Assessing Corporate Emissions Performance through the Lens of Climate Science

December 2013

A Collaborative Study between Climate Counts and the Center for Sustainable Organizations

ClimateCounts.org

Center for Sustainable Organizations

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Acknowledgments

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CDP

CDP is an international, not-for-profit organization providing a global system for companies and cities to measure, disclose, manage and share vital environmental information. CDP was the primary provider of carbon emissions data for this study.

South Pole Carbon

South Pole Carbon is a global firm that seeks to improve the state of the climate with market-based solutions. South Pole Carbon normalized our emissions data set using their highly regarded *Trust Metric,* as well as providing company financial information.

Tellus Institute

Tellus Institute is an interdisciplinary not-for-profit research and policy organization. Through its PoleStar Project, Tellus provided the science-based, equity-sensitive carbon emissions reduction target used in this study.

Trucost

Trucost is a global environmental data firm that provided background financial data for the study, including EBIT and market capitalization, to examine the financial performance of companies that decouple carbon emissions from economic growth.

The Center for Sustainable Organizations

The Center for Sustainable Organizations (CSO) is a non-profit that conducts research, development, training and consulting to advance the integration of context-based sustainability principles and practices in organizations, measurement and reporting standards, and capital markets around the world. CSO's Context-Based Carbon Metric was used as the cornerstone of this study.

Dear Reader:

Science tells us that our planet is warming and that society is playing a big role, largely from the burning of fossil fuels.

This phenomenon is a byproduct of the demands of a modern world. People need jobs and people need stuff, which means that we rely heavily on our global economy to produce the clothes we wear, the food we eat, and the energy required to power our homes.

In essence, it is our reliance on industry and economic prosperity that makes addressing climate change so complex.

Our goal with this study is to take what we know about climate science and apply it to what we know about the current state of corporate greenhouse gas (GHG) emissions as a means of informing a pathway forward.

What follows in the pages ahead is the result of several months of research to determine the answer to a single question: What progress is global industry making toward reducing its impact on climate change?

Since 2007, Climate Counts has been rating companies annually on their commitment to address climate change. We have done this by assessing how companies measure, reduce and report their efforts to reduce GHG emissions.

Our goal with this study is to take what we know about climate science and apply it to what we know about the current state of corporate greenhouse gas (GHG) emissions as a means of informing a pathway forward.

For this study, however, we are attempting something radically different. Instead of rating companies on the policies and procedures they have implemented to reduce carbon dioxide and other GHG emissions, we are rating them on their actual emissions performance relative to science-based targets.

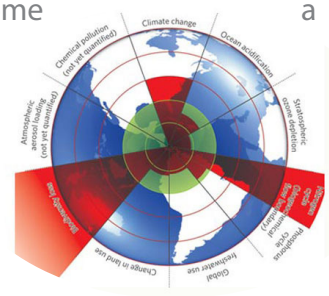
Thanks to the work of the science community, we now have a sense of what it would take to limit climate change to 2° Celsius (3.6° Fahrenheit). And thanks to the increasing transparency in the private sector to disclose emissions information, we now have the ability to gauge corporate progress against science-based targets -- targets that provide a road map for us to work toward to ensure that future generations are afforded the same opportunities to enjoy our planet as we have.

Climate change has presented us with a challenge, the likes of which has not been seen since the dawn of humanity. How we respond to this challenge as a society is being determined now. We hope you will walk with us as we attempt to carry the ball forward.

Mike Bellamente,
Executive Director, Climate Counts

Green within the Context of Natural Limits

The word "green" has come to mean many things in our world, but perhaps chief among them is how it has become the de facto term for describing a company's environmental progress. A company can be considered green for many things, from its products, to its packaging, to its workforce and beyond. But without context, green is just another color.



Source: Rockstrom et al Nature 461, September 2009

This study is meant to provide context in a world of seemingly arbitrary corporate environmental targets, specifically those tied to carbon emissions. If a company claims that it plans to reduce its carbon footprint 15% by 2020, is that good? Better yet, is it enough to achieve the carbon reductions necessary to avert runaway climate change?

To set carbon targets without using science to inform those targets can be woefully misleading. As an analogy, a man might claim to his wife that he has reduced his bacon cheeseburger intake 20% from the previous year. On its surface, this sounds like an honorable endeavor to live a healthier lifestyle, but what if the man's doctor had warned that he would surely die of a heart attack within an year's time if he chose not to abstain from eating bacon cheeseburgers altogether?

What we have attempted to do with this study is to analyze the operational emissions of 1**00 global corporations between 2005 and 2012** to determine their performance against a science-based targets that seek to limit climate change to 2° Celsius (3.6° Fahrenheit).

Essentially, what we are trying to ascertain is, "Based on what we know about climate science, are companies reducing their emissions enough, and, if not, how much further do they still need to go?"

While we have made several observations and conclusions that address this question, the findings herein are meant to represent the start of a journey, not the end. Collaborators in this effort recognize that there are limitations to the metric we have used to gauge each company's performance, just as there are limitations to the climate models on which we have based our analysis. Science by definition is imperfect, but that should not preclude us from attempting to glean insight from what we know to be true in this moment.

As with any research project of this nature, there will be detractors and skeptics, but we hope this work will also lead to thoughtful discussion. We encourage companies to work with us to understand our methods as a means of informing their internal sustainability goals and targets.

We also hope that this project will inspire everyday citizens to gain a respect for the reality of the threats ahead, and the steps we need to take collectively to address the issue of climate change.

About our Metric

So, what steps did we take to assess corporate emissions performance through the lens of climate science?

The carbon metric used in this study is a context-based metric initially developed in 2006 by the Center for Sustainable Organizations, in close collaboration with Ben & Jerry's. Context-based metrics differ from conventional metrics in that they measure and assess performance relative to sustainability norms, standards, or thresholds. They make it possible, that is, to assess the sustainability performance – social, environmental and economic – of organizations in empirically literal terms. No other metrics do this.

In the case of greenhouse gas (GHG) emissions, the relevant thresholds of interest are those pertaining to the climate system on Earth. For many years now, climate scientists have been developing models that attempt to express such limits while prescribing what anthropogenic emissions must be in order to reverse climate change and restore GHG concentrations in the atmosphere to safe levels.

Our metric relies heavily on one such model -- namely, the PoleStar Project developed by the Tellus Institute in Boston to project six scenarios of possible futures based on different sets of assumptions. Specifically, our metric drew data from the Policy Reform (PR) scenario, which prescribes an emissions pathway for stabilizing CO_2 concentrations in the atmosphere to 350 ppm by 2100.

It also allocates the burden to mitigate emissions in a justice-based or equity-sensitive way. Emitters in the developed world, that is, are assigned a disproportionately higher share of the burden to reduce global emissions than emitters in the still-developing world receive.

