

White paper

Dec 2022

# Guidance for setting an internal carbon fee

CLIMATE SENTINELS  
SUPPORT ENVIRONMENTAL DEFENDERS  
78° 13' 12" N,  
15° 39' 0" E



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Milkywire is a tech platform enabling companies to address their environmental footprint and comply with new standards for taking action to solve the planet crisis.

The platform provides tools and infrastructure, allowing companies to take a holistic approach to capture the engagement of their employees and customers.





# Why an internal carbon fee?

Most companies can and should support climate projects to help reach global targets and make up for the damage their greenhouse gas emissions cause.

A powerful way for companies to generate funds for climate projects is to implement an **internal carbon fee**, voluntarily taxing their emissions and using the money to support external climate projects. This is recommended in the [WWF/BCG Blueprint for corporate climate action](#), and several forward-thinking companies have already begun to do so.

This is a shift away from compensating for emissions, so-called offsetting. Instead, companies are making contributions to global net zero. Using a carbon fee enables a focus on quality over quantity and does not create a push to buy as cheap credits as possible as the offsetting paradigm does.

What is an appropriate level for such a carbon fee, and how should it differ between companies? In this white paper, we provide a clear recommendation for four different types of companies.

## DEFINITIONS

### INTERNAL CARBON FEE

Contributions to climate can be calculated by implementing an internal CO<sub>2</sub> fee., generating money to be spent on external climate projects. The internal carbon fee (or "tax") is not to be confused with an internal carbon price (also called shadow price) that many companies have set. Instead, internal carbon prices are primarily used to judge how future carbon taxes could affect the profit of the business, revealing risks. Significantly fewer companies have implemented internal carbon fees, of which Klarna, Microsoft, and Ben & Jerry's are notable examples.

The fee can be differentiated between emissions that a company controls (for example, Scope 1, 2, and travel emissions) and a lower fee for emissions where the responsibility is shared (rest of Scope 3). This can be done in more ways, such as by charging different fees for upstream and downstream Scope 3 emissions.



# What is a credible high fee?

Companies that can should implement a credible fee that covers the full environmental and societal cost of their emissions. But how can such a level be determined?

There are several ways of estimating fees. One way is looking at the cost of durably removing and storing CO<sub>2</sub> from the atmosphere. Today that costs several hundred US dollars per tonne for most methods, but industries and governments are targeting 100 USD/t as a likely achievable cost. The research group, New Climate Institute, has determined 100 euros per tonne as a credible level for corporate climate contributions based on the marginal abatement cost

Another approach is looking at the damage done by a tonne of CO<sub>2</sub> emitted and not removed. This is estimated with a so-called social cost of carbon. There are various estimates. A recent paper in Nature put it at 185 USD. The German Federal Environment Agency recommends using a cost rate of 201 euros per tonne of CO<sub>2</sub>, and the UK and US government has proposed social costs of carbon very close to this.

There is no exact answer to what constitutes a credible fee, but given the above reasoning, 100 to 200 USD/tonne can be considered a credible range. A company could start at the lower end and raise the fee as it reduces its emissions. (As well as adjusting for inflation, the amounts above are in 2021 dollars or earlier.)

However, only a subset of companies can pay such a high fee. So how should other companies reason, and how do recommendations differ?

THE COMPANIES WITH THE LOWEST EMISSIONS CAN GENERATE THE MOST MONEY FOR EXTERNAL PROJECTS.

In The Carbon Gap report, Bridging the Ambition Gap, a framework describes when companies should spend money on external climate projects. The report shows that low-emitting industries have the greatest possibility to catalyze carbon removal. In the sample analyzed, firms with 15% of the emissions generated 85% of total corporate earnings., being the ones that could implement a credible high fee for external projects.. (The Carbon Gap report is co-authored by Robert Höglund, who also authored this white paper)



# The difference between companies

Determining if and how much a company should spend money externally depends on its ability to do so (determined by **profit per ton**) and its ability to use the money to reduce its emissions.

