



**SIGNAL**  
CLIMATE ANALYTICS

# Automotive Industry: Real Transparency

A Missing Ingredient in Our Journey to a Sustainable Future

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## Signal Climate Series

Briefing on Auto Sector Transparency Failures  
Powered by Signal Climate Analytics

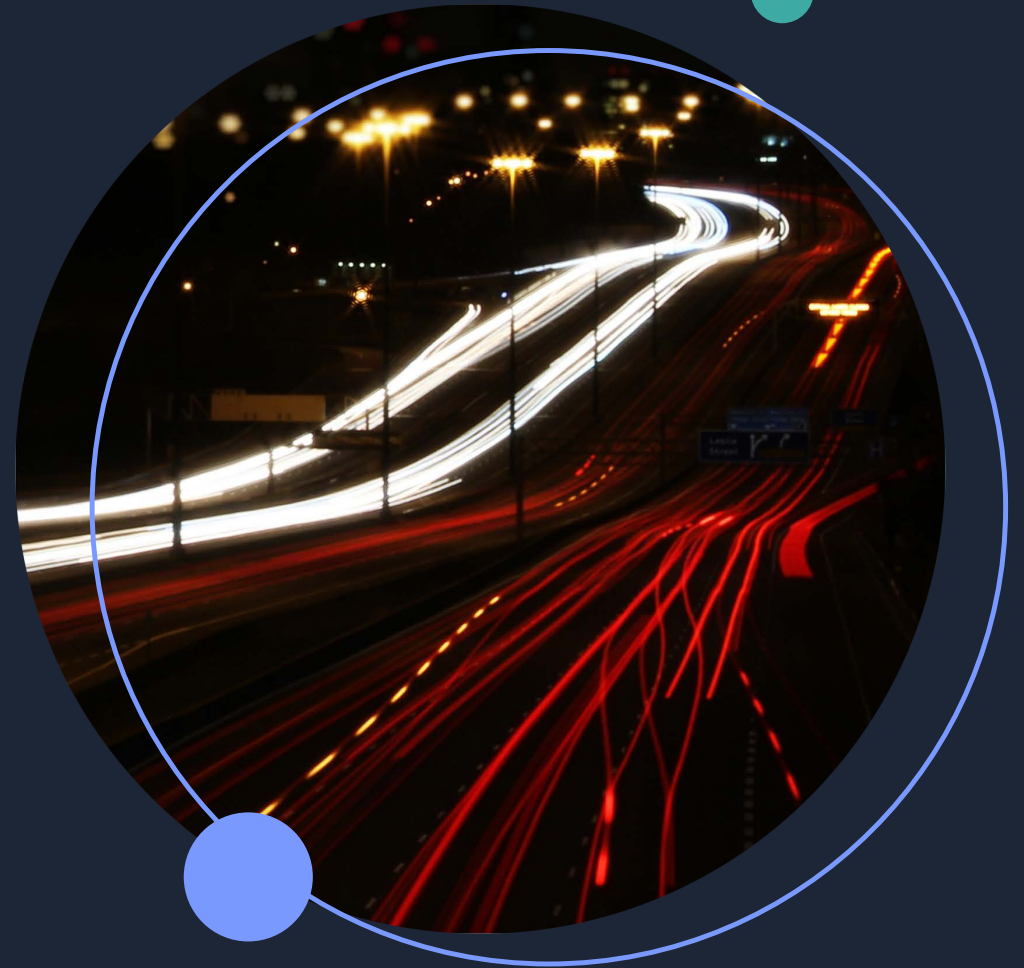
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# Executive Summary