In our use of the Tellus model, we simply apply the emissions reductions specified in the PR scenario to individual companies, starting with what their actual emissions were in 2005. This allows us to define annual emissions targets, or thresholds, for each company over a multi-year period of time (2006-2012) using 2005 levels as a baseline.

For quantification purposes, we express both the actual and normative emissions of a company as *emissions per dollar of contribution* to GDP.

This allows us to adjust for changes over time in both the size of a company and the size of the economy as a whole, while staying true to the science-based model we're using.

When we compare actual emissions to normative targets, any score of less than or equal to 1.0 signifies sustainable operations, because it means a company's emissions are falling within science-based targets; any score of greater than 1.0 signifies the reverse.

"If companies are ever truly to gauge their carbon performance, it is critical to understand what progress means in terms of science-based thresholds. The latest Climate Counts study is a noteworthy step toward that goal, complementing CDP's own work in providing the only global environmental disclosure system for companies, investors and governments."

Paul Dickinson, Co-Founder and Executive Chairman, CDP

They Said it

Fast Facts:

The Good News: 49 of 100 companies studied are on track to reduce carbon emissions in line with scientific targets to avert dangerous climate change.

More Good News: Of the 49 companies that scored sustainably, 25 of those (51%) exhibited revenue growth even as their emissions declined, proving that **decoupling** of growth and emissions is **possible!**

The Bad News: 51% of companies rated are emitting **unsustainable** levels of carbon.

The **Top 2 Sustainable Scorers (Autodesk & Unilever)** have histories of using science-based carbon targets.

Of the top 10 companies that ranked sustainably, 7 have scored 50 points or better (out of 100) on the annual Climate Counts company scorecard.

Results revealed **little to no correlation between sustainability performance (context-based) and carbon intensity (emissions per $ revenue).**

Results revealed **little to no correlation between sustainability performance and financial performance.**

23 = number of companies that increased absolute emissions from 2005 to 2012 while rating sustainably, proving that increased emissions are not necessarily inconsistent with sustainable performance (see FAQ section for further clarification).

Of **100 companies reviewed**, most are still not using science-based thresholds to set emissions targets.

Scope

- 100 companies were analyzed across 10 different industry sectors
- 8 years' worth of corporate emissions data were collected and analyzed (2005 – 2012)
- A score of less than or equal to one (≤1) is considered sustainable (e.g. Autodesk). A score of greater than one (>1) is considered unsustainable (e.g., News Corporation)
- 350 parts per million = the target level of atmospheric CO_2 concentration in the climate change mitigation model used for this study
- This study assesses direct operational emissions (known as Scope 1) and indirect emissions related to the purchase of electricity, heat or steam (known as Scope 2 emissions) only. Other indirect emissions (known as Scope 3) were not considered

Frequently Asked Questions (FAQs)

What is Context-Based Sustainability?

When most companies track their GHG emissions, they usually do so in absolute or relative terms. But what if there were a way to analyze progress through the lens of climate science -- i.e., a third way? Context-Based Sustainability (CBS) enables us to do just that, to view emissions performance in terms of what the earth can handle, rather than what we might value as our best effort. Built, in part, on the foundation of the Global Reporting Initiative's Principle of *Sustainability Context* -- which calls for measuring "the performance of the organization in the context of the limits and demands placed on environmental or social resources" -- CBS brings ecological thresholds explicitly into play. No other approach to assessing the sustainability performance of organizations does this.

How are we defining the terms "sustainable" and "unsustainable"?

Throughout this report, readers will note that if a company has a score of less than or equal to one (≤1), it is considered "sustainable", whereas a company with a score greater than one (>1) is considered "unsustainable". To be clear, we're not saying anything about the financial or operational sustainability of the company itself, or its sustainability performance beyond carbon emissions. What we're saying is that the operational greenhouse emissions of unsustainable performers are outside the range of what scientists consider to be in the long-term best interest of the planet.

One very important distinction to make here is that we did not analyze upstream emissions (e.g., supply chain) or downstream emissions (e.g., consumer use) in this study for reasons laid out directly below. This means that an oil and gas company could conceivably score sustainably based on the management of its own operational emissions, even as the use of its product (fossil fuel) is unsustainable. This only highlights the point that oil and gas companies are only partly responsible for anthropogenic emissions, and that we all (manufacturers, utilities, homeowners, etc.) bear a level of responsibility for global CO_2 emissions.

How did we choose the 100 companies chosen for this study?

The companies represented in this report all share a unique quality: transparency. Regardless of how they perform on our ranking, it should be noted that we could not have performed this study without emissions data. By and large, this data has been disclosed voluntarily through sustainability reports and through organizations like CDP and the Climate Registry.

That said, there is a limited universe of companies that have been disclosing their emissions publicly back to 2005, the baseline year of our study. We therefore narrowed this list down in a way that would give us an adequate sample size (100), with a broad representation of industries. (Side note: CDP was our primary partner in accruing emissions data for this project, while South Pole Carbon played a supporting role in obtaining information where gaps were found).

FAQs (con't.)

Why haven't we included indirect (Scope 3) emissions in our analysis?

It is not lost on us that the majority of a company's carbon footprint may lie beyond its operational boundaries. In the case of Unilever, the 2nd highest rated company in our analysis, two-thirds of their carbon footprint is the result of consumers using their products (for example, if the product is Dove soap, the footprint is tied to the electricity needed to heat the water for the shower in which the soap is applied). Similarly, for those companies who outsource their manufacturing operations, the emissions from the manufacturing facility, say in China, would be considered indirect Scope 3 emissions.

So why wouldn't we be holding these companies responsible for upstream and downstream emissions tied to their products and services?

The answer is two-fold:

1) Accurate and reliable Scope 3 data is very difficult to come by, especially considering that the metric we used requires company data going back to 2005 in order to conduct the analysis (a function of the climate model we're using). Therefore, the question this particular study was designed to address is: Are a company's operational emissions sustainable or not?

2) Another reason we decided against using Scope 3 emissions data is to avoid instances of double counting. If a manufacturer, for example, accounts for the emissions of its suppliers as Scope 3 emissions of its own, and yet its suppliers also account for the same emissions as their own Scope 1 emissions, double counting results.

Why are we using a climate model with a CO_2 stabilization target of 350 ppm?

Most climate scientists agree that in order to have a credible chance of preventing global temperatures from increasing by no more than 2 degrees C above pre-industrial levels, atmospheric CO_2 concentrations on Earth must be lowered to no more than 350 parts per million (ppm) from the current level of 400 ppm. This is the standard, then, we felt individual organizations should be held to, especially since most of the world's GHG emissions are generated by commerce.

Why did we use contributions to gross domestic product (GDP) as a mechanism for determining the degree to which individual organizations should be expected to reduce their emissions?