The main factor that determines both of these things is the company's **CO<sub>2</sub> intensity**. Non-material companies, like, for example, those in finance, have high profits per ton emitted (often over 10,000 USD per ton). That makes it possible for them to implement a high and credible internal carbon fee. At the same time, they have limited ways they can spend money to reduce their emissions. Contrast that with an electrical power company, where profits might be less than 100 USD per ton, while at the same time, the investment needed to transform their own business is huge. Therefore, spending on external climate projects will be limited. This shows that recommendations must be different between companies.

This paper proposes an internal carbon fee for external spend on climate projects. The reason is that the budget for internal spend on reducing emissions will differ wildly between companies, some would need to spend more than their entire profits, taking on debt. But an internal carbon fee could in principle be used for both internal and external spend, if so it should be higher than our recommendations in this paper, at least for high-emitting companies.

## DEFINITIONS

### PROFIT PER TON

Profits divided by emissions. Profit per tonne has a strong inverse relationship with CO<sub>2</sub> intensity. A high profit per ton is correlated with a low CO<sub>2</sub> intensity, and vice versa. There are exceptions, but there are almost no companies with both high CO<sub>2</sub> intensity and high profits per ton.

### CO<sub>2</sub> INTENSITY

Calculated by dividing Scope 1–3 emissions by revenue. The global average intensity is around 300 grams, which means that for every dollar spent, 0.3 kg of CO<sub>2</sub> is emitted. Companies that make or sell physical products tend to hover around the world average, while non-physical companies like tech and finance are many times lower while fossil fuels, mining, and chemical companies are higher.

