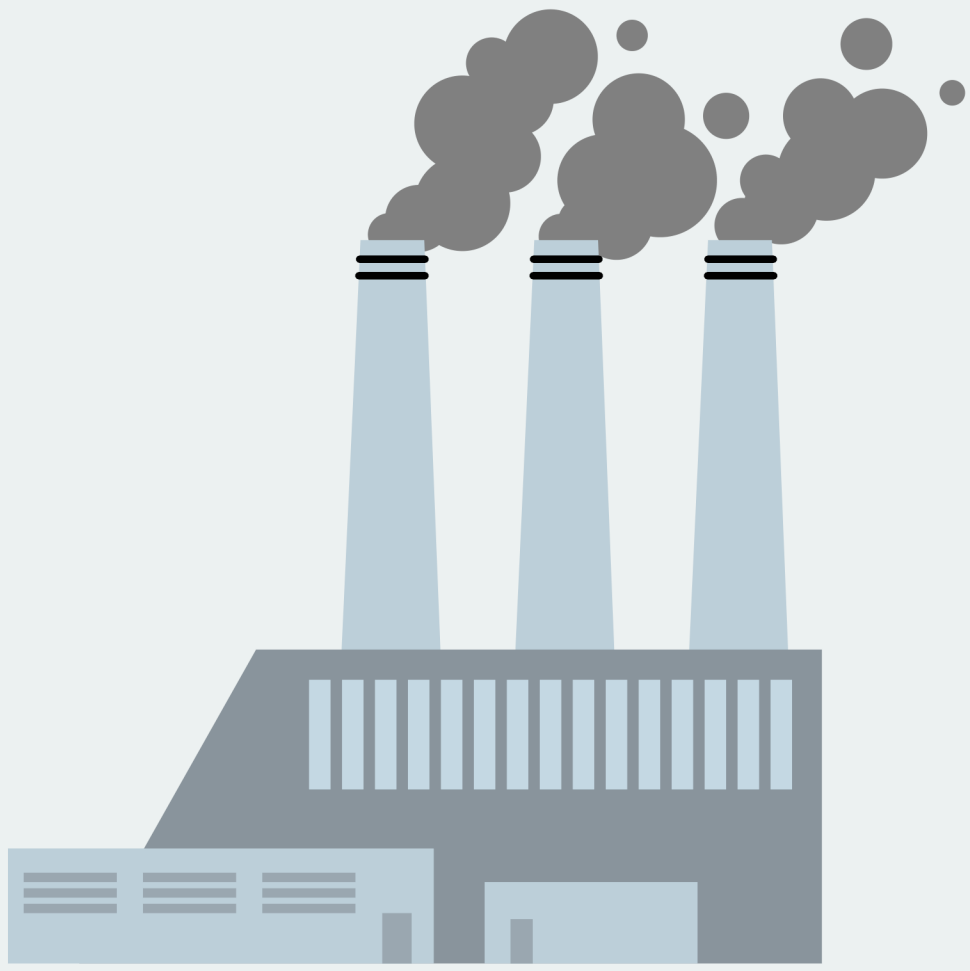
Scope 1 Emissions: Direct Emissions

These are emissions from sources that are owned or controlled by the organization.

For example, if a company owns a fleet of vehicles, the emissions from those vehicles are considered Scope 1. Similarly, emissions from a company's power plant would also fall under this category.



Scope 2 Emissions: Indirect Emissions

These are emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the organization.

For instance, if a company buys electricity from a power grid, the emissions produced in the generation of that electricity are considered Scope 2.

Scope 3 Emissions: Value Chain Emissions

These are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

For example, if a company outsources transportation or distribution to another company, or their employees travel a lot the emissions from that transportation or distribution are considered Scope 3.

It requires a thorough examination of your value chain, including business travel, waste disposal, and use of sold products.

Why Does It Matter?

Understanding and managing Scope 1, 2, and 3 emissions is a significant step towards reducing our carbon footprint.

It's not just about being responsible; it's about ensuring the sustainability of our businesses and our planet for future generations.

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How to Calculate Scope 1 Emissions

Scope 1 Emissions: Measure the amount of fuel and other combustible materials your organization uses directly, then multiply by the appropriate emission factor (available from resources like the EPA's Greenhouse Gas Emissions Factors Hub)

For example: Fleet of 10 delivery trucks each drove 24,140 kilometers this year, and they average 2.35 kilometers per liter.

Calculation: 10 trucks * 24,140 km/truck = 241,400 total km 241,400 km / 2.35 km/liter = 102,723 liters of fuel 102,723 liters * 2.68 kg CO2/liter = 275,298 kg of CO2 = 275.3 metric tonnes of CO2

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How to Calculate Scope 2 Emissions

For example: The company uses 120,000 kWh of electricity per year, and the carbon intensity of their electricity supply is 0.45 kg CO2/kWh.