For an area of impact like GHG emissions, where the burden to mitigate impacts is a shared one, a mechanism of some kind is required to fairly and equitably allocate the responsibility for achieving the targets involved. In our metric, we make such allocations according to an organization's individual and proportionate contributions to GDP during the years of interest to us (2005-2012). This is only after we have first determined what an organization's actual emissions were in the baseline year (2005), and then applied the science-based reduction target to those levels (see below for more details). As organizations grow and or shrink in size, their allowable emissions are further adjusted within our metric. This helps us ensure that total levels of allowable emissions by contributors to GDP in the years of interest to us remain consistent with the science-based model we're using. It also helps us allocate emissions entitlements proportionately to organizations according to what some believe is a reasonable gauge of the value they add to society. That said, we are very much aware of the shortcomings of GDP in this regard and are taking steps to replace it with an arguably better mechanism or proxy of some kind as soon as a viable substitute becomes available. For now, however, contributions to GDP will have to do.

How is it possible for companies to increase their absolute emissions and score sustainably on this ranking simultaneously?

Many of the companies that scored sustainably in our ranking actually reported increased emissions over time, not decreases. How is this possible? How is it possible, that is, for a company with increasing emissions to score sustainably relative to a science-based standard that is calling for decreases?

The answer lies in the way our metric allocates the global burden to reduce emissions to individual organizations. We do this in two ways. First we determine what an organization's emissions per dollar of contribution to GDP were in the baseline year (2005). For every year thereafter, we set a standard of performance that calls for reductions per dollar of contribution to GDP based on mitigation targets specified in the science-based model.

Once reduction targets have been specified per dollar of contribution to GDP, we then multiply the target by the actual number of dollars an organization contributed to GDP in the same year. If that number is considerably higher than it was the year before (i.e., if the organization is growing rapidly), its rate of growth can

FAQs (con't.)

exceed the required rate of decline in emissions per dollar of contribution to GDP, thereby allowing the organization to increase its emissions and yet still be sustainable by our standard.

In this respect, our metric functions much like a cap and trade system. It specifies ever-decreasing global annual limits for emissions in accordance with a science-based model, and then effectively pits organizations against one another in competition for the shrinking entitlements to emit. Organizations that do well in commercial terms can thereby win the right to emit more, even as they sign on, so to speak, to a climate change mitigation scenario, which, if adhered to, will reverse climate change and restore GHG concentrations in the atmosphere to safe levels.

Is "context" the wave of the future for the Climate Counts scorecard?
We have always considered the Climate Counts rating to be a measure of sustainability innovation.

As global GHG emissions continue to rise, however, we realize that we need to raise the bar on what is considered ***transformational*** sustainability innovation. To this end, Climate Counts is in the process of identifying new criteria, like context, that more accurately depict which companies are changing the face of 21st Century commerce. Once we have decided how these criteria will be integrated into our scoring process, we will communicate our intentions to the marketplace.

"Companies usually set their targets by asking each division what they can do and then setting a stretch goal. But if you have a problem, you should try to solve all of it, not merely as much as you think you can handle.

The Climate Counts Context-Based Carbon Ranking, by looking at actual emissions in relation to a company's contribution to global GDP (the bigger you are, logically, the more your carbon 'budget' allows), provides a clear sense of companies that are rising to the climate challenge. It also starts to identify those who may be imperiling future profits and those who have some more work to do."

Andrew Winston, Author, Green Recovery and Co-Author, From Green to Gold

They Said it

"This important report from Climate Counts comes just as our Citizenship Advisory Panel is urging GE to 'continue to set and update global goals that are truly stretching…to narrow the gap between the current targets for reducing greenhouse gas emissions and the levels that scientists tell us are needed to limit climate change to a rise of 2°C.' So the timing of this report is perfect: the corporate community really needs to embrace Sustainability Context now."

Gretchen Hancock, Manager Resource Optimization, GE

Findings

Sustainable vs. Unsustainable: An Even Split

The results of the Climate Counts Science-Based Carbon Study were almost equally divided between companies that scored sustainably (49%) and companies that scored unsustainably (51%). Whether this is encouraging or discouraging depends on the lens you look through, but there are a few key factors to consider when choosing your lens.

First, the universe of surveyed companies represent arguably the most transparent and proactive on carbon inventorying (and by logical extension, carbon management) of all global publicly traded companies, in that they have been carbon footprinting since 2005. So, it stands to reason that these are amongst the best companies at reducing carbon emissions. In other words, the incidence of sustainable scorers likely decreases, the further analysis extends into the corporate community.

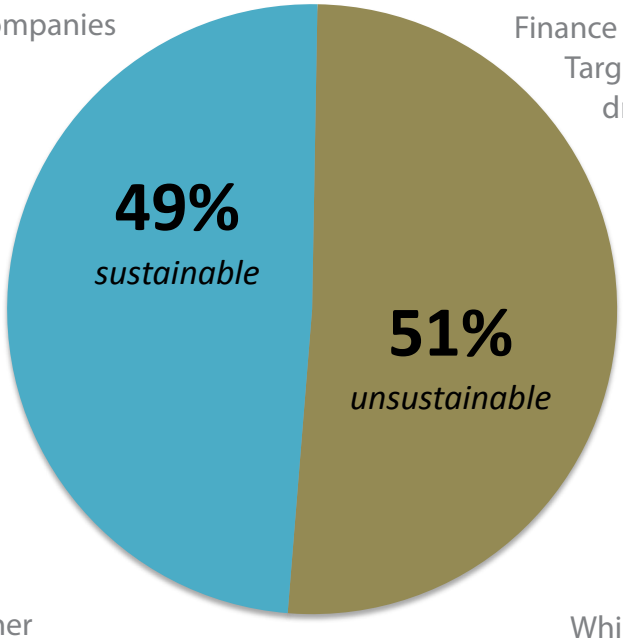


Figure A: Distribution split of "sustainable" vs. "unsustainable" companies

Second, companies typically start their emissions reduction initiatives "harvesting the low-hanging fruit" (or the "easy" reductions that get the most reduction bang for the buck). So even these strong performers will likely find it increasingly challenging to squeeze reductions out of existing systems, requiring new systems (and even potentially new business models) to achieve the ambitious reductions needed to avert dangerous climate change.

A History with Context Helps

The top two sustainable scorers -- Autodesk and Unilever, respectively -- have histories of using context-based carbon metrics.

Autodesk has been applying C-FACT (Corporate Finance Approach to Climate-stabilizing Targets), its open-source, science-driven methodology tied to IPCC targets for GHG emissions reductions, since 2009. And Unilever subsidiary Ben & Jerry's piloted an early version of the Center for Sustainable Organizations Context-Based Carbon Metric (arguably the first-ever implementation of a science-based carbon metric) in its 2006 Social & Environmental Assessment Report.