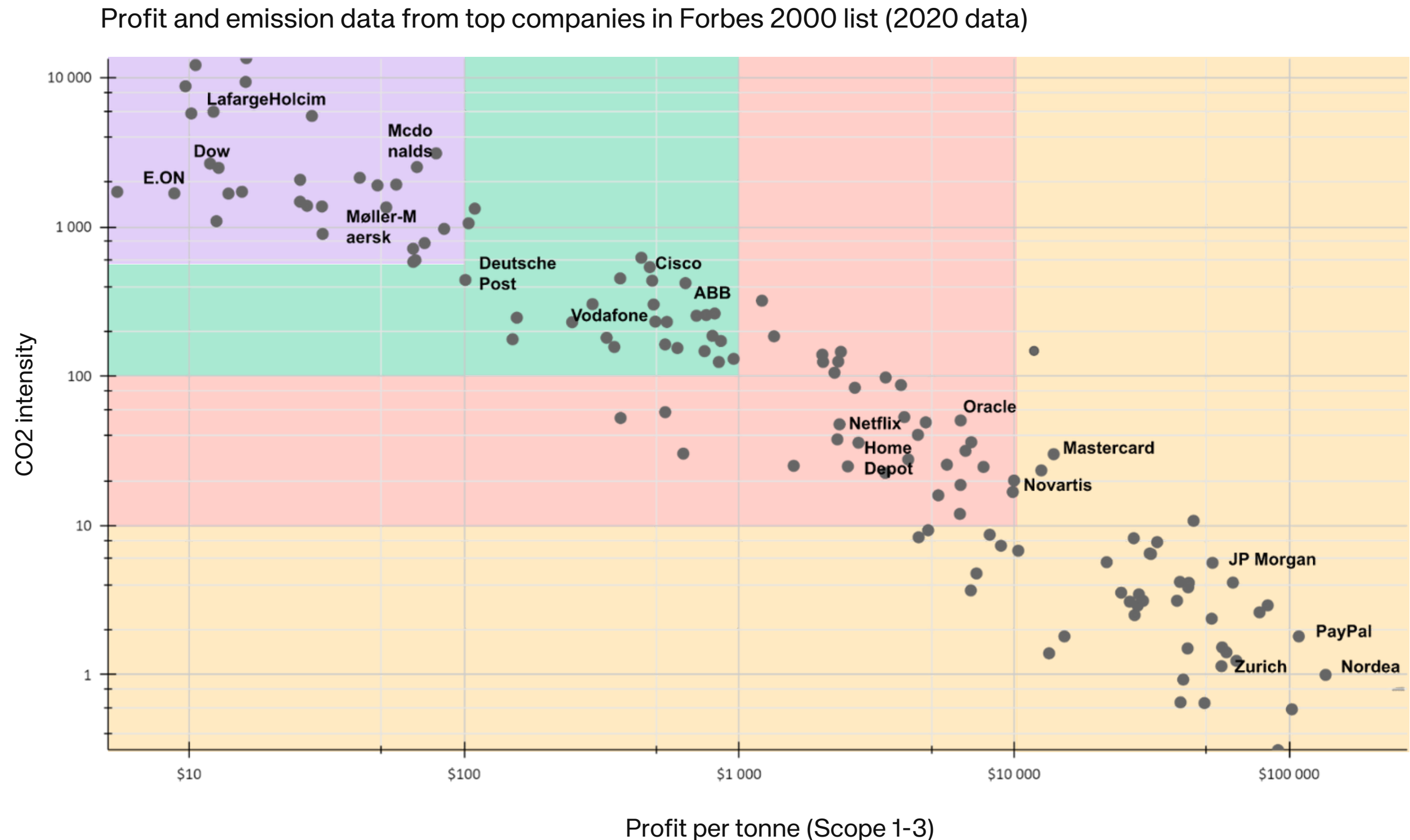


# Different profits per tonne and carbon intensity

This graph shows profit per tonne of CO<sub>2</sub> emitted vs CO<sub>2</sub> intensity for some of the world's largest companies.

We can see how these two measures strongly correlate; high emitters have low profits per ton and vice versa.

In the graph, we have created four groups depending on profit per tonne and carbon intensity.



As an example of how to read the graph: Netflix has USD 2300 in profit per tonne emitted in Scope 1-3 and an emission intensity of 48 grams CO<sub>2</sub> per USD spent. E.ON has USD 9 in profit and 1678 grams in intensity. Nordea has USD 158 000 in profit per ton and 1,3 grams in intensity. (The data comes from the top 137 companies on the Forbes 2000 list with public emission data, 2020 data). The graph shows a double log-scale