## Background - A Crisis in Confidence for ESG

- ESG and sustainable investing are under increased scrutiny. Concerns have been widely expressed about the reliability and validity of ESG data, particularly as it relates to the #1 challenge - transitioning to a post carbon economy.
- Over the past decade there has been an exponential expansion in the number of companies disclosing data on their climate impacts, and the volume of data and metrics disclosed.
- This three part report series seeks to assess how effectively current disclosure practices in the most carbon intensive sectors provide real transparency on corporate climate impacts. The report series examines 3 of the most critical sectors that must be addressed if progress on managing down climate risks is to be successful: transportation (focusing on the auto sector), the largest global electric utilities, and the largest global energy companies with a focus on methane emissions - the first big hurdle in mitigating the impacts of oil and gas production.
- Part 1 of this report series (covered here) will focus on the auto sector, revealing problems and progress on achieving real transparency. Subsequent, releases of Parts 2 and 3 will address global utilities and the energy sector, respectively.
- While disclosure frameworks have become increasingly complex in recent years, this report seeks to identify the few essential metrics that are prerequisites for real transparency in three carbon intensive sectors - autos, utilities, and energy - and investigates the level of disclosure of these metrics by the largest companies in each sector.
- These few essential measures are described as 'Keystone metrics' providing both absolute and production normalized intensity metrics, as well as forecasts for future period performance that enable both management accountability and sector peer group comparisons.

# Executive Summary - The Auto Sector

## Findings - Only 5 of the Top 30 Automakers Fully Disclose the Few Critical Metrics needed to Assess Climate Impact

- Part 1 of this report series highlights critical transparency failures within the auto sector concerning emissions disclosure. Despite a decade-long rise in number of auto companies disclosing their climate impacts, considerable shortcomings still exist in emissions accounting and disclosure. These disclosure failures could be easily remedied by the auto makers.
- Part 1 highlights the importance of disclosing the few 'measures that matter most' in the auto sector that are referred to as the 'Keystone metrics'. These Keystone metrics provide the crucial data that allows for management accountability and properly normalized sector peer comparisons. Today such data is largely unavailable.
- Only 5 of the top 30 automakers (Volvo, GM, Renault, BMW, Ford) *fully* disclose Scope 3 category 11 emissions data (use of sold product), current average tailpipe emissions globally, and future projections for global average tailpipe emissions reductions. These facts reflect a significant failure in disclosing the most crucial metrics in the auto sector.

All data regarding company disclosure is current as of March 31st, 2023.

# Executive Summary - Signal Climate Series

## Conclusion

- In each of these three key sectors covered in this report series, serious and easily addressable failures of disclosure exist, limiting both management accountability and stakeholder assessment of performance.
  - In the auto sector, there is a **Failure to Disclose the Metrics that Matters Most.**
  - In the utility sector, there is a **Failure to Forecast the Metrics that Matters Most.**
  - In the oil and gas sector, there is a **Failure to Accurately Compute and report the Emissions Facts on the Ground.**
- Investors, analysts, companies and stakeholders in general would benefit from a 'back to basics' approach to disclosure, focused on addressing the three failures this report identifies. Simplification would greatly enhance real transparency.
- In total, the report finds that only 30 of 105 companies assessed across these 3 critical GHG intensive sectors meet minimal 'back to basics' disclosure standards that can provide stakeholders with what they need to know to assess company and sector level progress on managing down the worst risks from climate change.

The ESG discipline is at a cross-roads. With greater interest and capital flowing to ESG funds and ESG leaders, increased scrutiny of ESG data validity and reliability has generated real concerns.

This Special Report on transparency and disclosure intends to address the question of how well current disclosure practices produce real transparency, and what simple improvements should be made to disclosure practices.

# The Current State of ESG

## Introduction and Overview

**The past 5 years has seen an unprecedented growth in capital flow toward ESG and sustainability themed investments**

Global ESG assets are on track to exceed \$53 trillion by 2025, representing more than a third of projected total assets under management - Bloomberg (June, 2022).

### ESG Headwinds in 2022

- From 2019-2021, 80% of ESG global equity products outperformed their benchmarks.
- Through Q3 of 2022, 78% of ESG global equity products have underperformed benchmarks with the median underperforming by 2.5% - Investment Metrics (September, 2022).
- ESG funds underweighting the energy sector and overweighting technology, are now underperforming their benchmarks, increasing scrutiny on the ESG value proposition and the data behind it.