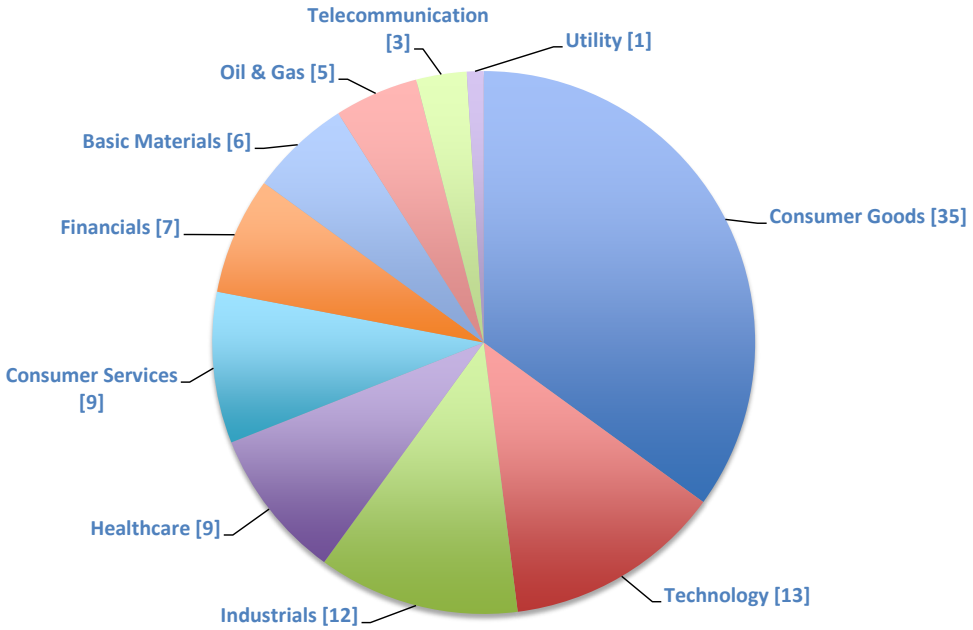
While Unilever as a whole has yet to apply this approach company-wide or adopt an explicitly science-based carbon target, research by Andrew Winston finds Unilever's carbon targets do align with reductions called for by climate science. A third company amongst the sustainable scorers, EMC (29th; 0.901), has adapted C-FACT, making its own modifications.

Findings (con't.)

Sustainability Performance by Industry

The 100 companies studied fall into a diverse range of 10 industries, according to the Industry Classification Benchmark (ICB) scheme, as shown in Figure B. Given Climate Counts' long-standing consumer-facing focus, a large concentration of companies fall into the Consumer Goods (35) and Consumer Services (9) categories.

Figure B: Number of companies analyzed by Industry



Sustainable performance varied widely by industry as seen in Figure C below. Healthcare performed the strongest, with emissions for 78% of companies (7 of 9) falling below the science-based threshold. Two-thirds (67%) of Industrials (8 of 12) and Telecomms (2 of 3) scored sustainably. The remainder of industries fell at or below the halfway mark for sustainable scorers. Perhaps unsurprisingly, Oil & Gas (2 of 5, or 40%) and Utilities (0 of 1, or 0%) fared poorly, given their carbon-intense operations (which doesn't even take into account emissions from the use of their products and services).

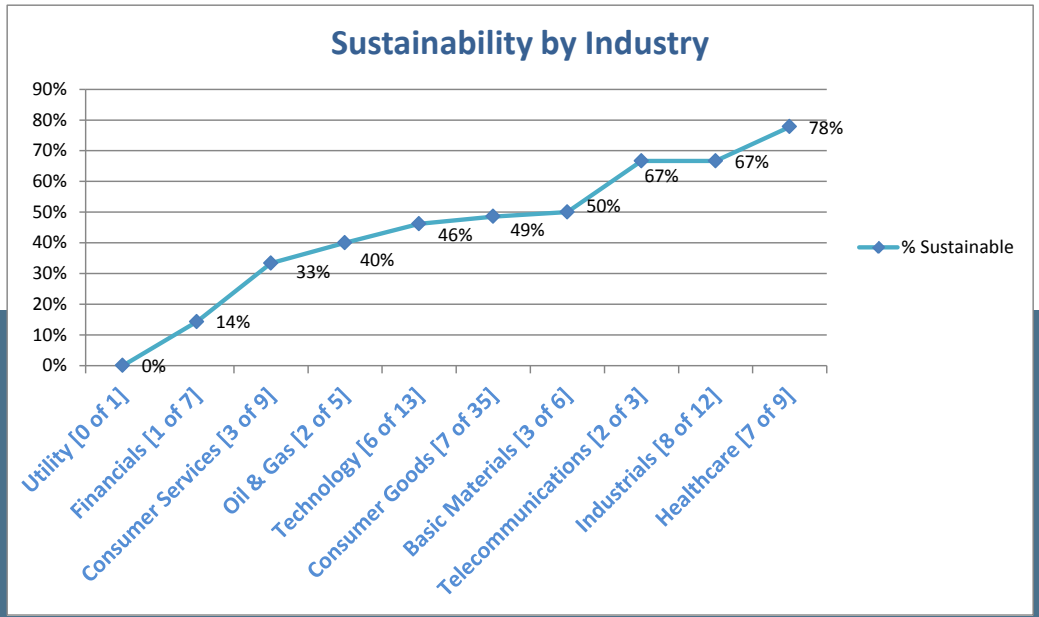


Figure C: Percentage of companies that rated sustainably by industry

Less intuitively, only one of the seven Financial companies (14%) performed sustainably, in an industry typically associated with sustainable performance given their small carbon footprints for direct emissions. This dynamic reveals an interesting aspect of the Center for Sustainable Organizations' Context-Based Carbon Metric: namely, that it "locks in" the facts on the ground of the baseline year, then uses this as a foundation for applying its normative standards, just as the science-based model it relies on does and at exactly the same levels.

From an industry-based perspective, this essentially accepts as a given the baseline carbon intensity of companies in that industry, then sets an expectation for emissions reductions in line with the science. In other words, it neither punishes high carbon intensity nor rewards low carbon intensity in the baseline year, but holds both equally accountable for maintaining sustainable performance thereafter -- recognizing that ***all*** companies bear responsibility for creating a sustainable future.

A closer look at the Financials industry illustrates some of the cascading effects of this approach. In the period examined, the Financial companies studied generally increased their actual emissions. At the same time, their gross margins trended downward (think financial crisis), further lowering their allowable emissions in the Metric. In other words, they experienced the "worst of both worlds" -- weakening financial performance and growing carbon footprint -- resulting in a reverse version of "decoupling" as compared to the desirable dynamic of economic growth linked to carbon contraction discussed in the next section.

Findings (con't.)