# The difference between companies

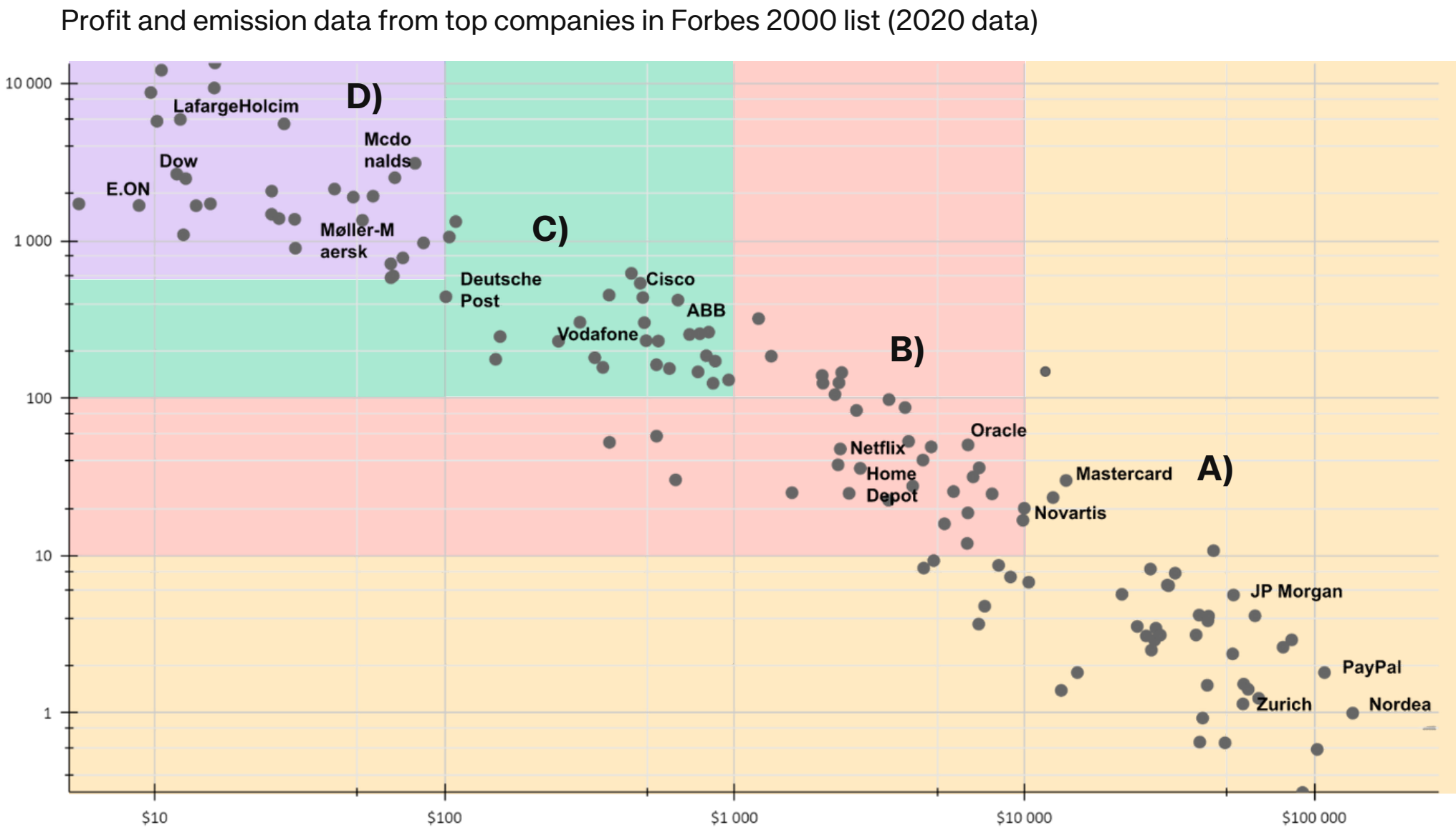
We have divided companies into four groups. based on their emission intensity and profit per ton, with different recommendations for each. The groups are described below.

D) Very high CO<sub>2</sub> intensity (>500 gram/USD) or low profits (<\$100) per tonne. Typically utilities, chemical companies, and companies in oil & gas, mining, construction, and cement.

C) Average to high CO<sub>2</sub> intensity (100-500 gram/USD) or medium profits (\$100-1,000) per tonne. Typically in retail, food & drinks, Fast moving consumer goods, and durable consumer goods.

B) Low CO<sub>2</sub> intensity (<100 gram/USD) or high profits (>\$1k) per tonne. Typically in media, software, pharma, high-value electronics, upscale fashion, etc.

A) Very low CO<sub>2</sub> intensity (<10 gram/USD) or very high profits (>\$10k) per tonne. Typically in banking, insurance, finance, consulting, etc.