Source: Global ESG Equity Products. Investment Metrics. 8/25/2022

**Now, new and critical attention is being paid to the veracity of claims made by companies, investors, and raters about ESG performance**

- Many forces are advocating for inclusion of ESG issues into company reporting and investment processes just as media attention focuses on the shortcomings of ESG data.
- Demands are increasing for reliable, meaningful and measurable ESG data.
- Uncertainty about how to address the ESG data problem is widespread.



While stakeholders have succeeded in getting significant volumes of disclosure from companies and ratings from data consolidators largely based on that disclosure, important questions have emerged about how much real transparency exists.

# A Crisis in Confidence in the ESG Enterprise

A Series of sharply critical articles about ESG – particularly ESG data and ratings – have recently been published by major media outlets.



Special report | ESG investing

## A broken system needs urgent repairs

The environmental, social and governance (ESG) approach to investment is broken. It needs to be streamlined and stripped of sanctimoniousness, argues Henry Tricks



## One of the Hottest Trends in the World of Investing Is a Sham

Sept. 29, 2022 5 MIN READ



ESG INVESTING COVER

## Sustainable Investing Failed Its First Big Test. A Reckoning Is Coming.

By Lauren Foster [Follow](#) Updated April 17, 2022 / Original April 15, 2022

While a great deal of effort has been made to enrich and expand disclosure on climate impacts and transition plans of the largest carbon intensive businesses on the planet, this report investigates the premise that much can be gained from simplification and focus.

*“For the simplicity on this side of complexity, I wouldn’t give you a fig. But for the simplicity on the other side of complexity, for that I would give you anything I have.”*  
- Oliver Wendell Holmes Jr.

# Rebuilding Trust in ESG Data: Focus on The Measures that Matter Most

## Moving past complexity to simplicity

### ESG: The issue of complexity

**Prior cycles of innovation and expansion of ESG data –and the models that drive it– have added layer upon layer of complexity to the task and volume of disclosure.**

Increasing complexity creates a major challenge for stakeholders and regulators to assess real world company performance .... Too much picking and choosing what to measure.

**More disclosure does not guarantee greater transparency.**

In many cases complex methods of disclosure have created confusion and the potential for obscuring real impacts.

**While efforts to evolve reporting models and frameworks should continue, we suggest that much could be gained from radical simplification of climate impact related disclosures.**

### What does simplicity look like?

**Start with the most essential metrics: “Keystone metrics”**

Keystone metrics are the appropriately normalized “Metric that Matters Most” in objectively assessing the most critical factor(s) in a company’s performance. This report is focused on Keystone metrics related to GHG emissions and climate impacts.





Keystone metrics should help us track real progress over time as well as allow for appropriately normalized comparisons between sector peers. They should also enable greater accountability by setting future targets for the 'Measures that Matter Most'.

# Keystone Metrics

What must be disclosed to provide a basis for real transparency?

## Keystone Metrics Must Be:

- 1 Objective and observable.
- 2 Directly measurable based on output and production.
- 3 Rule-based so that observations can be systematically combined into a single reliable intensity measure, independent of scale.
- 4 Normalized by output so that important asset, process, and/or product level performance can be compared against peers without the effects of currency fluctuation and differential inflation found in revenue-based normalizations.
- 5 Reflective of performance of the dominant source of impact by a firm, be that operations, supply chain, or product use.
- 6 Forecasted for the near and/or intermediate term, not just long term, to insure current management accountability for measurable improvement.

Keystone Metrics make reliable and meaningful peer group comparisons possible within the most carbon intensive business sectors.