The Decoupling Pattern

In October 2013, the US Energy Information Administration (EIA) released data showing that in 2012, GDP increased 2.8% while carbon emissions fell by 3.8%, compared to 2011. In other words, the US economy ***decoupled*** economic growth from carbon emissions, a necessary dynamic if we are to achieve the elusive goal of truly sustainable development.

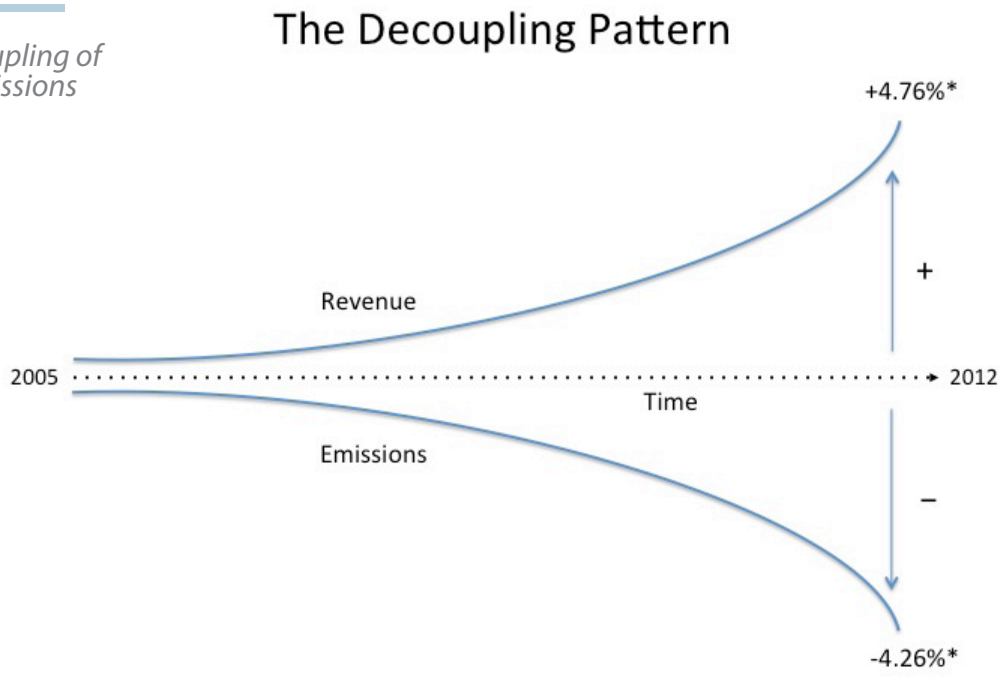
Similarly, our science-based carbon study finds an encouraging (and surprising) decoupling pattern between average revenue and average emissions over the study's 8-year period. Specifically, ***over half (25 of 49) of the companies that scored sustainably in our study displayed the decoupling pattern.***

And much of that was concentrated at the top: ***8 of the top 10 (including all top 6 scorers) exhibited decoupling.*** Of course, the study also explored this pattern amongst the 51 companies that scored unsustainably, and found 8 companies (16%) also displaying decoupling.

What, then, were the differences between the 25 that scored sustainably and the 8 that didn't, that could explain the differences in the way they scored in our context-based ranking? The spread in decoupling -- namely, the percent of revenue growth added to the percent of emissions decline -- for the 25 sustainable scorers was 50% greater than it was for the unsustainable scorers (9% versus 6%). In other words, the sustainable scorers are better decouplers!

Expanding the view beyond revenue, the growth in gross margins (the variable we use to allocate emissions entitlements) was 5 times higher for the 25 sustainable scorers than it was for the 8 unsustainable scorers (5% versus 1%). So the sustainable scorers' contributions to GDP were growing faster!

Figure D: Decoupling of growth and emissions



* Average annual change in % for the 25 companies that a) scored sustainably, and b) displayed the decoupling pattern (i.e., their annual revenues grew on average by +4.76%, even as their annual emissions on average fell by -4.26%).

Finally, the study revealed an interesting result of the allocation feature in our metric, which is that allowable annual emissions for the sustainable scorers actually rose (+1%), while for the unsustainable scorers it fell (-3%). In cases where allowable emissions thereby grew even as declines in actual emissions were simultaneously occurring, the companies involved scored sustainably. Our metric rewarded their decoupling!

In short, notwithstanding the fact that the decoupling pattern appeared in both the sustainable and unsustainable groups, the rate of decoupling amongst the sustainable group was more than 3 times higher than amongst the unsustainable group (51% versus 16%). And by comparison, the decoupling pattern in the unsustainable group was not pronounced enough to compensate for the 3% decline (annual average) in allowable emissions for the companies involved.

These findings seem to align with those of the 3% Solution report from CDP, WWF, and McKinsey, which outlines opportunities to profit from carbon reductions in line with what climate science calls for.

Finally, a note of caution: this study's findings of a strong decoupling pattern amongst sustainable performers when it comes to carbon emissions does not necessarily mean that economic growth is a magic bullet or sustainability solution. Indeed, economic growth is often still coupled with a host of other negative environmental and social impacts. The limited scope of this study, then, prevents us from making broad claims about the "net sustainable" performance of companies across all vital capitals. That said, we think it's an area worth exploring and pursuing.

Climate Counts Annual Scorecard vs. Science-Based Metric

One of the anticipated questions resulting from this study is, "How have companies fared differently from the traditional Climate Counts rating process?"

Suffice it to say, comparing our 21-criteria Climate Counts scorecard to a metric that assesses emissions performance to science-based targets is an apples to oranges comparison.

Findings (con't.)

Why, then, risk sending mixed signals to the marketplace by saying a company scores well on one scorecard and not the other? Simply put, by conducting this study, we are attempting to evolve corporate sustainability to the next level.

Obviously, any time an organization puts out a list of companies in order of performance, the immediate takeaway will be "so-and-so is doing well, and so-and-so is doing poorly." Beyond this, however, people should take the time to think more critically about the findings of this study.

The things we need to do to as a society to overcome climate change are a matter of physics, pure and simple. Our work here is meant to inform the goal-setting processes for industry with regard to GHG emissions. We need to transition from a world where companies are setting emissions targets based on what industry peers are doing or based on what's palatable for the CFO. We need for corporate emissions targets to be grounded in the science.

That said, here are a couple quick facts about companies that appear both on our annual scorecard and here in this study: 1) of the top 10 companies that ranked sustainably in this study, 7 have scored 50 points or better (out of 100) on the annual Climate Counts company scorecard; and 2) there are at least three companies that rated poorly in this study that have been rightfully commended for their work on sustainability by CDP, the Dow Jones Sustainability Index, and by our very own annual scoring assessment over the last several years -- Nestlé, Bank of America and UPS.

The Global Initiative for Sustainability Ratings (GISR) is committed to collaboration with those who are serious about seeking methodological advances in applying Sustainability Context to context assessing the environmental and social aspects of corporate performance.