# Recommendations

These are the version 1.1 of recommendations to companies in these groups. We are requesting comments and feedback on the recommendations for a version 2.0

Type:	A) Very low CO <sub>2</sub> intensity (<10 gram/USD) or very high profits (>\$10k) per tonne.	B) Low CO <sub>2</sub> intensity (<100 gram/USD) or high profits (>\$1k) per tonne.	C) Average to high CO <sub>2</sub> intensity (100-500 gram/USD) or medium profits (\$100-1,000) per tonne.	D) Very high CO <sub>2</sub> intensity (>500 gram/USD) or low profits (<\$100) per tonne.
Internal vs external spend:	Can afford both high external and internal spend on climate.	Can afford both external and internal spend on climate.	Likely need to spend majority of climate budget on internal transformation.	Likely need to spend close to whole budgets on internal transformation, (total budget might need to be >100% of profits)
Internal Carbon fee for external projects:	<b>Choose an internal carbon fee of 100-200 USD/t in all three scopes.</b>	<b>Choose internal carbon fee. &gt;100 USD/t for Scope 1&amp;2 + travel. 5-99 USD for Scope 3.</b>	<b>Choose a share of profit &gt;1%</b>	<b>Choose a share of profit &gt;1%</b>
Comparison	A 185 USD/t fee in all scopes would represent an average* share of profit of 0,97% for this group.	A 100 USD/t fee for Scope 1-2 and 10 USD for scope 3 would represent an average* share of profit of 1,4% for this group.	A 1% share of profit would on average* translate to 5 USD per tonne in all scopes for this group.	A 1% share of profit would on average* translate to 0,34 USD per tonne in all scopes for this group.

\*Averages taken from the previously mentioned dataset of 137 top global companies.



# Examples of internal carbon fees

## Klarna

The fintech Klarna has set a 100 USD fee on their scope 1, 2, and travel emissions and 10 USD for the rest of scope 3. Klarna uses that money to support climate solutions selected for the [Milkywire Climate Transformation fund](#). In 2021-2022 the fee generated 2,7 million USD, used to contribute to projects in the fund.

## Microsoft

Microsoft was one of the early companies to set a real internal carbon fee. Currently, the fee is 15 USD per ton for Scope 1 and 2, 100 USD for business travel, and 8 USD for the remainder of Scope 3. The money is used both for internal emission reductions and for supporting external projects such as carbon removal.

## Swiss RE

The reinsurance company Swiss Re implemented a 100 USD fee (called internal carbon levy) per ton in Scope 1-3. It will gradually increase to 200 USD per ton in 2030 and was 112 dollar in 2022. SwissRe uses the funds to purchase carbon credits, including high-quality carbon removal, such as with the 10 million USD, 10-year agreement they signed with Climeworks.



DIRECT CO<sub>2</sub> AIR CAPTURE TECHNOLOGY,  
ORCA PLANT, ICELAND  
PHOTO BY CLIMEWORKS WHICH HAVE  
BEEN SUPPORTED BY KLARNA,  
MICROSOFT AND SWISS RE



# Spotlight: The BCG/WWF blueprint for corporate action on climate and nature

The WWF and BCG teamed up in 2020 and published their influential blueprint for corporate climate action, setting up the approach where companies work to reduce their emissions and implement a carbon fee, using the money to support climate projects. Milkywire recommends that companies it works with use the blueprint.

WWF & BCG. Beyond Science-Based  
Targets: A BLUEPRINT FOR CORPORATE  
ACTION ON CLIMATE AND NATURE (2020)







# Spotlight: Milkywire's Climate Transformation Fund (CTF)

**What is the CTF?**

The CTF is an alternative to buying carbon credits and making offsetting claims. It's an impact-first approach, focusing on finding solutions with the greatest potential positive long-term effects for our climate and planet.

**What projects are included**

- Durable carbon removal projects
- Protecting and restoring nature
- Decarbonization, incl. advocacy and policy

**What level of support is needed?**

An internal fee on carbon is preferably used to determine the size of corporate contributions to the fund.

**How projects are selected**

Milkywire has a detailed framework for evaluating projects and work with an advisory group to get input on the selection.

CLIMEWORKS  
65°00'N  
18°00'W

INSIDE KILN FACILITY  
CAPTURING CO2 AND STORING IT UNDERGROUND  
PHOTO BY HEIRLOOM



# Give your input

We are looking for input and comments on this guidance before publishing a version 2.0

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