

# Time Theft as Avoided Emissions

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**Keywords:** carbon accounting, offsets, avoided emissions, time theft, sabotage

## 1 Introduction

This paper quantifies the potential carbon benefits of time theft in the context of high emission companies like those in the oil, gas and mining industries. Time theft is a form of industrial sabotage, where workers are paid for time periods when they are not working and idle. This can take the form of fake sick days, sleeping on the job, extended lunch breaks, or engaging in non-work related activities during work hours, like spending time on social media or taking unrelated phone calls. Here we attempt to approximate the carbon benefits of time theft by employees in oil, gas and mining companies. What are the potential carbon benefits when oil and gas employees do not work and how might we calculate carbon credits from this?

## 2 Avoided Emissions

We apply an avoided emissions methodology to calculate offsets from time theft. We assume that if employees in oil, gas or mining companies were to cease working, production would slow or cease, and carbon emissions would be avoided.

We assume that the salary of the employee reflects the significance of their role in production, and therefore emissions. As such, time theft from the highest paid employees in a company, such as CEOs or other members of the executive suite, could potentially produce the most significant emissions reductions.<sup>1</sup>

First we take the total yearly emissions of the company and divide it by the total operating costs to calculate emissions per dollar of operation expenses. We then multiply by salary to calculate the emissions for a given employee based on their salary.

$$EmissionsByEmployee_{tonnes} = \frac{EmployeeSalary_{dollars}}{TotalOperatingCosts_{dollars}} \times TotalEmissions_{tonnes}$$

We calculate the amount of seconds the employee works per year, assuming they work 48 weeks per year for 40 hours per week.

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<sup>1</sup>We recognize that some of these assumptions may be contested. It could be argued that if the CEO were distracted for a day, production of fossil fuels would continue as normal, however, we assume in good faith that executive salaries accurately reflect their contribution to company revenue, therefore production, and therefore emissions.

$$TotalSecondsPerYear = 48weeks \times 40hours \times 60minutes \times 60seconds$$

Finally we calculate the emissions they would produce per second of work, to calculate avoided emissions per hour.

$$AvoidedEmissions_{kg/s} = \frac{EmissionsByEmployee_{tonnes} \times 1000}{6,912,000_{secondsInYear}}$$

### 3 Case Study

The highest emitting company in the USA is Vistra Energy who produced 95,036,473 metric tonnes of CO<sub>2</sub> in 2020, which is equivalent to 1.6 % of all U.S. greenhouse gas emissions [1]. The CEO of Vistra was paid \$1.25 million in base salary compensation that same year [2]. Assuming that total operating costs in that year were approximately \$86 million [3], the CEO is responsible for producing:

$$\begin{aligned} EmissionsByEmployee_{tonnes} &= \frac{EmployeeSalary_{dollars}}{TotalOperatingCosts_{dollars}} \times TotalEmissions_{tonnes} \\ &= \frac{\$1,250,000}{\$86,000,000} \times 95,036,473_{tonnes} \\ &= 1,381,344.08_{tonnes} \end{aligned}$$

Therefore we can calculate the CEO's contribution to the company's emissions per second as:

$$\begin{aligned} AvoidedEmissions_{kg/s} &= \frac{EmissionsOfEmployee_{tonnes}}{6,912,000_{secondsInYear}} \\ &= \frac{1,381,344.08_{tonnes} \times 1000}{6,912,000_{seconds}} \\ &= 199_{kg/second} \end{aligned}$$

Therefore, for every second the CEO is distracted, 199kg of CO<sub>2</sub> are potentially avoided.

### References

- [1] Massachusetts Amherst Political Economy Research Institute, U.: Greenhouse 100 polluters index (2022 report, based on 2020 data). (2022). <https://peri.umass.edu/greenhouse-100-polluters-index-current>
- [2] Vistra: Notice of 2021 Annual Meeting of Stockholders and Proxy Statement. Technical report (2021)
- [3] Vistra: Vistra 2020 Annual Report. Technical report (2020). <https://investor.vistracorp.com/financials>