No one has the lock on the science or application of the concept. But we must achieve progress, sooner rather than later. We don't have decades to get serious about Context in light of the ecological and social perils that lie ahead.

I believe the time for procrastination has passed and the time for aggressive action is upon us. Those willing to listen are receiving a collective wake-up call regarding thresholds and limits.

The Climate Counts study represents the kind of serious response to this call for action. Business, investors, NGOs and others would do well to read and constructively react to this admirable contribution to advancing the principle of sustainability context in performance assessment.

Allen White, Vice President and Senior Fellow, Tellus Institute; Founder, Global Initiative for Sustainability Ratings; and Co-Founder, Former CEO, The Global Reporting Initiative

They Said it

Little Linkage Between Sustainability and Carbon Intensity

The conventional metric of carbon intensity is often seen as the barometer for sustainable performance. This study calls this assumption into question. The data show little correlation between context-based sustainability performance and carbon intensity (measured in emissions per dollar of revenue.) For example, the best carbon intensity performer (Nippon Steel) ranked 74th in the context-based sustainability ranking, and the worst carbon intensity performer (Wisconsin Energy) ranked 66th in the context-based sustainability ranking. For more of a sense of this disconnect, see Table A.

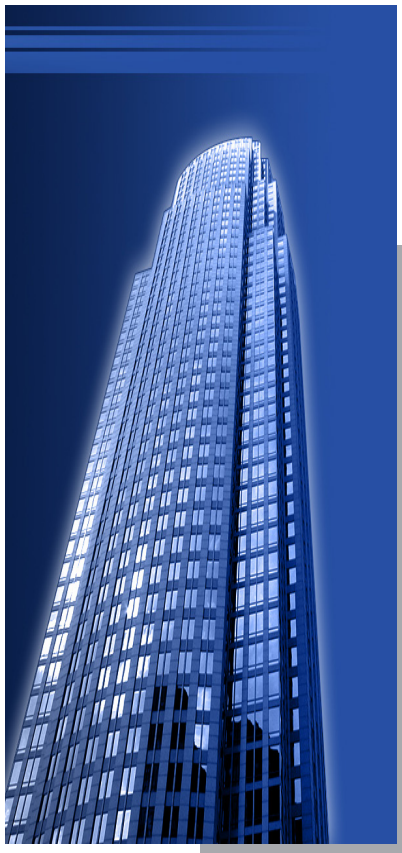
Table A: Correlation between sustainability and intensity ranking

Company	Sustainability Ranking	Carbon Intensity Ranking
Autodesk	1	6
Unilever	2	52
Eli Lilly	3	74
Canon	4	28
L'Oreal	5	7
ConAgra Foods	96	82
Royal Bank of Scotland	97	9
UPS	98	89
Molson Coors	99	88
Weyerhauser	100	95

Sustainability Performance vs. Financial Performance: A Mixed Bag

Corporate sustainability orthodoxy holds that strong sustainability performance goes hand-in-hand with strong financial performance -- a case that makes intuitive sense, as operating within the carbon budget, for example, requires similar disciplines as managing within operational and financial budgets. This study made no assumptions one way or the other, and the findings similarly lean in neither direction.

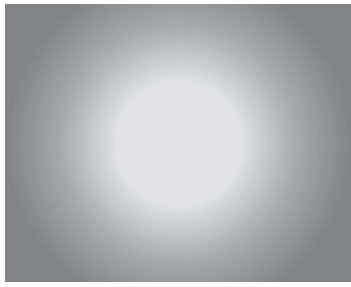
To help investigate the connections, if any, between emissions and financial performance, South Pole Carbon provided revenue data for the portfolio of companies studied, and environmental research firm Trucost provided earnings before interest and tax (EBIT) and market capitalizations (market cap) data for the same organizations. Results revealed a mixed and decidedly weak correlation between financial and sustainability performance from all three perspectives.



Findings (con't.)

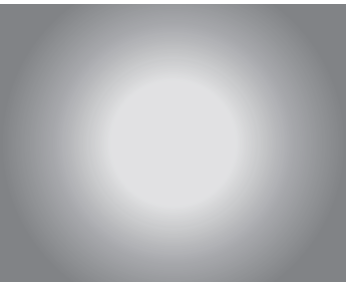
Sustainability Performance and...

Revenue



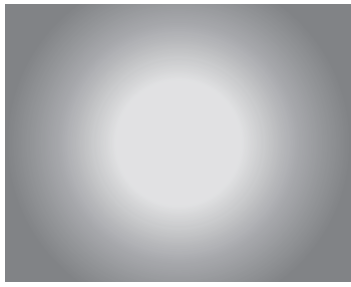
- The top 10 revenue performers were evenly split between the sustainable and unsustainable categories
- All of the bottom 10 revenue performers had declining revenues and fell into the unsustainable category
- The top sustainability performer (Autodesk) ranked 12th in revenue performance
- The bottom sustainability performer (Weyerhauser) ranked 100th in revenue performance

Earnings (EBIT)



- Only two of the top 10 earnings performers (Deutsche Telecom and Eli Lilly) fell into the sustainable category
- Four of the bottom 10 perfomers (Nokia, Sharp, Volkswagen, and Volvo) also fell into the sustainable category
- The top sustainability performer (Autodesk) ranked 35th in EBIT performance
- The bottom sustainability performer (Weyerhauser) ranked 30th in EBIT performance

Market Cap



- The top 10 market cap performers were evenly split between the sustainable and unsustainable categories
- The bottom 10 market cap performers were also evenly split between the sustainable and unsustainable categories
- The top sustainability performer (Autodesk) ranked 64th in market cap performance
- The bottom sustainability performer (Weyerhauser) ranked 61st in market cap performance

Company Name	Industry (ICB)	Sustainable	Context-Based Cumulative Performance Score ('05 - '12)	Rank by Context-Based Score (1 to 100)
AUTODESK	Technology	Y	0.449	1
UNILEVER NV-CVA	Consumer Goods	Y	0.600	2
ELI LILLY	Healthcare	Y	0.601	3
CANON	Technology	Y	0.611	4
LOREAL	Consumer Goods	Y	0.679	5
GE	Industrials	Y	0.685	6
RECKITT BENCKISER	Consumer Goods	Y	0.699	7
ABBOTT LABS	Healthcare	Y	0.708	8
HYUNDAI	Consumer Goods	Y	0.730	9
STATE STREET	Financials	Y	0.739	10
PEPSICO	Consumer Goods	Y	0.750	11
HASBRO	Consumer Goods	Y	0.750	12
HEINEKEN	Consumer Goods	Y	0.751	13
BAYER	Basic Materials	Y	0.755	14
FLETCHER BUILDINGS	Industrials	Y	0.768	15
VOLKSWAGEN	Consumer Goods	Y	0.771	16
BAXTER INTL	Healthcare	Y	0.814	17
NOVARTIS	Healthcare	Y	0.823	18
UTC	Industrials	Y	0.825	19
BRISTOL-MYERS SQUIBB	Healthcare	Y	0.831	20
DEUTSCHE TELECOM	Telecommunications	Y	0.833	21
NOKIA	Technology	Y	0.834	22
HERMAN MILLER	Consumer Goods	Y	0.835	23
COLGATE-PALMOLIVE	Consumer Goods	Y	0.835	24
TESCO	Consumer Services	Y	0.849	25
CEMEX	Industrials	Y	0.874	26
SIEMENS	Industrials	Y	0.886	27
BASF SE	Basic Materials	Y	0.893	28