# Major Keystone Metrics and Scopes

Signal's research shows production based intensity metrics – both current and forecasted – are essential for meaningful peer group emissions comparisons. Production based metrics avoid problems with currency based intensity comparisons, such as differential rates of inflation and currency value fluctuations that may outweigh changes in emissions performance. Additionally, production based intensity metrics remove issues of scale variation and business model that often make scope 1, 2, and 3 reporting alone problematic. The table identifies examples of production based Keystone metrics in some of the most carbon intensive business sectors.

| Sector      | Metric  | Dominant Scopes          |
|-------------|---|--------------------------|
| Coal        | tCO <sub>2</sub> e / tonne coal   | Scope 3 cat 11 + Scope 1 |
| Oil and Gas | ① gCO <sub>2</sub> e / MJ<br>② m <sup>3</sup> CH <sub>4</sub> / m <sup>3</sup> natural gas production<br><small>① Total Emissions ② Methane Emissions</small> | Scope 3 cat 11 + Scope 1 |
| Utilities   | tCO <sub>2</sub> e / MWh electricity  | Scope 1                  |
| Steel       | CO <sub>2</sub> e / tonne crude steel   | Scope 1 + Scope 2        |
| Cement      | tCO <sub>2</sub> e / tonne cement   | Scope 1                  |
| Aluminum    | tCO <sub>2</sub> e / tonne aluminum   | Scope 1 + Scope 2        |
| Automotive  | gCO <sub>2</sub> e / km   | Scope 3 cat 11           |
| Airlines    | tCO <sub>2</sub> e / revenue-passenger km   | Scope 1                  |

Source: Signal Climate Analytics

As the name implies, ‘Keystone metrics’ are the critical building blocks in the bridge from disclosure to transparency.

While there is significant analyst agreement on these metrics for many carbon intensive sectors – relatively few companies incorporate these metrics in their disclosures.

# Keystone Metrics



## Autos

This report considers three critically important sectors for addressing climate change that together account for a large share of annual GHG emissions, and assesses the gap between disclosure and real transparency.

- What are the Keystone metrics in each of these sectors?
- 
- To what degree are the Keystone metrics disclosed by the largest companies in these sectors?
- 
- What are the common types of ‘disclosure failures’ with regard to Keystone metric transparency?



## Utilities



## Energy



# Transparency Failures in the Auto Sector

The Top 30 Global Automakers



Much attention has focused on the performance of the 30 largest automakers as they embark on the journey to a fossil fuel free future. Does current disclosure in this sector produce real transparency?

## Transparency Failures in the Auto Sector

# Problems with Scope 3 Reporting

**In the Auto Sector, the dominant source of emissions (~80%) is from product use. This is defined as scope 3 category 11 emissions.**

- Product use emissions reporting in the auto sector has relied on scope 3 category 11 disclosure by automakers to assess this critical element of an OEM's emissions footprint.
- Some automakers and many analysts recognize that disclosing the annual aggregate average grams of CO<sub>2</sub>e per km (tailpipe emissions) of each OEM's global sold fleet is a much better normalized measure of climate impact. In fact, it meets the criteria we set for the sector Keystone metric.

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**A close examination of both of these metrics in the auto sector reveals how well current reporting and disclosure practices meet the need for real transparency – enabling meaningful comparisons between peers, and management accountability for improvement in the near/mid and long term.**

In the auto sector, fully reported scope 3 category 11 emissions are critically important, as emissions from the “use phase” of vehicles accounts for ~80+% of the automaker’s GHG footprint.

Does today’s scope 3 disclosure represent real transparency?

## Transparency Failures in the Auto Sector

# Current Scope 3 Reporting: Not Fit for Purpose



## Background and Context

**Lifetime distance assumptions determine an OEM’s reported scope 3 emissions more so than the actual attributes of the vehicles it sells.**

Although scope 3 category 11 data are reported by 20 of the top 30 automakers, it turns out that little useful information can be gained from this reporting. This is because OEMs are at liberty to make their own assumptions about the lifetime distance used in their scope 3 category 11 “use phase” emissions calculation for their new vehicle fleets.

While vehicles vary significantly in the total lifetime emissions they generate, the model making variables in the current calculation of scope 3 emissions are length of life and average annual distance driven, or total lifetime distance - a value set by each OEM.