Calculation: 120,000 kWh * 0.45 kg CO2/kWh = 54,000 kg of CO2 = 54 metric tonnes of CO2

How to Calculate Scope 3 Emissions

For example: employees took 20 flights this year for business purposes, each averaging 1,609 kilometers. The emissions factor for air travel is approximately 0.115 kg CO_2/km.

Calculation: 20 flights * 1,609 km/flight = 32,180 total km
32,180 km * 0.115 kg CO_2/km = 3,701 kg of CO_2 = 3.7 metric tonnes of CO_2

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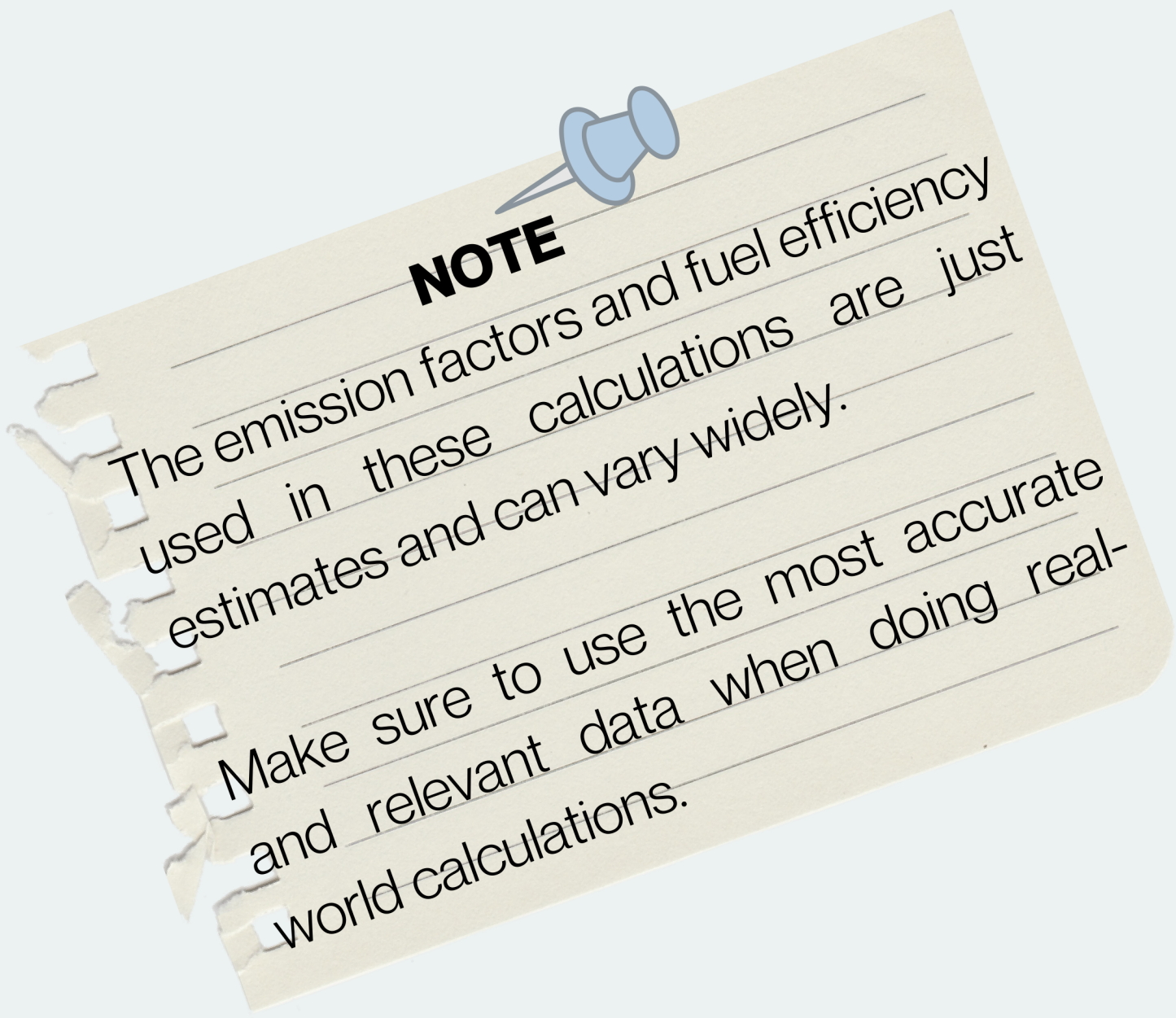
Total Emissions

Total CO2 Emissions: Scope 1 + Scope 2 + Scope 3 = 275.3 metric tonnes + 54 metric tonnes + 3.7 metric tonnes = 333 metric tonnes of CO2



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Resources for Further Learning

1. Greenhouse Gas Protocol
2. Carbon Trust's Explanation of Scope 3 Emissions

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