Company Name	Industry (ICB)	Sustainable	Context-Based Cumulative Performance Score ('05 - '12)	Rank by Context-Based Score (1 to 100)
EMC	Technology	Y	0.901	29
MICROSOFT	Technology	Y	0.902	30
CHEVRON	Oil & Gas	Y	0.913	31
DANONE	Consumer Goods	Y	0.928	32
VOLVO	Industrials	Y	0.938	33
MARRIOTT	Consumer Services	Y	0.938	34
HITACHI	Industrials	Y	0.941	35
EMERSON ELECTRIC	Industrials	Y	0.942	36
COCA-COLA	Consumer Goods	Y	0.945	37
AVON	Consumer Goods	Y	0.945	38
SHARP	Consumer Goods	Y	0.949	39
CLOROX	Consumer Goods	Y	0.949	40
KIMBERLY-CLARK	Consumer Goods	Y	0.951	41
INTEL	Technology	Y	0.957	42
VERIZON	Telecommunications	Y	0.962	43
J&J	Healthcare	Y	0.963	44
BP	Oil & Gas	Y	0.967	45
DIAGEO	Consumer Goods	Y	0.970	46
PRAXAIR	Basic Materials	Y	0.976	47
ASTRA ZENECA	Healthcare	Y	0.990	48
TARGET	Consumer Services	Y	0.995	49
BAYERISCHE MOTOREN	Consumer Goods	N	1.011	50
HESS CORP	Oil & Gas	N	1.013	51
LEXMARK	Technology	N	1.017	52
HALLIBURTON	Oil & Gas	N	1.023	53
ANHEUSER-BUSCH	Consumer Goods	N	1.026	54

Company Name	Industry (ICB)	Sustainable	Context-Based Cumulative Performance Score ('05 - '12)	Rank by Context-Based Score (1 to 100)
MARKS & SPENCER	Consumer Services	N	1.035	55
IBM	Technology	N	1.040	56
MERCK	Healthcare	N	1.051	57
INTL PAPER	Basic Materials	N	1.055	58
LIMITED BRANDS	Consumer Services	N	1.057	59
KELLOGG	Consumer Goods	N	1.071	60
HP	Technology	N	1.080	61
SONY	Consumer Goods	N	1.089	62
EXXON MOBIL	Oil & Gas	N	1.098	63
ERICSSON	Technology	N	1.108	64
GENERAL MILLS	Consumer Goods	N	1.110	65
WISCONSIN ENERGY	Utility	N	1.118	66
TOSHIBA	Industrials	N	1.132	67
DELL	Technology	N	1.138	68
GAP INC	Consumer Services	N	1.143	69
PFIZER	Healthcare	N	1.166	70
SABMILLER	Consumer Goods	N	1.186	71
HENNES & MAURITZ	Consumer Services	N	1.188	72
KRAFT FOODS	Consumer Goods	N	1.189	73
NIPPON STEEL	Basic Materials	N	1.221	74
PANASONIC	Consumer Goods	N	1.237	75
SAMSUNG	Technology	N	1.253	76
NESTLE	Consumer Goods	N	1.266	77
DEUTSCHE BANK	Financials	N	1.282	78
TOYOTA	Consumer Goods	N	1.296	79
NEWS CORP	Consumer Services	N	1.316	80

Company Name	Industry (ICB)	Sustainable	Context-Based Cumulative Performance Score ('05 - '12)	Rank by Context-Based Score (1 to 100)
FORD	Consumer Goods	N	1.329	81
ELECTROLUX	Consumer Goods	N	1.372	82
OFFICE DEPOT	Consumer Services	N	1.397	83
BT GROUP	Telecommunications	N	1.398	84
BANK OF AMERICA	Financials	N	1.411	85
SHERWIN WILLIAMS	Industrials	N	1.427	86
FUJIFILM	Consumer Goods	N	1.440	87
WHIRLPOOL	Consumer Goods	N	1.482	88
HSBC	Financials	N	1.529	89
P&G	Consumer Goods	N	1.560	90
CISCO SYSTEMS	Technology	N	1.566	91
GM	Consumer Goods	N	1.650	92
WELLS FARGO	Financials	N	1.670	93
CITIGROUP	Financials	N	1.737	94
DOW CHEMICAL	Basic Materials	N	1.887	95
CONAGRA FOODS	Consumer Goods	N	1.889	96
ROYAL BANK SCOTLAND	Financials	N	2.009	97
UPS	Industrials	N	2.083	98
MOLSON COORS	Consumer Goods	N	2.721	99
WEYERHAEUSER	Industrials	N	3.144	100

Closing Thoughts

Stepping back, this Science-Based Carbon Study advances an evolution in Climate Counts' theory of change that seeks to keep our work ahead of the curve. Our standard Scorecard focuses on practices and policies to assess the internal corporate structures and systems necessary to navigate the transition to a low-carbon economy. Call it a micro-transformation theory of change. This focus will continue to prove vital to encouraging forward progress through corporate adoption of best practices.

That said, in the 7 years since Climate Counts' inception, we've seen continuous improvement of scores at the micro level, while at the macro level, climate change marches on unabated, according to empirical evidence. Mother Earth doesn't seem to give a hoot about board-level climate committees and executive compensation linked to sustainability initiatives. What matters more is the thermodynamic reality of an atmosphere overloaded with globe-warming carbon.

So, this study adds another layer to our theory of change, linking ***micro-level shifts*** to the necessary ***macro-level transformations.*** Indeed, only by tying company performance into the bigger picture can we truly move the needle forward.

Of course, we also embrace a theory of change that ratings matter -- that companies care how they fare in third-party assessments of their sustainability performance. They care because investors, customers, consumers, activists, journalists, and regulators care, using ratings as a key filter of opinion. And the sustainability ratings field is in the midst of a "reset" driven by SustainAbility's multi-phase Rate the Raters project and the Global Initiative for Sustainability Ratings (GISR). Most significantly, GISR just released its Beta Principles, including Sustainability Context as a core principle, according to which raters are exhorted to assess performance relative to thresholds of performance, ecological and otherwise.