Automakers vary significantly in both **disclosing their usage assumptions and the assumed lifetime distance value they set.**

While scope 3 emissions reporting has been the subject of much discussion in all sectors, current scope 3 reporting in the auto sector adds very little to our understanding of impacts.

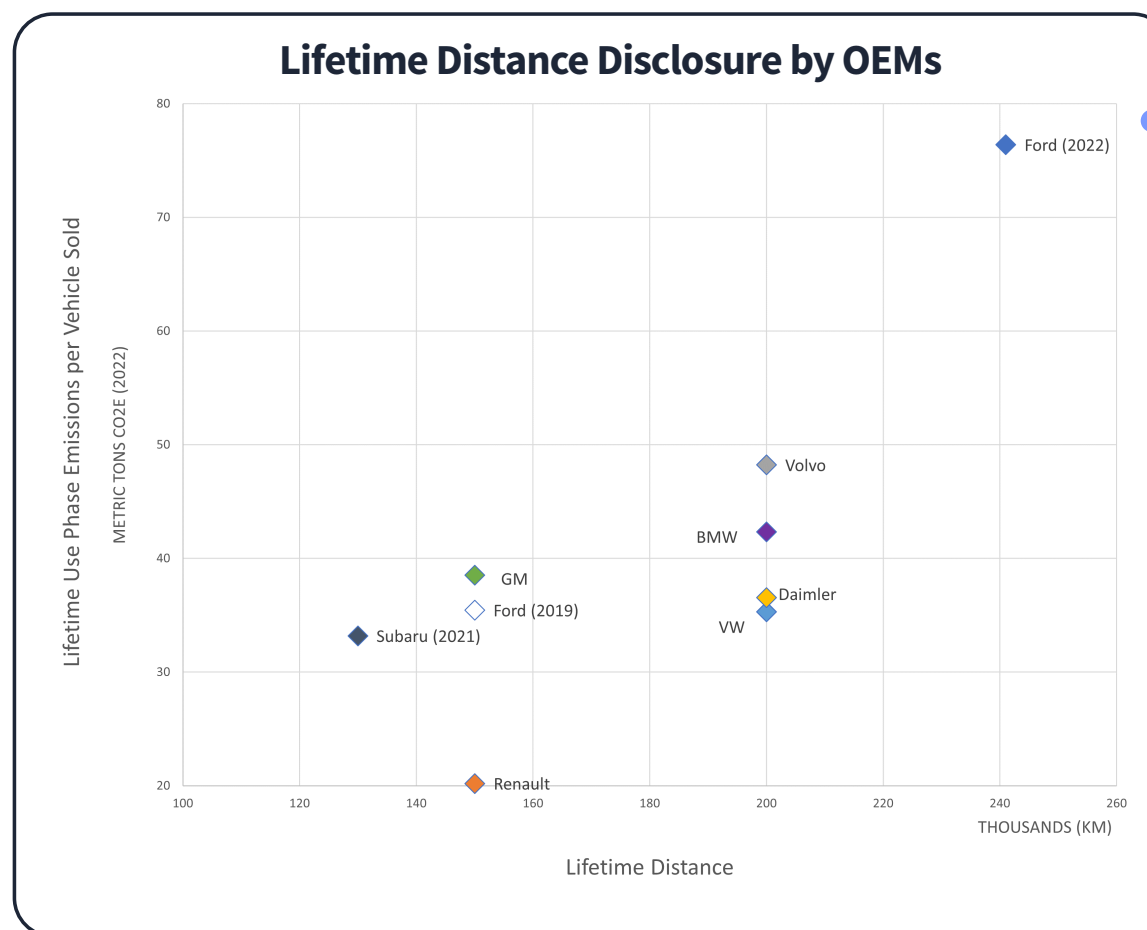
Allowing the automakers to set the average lifetime distance of the vehicles they sell, and then decide whether to disclose that assumption severely limits the value of this measure - especially given the wide variability in lifetime distance among those companies who elect to disclose this critical assumption.