"Sustainability requires contextualization within thresholds -- that's what sustainability is all about," says Tellus Institute Senior Fellow Allen White, Founder of GISR. "Unfortunately, Sustainability Context is, to my knowledge, virtually invisible in ratings -- one would be very hard pressed to find even a single example in any rating where such Context is seriously represented.

"GISR must collaborate with those who are serious about seeking methodological advances for both the environmental and social aspects of Sustainability Context. No one has the lock on the science or applications of the concept. But we must refine both, sooner rather than later," White continues. "We don't have decades to get serious about Context in light of the ecological and social perils that lie ahead. The world is issuing a collective wake-up call on the issue of thresholds and limits -- we can't afford another decade of dawdling."

Closing Thoughts (con't.)

Forward-looking companies are reading the writing on the wall, seeing the inevitable necessity of managing their impacts in the context of real-world thresholds.

"This notion of context-based metrics that integrate market share makes a ton of sense, asking if we're really reducing our emissions faster than we're growing the business," says Gretchen Hancock, Resource Optimization Manager at GE, which ranks 6th in the Study. "The fact that a big company like GE completely blew our initial 1% emissions reduction target out of the water signals to me that the broader business community also has the power and the creativity and the innovation to decouple emissions reductions from economic growth."

"This important report from Climate Counts comes just as our Citizenship Advisory Panel is urging GE to 'continue to set and update global goals that are truly stretching…to narrow the gap between the current targets for reducing greenhouse gas emissions and the levels that scientists tell us are needed to limit climate change to a rise of 2°C,'"Hancock continues. "So the timing of this report is perfect: the corporate community really needs to embrace Sustainability Context now."

And GE isn't alone. According to recent research by Andrew Winston as part of the PivotGoals project, more than a quarter of the Fortune Global 200 – including Nokia, Vodafone, Unilever, Mitsubishi Chemical, UBS, Volkswagen and Coca-Cola – have set goals (purposefully or coincidentally) on par with science-based emissions reduction targets of roughly 3% per year until 2050 (or carbon intensity by about 6% per year). Another handful, among them Deutsche Bank, P&G, Noble Group and Walmart, have established carbon-neutral or 100% renewable energy goals, but without a specific date.

"Besides these longer-term thinkers, our corporate carbon goals are wholly inadequate to the task at hand," says Winston. "The Climate Counts Science-Based Carbon Study, by looking at actual emissions in relation to a company's contribution to global GDP (the bigger you are, logically, the more your carbon 'budget' allows), provides a clear sense of companies that are rising to the climate challenge. It highlights the companies that are setting goals for carbon reduction that are in line with what the science tells us we need to do. It also starts to identify those who may be imperiling future profits and those who have some more work to do."

We see this study following in the footsteps of the recent release of the latest Intergovernmental Panel on Climate Change, report, which finally grappled with the need to figure out how to fairly slice up the pie when it comes to the global carbon budget. Our unique and humble contribution is a kind of special knife that cuts pie pieces proportionate to a company's rightful slice of this collective carbon budget.

We're glad to see that some companies are already taking accountability for their share of the burden for reducing and stabilizing carbon emissions; and we stand ready to help encourage other companies to jump on the bandwagon as we rise to the challenge of "preserv[ing] a planet similar to that on which civilization developed and to which life on Earth is adapted...." Done right, they may very well be able to make a buck or two in the process.

Glossary of Terms

Absolute Emissions - A gross measure of emissions (either actual or normative), typically expressed as a unit of mass (e.g., tonnes), as compared to "relative" emissions (see "carbon intensity" below), which express gross emissions relative to some other variable, typically an economic or production indicator. See: Absolute Emissions versus Emissions Intensity Backgrounder

Carbon Budget - The amount of carbon that can be emitted into the environment within the thresholds established by the scientific community for avoiding dangerous climate change. According to the most recent IPCC Report, the most conservative calculation of the carbon budget amounts to 1,000 gigatons of CO_2 emissions since the Industrial Revolution, of which 531 GtC was already emitted by 2011. In other words, humanity is already more than half-way through our rapidly diminishing carbon budget. See: IPCC Report Contains 'Grave' Carbon Budget Message

Carrying Capacity - The extent to which a vital capital resource can withstand an impact or load before degrading toward collapse, typically quantified in maximums for natural capital and minimums for human, social and constructed (or built) capitals. For example, the carrying capacity of the global climatic regulatory system relative to holding temperatures to no more than 2 degrees C and restoring GHG concentrations to safe levels is the "carbon budget" (see above.) See, also: The Carrying Capacities of Capitals

Carbon Intensity - Normalized measures of absolute carbon dioxide emissions expressed relative to some other metric, typically an economic or production indicator, for the purposes of extrapolating the implications and trajectory of emissions, for example in a business setting. Also referred to as "relative" emissions. See: Absolute Emissions versus Emissions Intensity Backgrounder

Climate Modeling – A scientific practice of creating scenarios based on empirical data and projections for the purposes of anticipating likely future outcomes based on diverse near- and long-term options and actions. See: Climate Model

Context-Based Sustainability (CBS) – A conceptual framework for measuring, managing, and reporting organizational impacts on vital capital resources (natural, human, social, constructed and financial) that stakeholders rely on for their well-being. Implementing CBS calls for identifying norms, standards and thresholds for what an organization's impacts must be in order to be sustainable, and also allocating proportionate shares of the burdens involved in cases where the responsibility for doing so is shared with others. See: Corporate Sustainability Management -- A Context-Based Approach

Glossary (con't.)

Decoupling - In this context, breaking the link between economic growth and increases in absolute carbon emissions; specifically, "absolute decoupling" refers to economic growth with decreasing carbon emissions, while "relative decoupling" refers to economic growth with slowing increases in carbon emissions. See: Hunting for Green Growth in the G20

Greenhouse Gas (GHG) Emissions - The release of greenhouse gases, or chemical compounds including carbon dioxide, methane, nitrous oxide, and others, that trap heat in the Earth's atmosphere, resulting in global warming. See: Greenhouse Gas

Planetary Boundaries - Thresholds in nine key Earth-system processes that humanity must not surpass in order to avoid catastrophic environmental change, established by Johan Rockstrom and colleagues in a 2009 paper published in the scientific journal Nature. These thresholds or boundaries have already been crossed in climate change and biodiversity loss, among other areas of impact. See: A Safe Operating Space for Humanity

Environmental Thresholds – See Planetary Boundaries.

Relative Emissions – See Carbon Intensity and Absolute Emissions.

Scope 1 Emissions – All of an organization's direct GHG emissions

Scope 2 Emissions – Indirect GHG emissions from consumption of purchased electricity, heat or steam.

Scope 3 Emissions – Other indirect emissions outside the organization's boundary, particularly from outsourcing (i.e., in supply chains). See: Greenhouse Gas Protocol: FAQ

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