## Transparency Failures in the Auto Sector

# Scope 3 Reporting: Absence of Standards

## Absence of Scope 3 reporting standards leads to potential for manipulation

Subaru's emissions calculation<sup>1</sup> is based on a 130,000km lifetime distance, while since 2021 Ford estimates 241,000km. Disclosure of these assumptions are very hard to find in company reports or from ESG data sources.



Only Ford uses a lifetime distance close to real world assumptions

Ford is the only auto company whose Scope 3 Category 11 calculation assumes a vehicle life greater than 200,000km or 120,000 miles.

1. Subaru's most recent lifetime distance disclosure was in 2021. Subaru has not disclosed any lifetime distance assumptions in their new sustainability disclosures or CDP questionnaire through 2022.

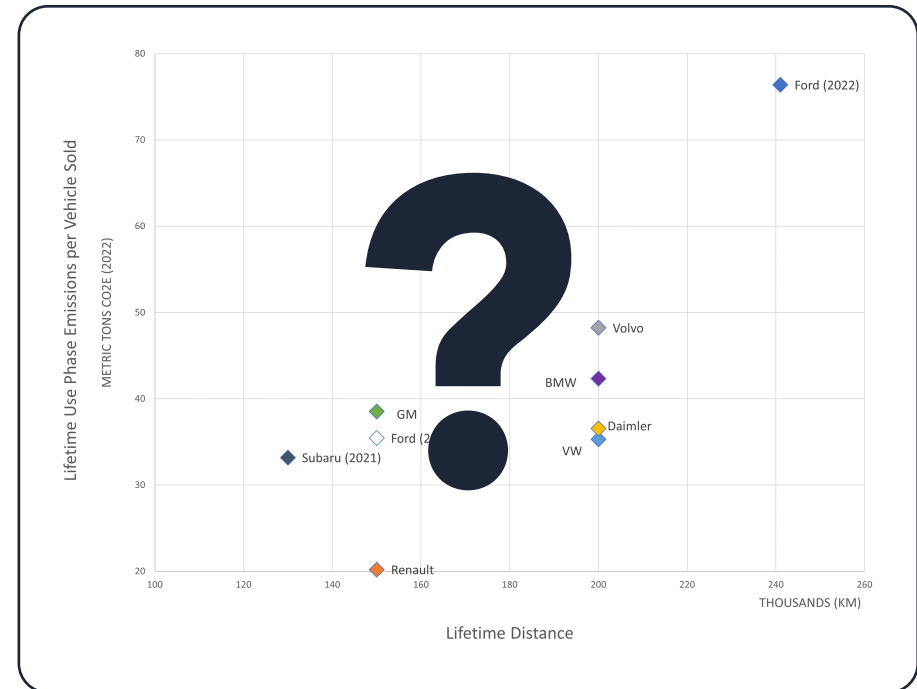
These automakers report their scope 3 category 11 data, but fail to disclose the model making variable of their estimated lifetime distance in their reporting.

### Transparency Failures in the Auto Sector

# Scope 3 Reporting: Lack of Critical Data

Scope 3 data from these firms is particularly problematic since the critical variable of lifetime distance is not easily found in their emissions disclosure

The resulting scope 3 disclosure for these companies offers no transparency on emissions, and provides no basis for assessment or comparison





Only 7 of 30 automakers - less than 1/4 - disclose the assumptions for their scope 3 category 11 calculations. In 6 of these 7 cases, the value of the reported scope 3 category 11 metric is compromised by unrealistically low lifetime distance assumptions.

## Transparency Failures in the Auto Sector

# Scope 3 Reporting: Black Box Methods

While Scope 3 Category 11 reporting may have limited value as a metric, only 7 of the Top 30 OEMs fully disclose how they calculated their data

Analysis of the top 30 automaker's publicly available reports found that only 7 companies had clearly disclosed the estimated lifetime distance used in their scope 3 category 11 calculation.



Auto giant Toyota, for example, provided this statement but not the actual values used in their calculation – not even a global average:

*“...category 11 is calculated from the average fuel efficiency and estimated lifetime mileage of vehicles in each country and region” -*

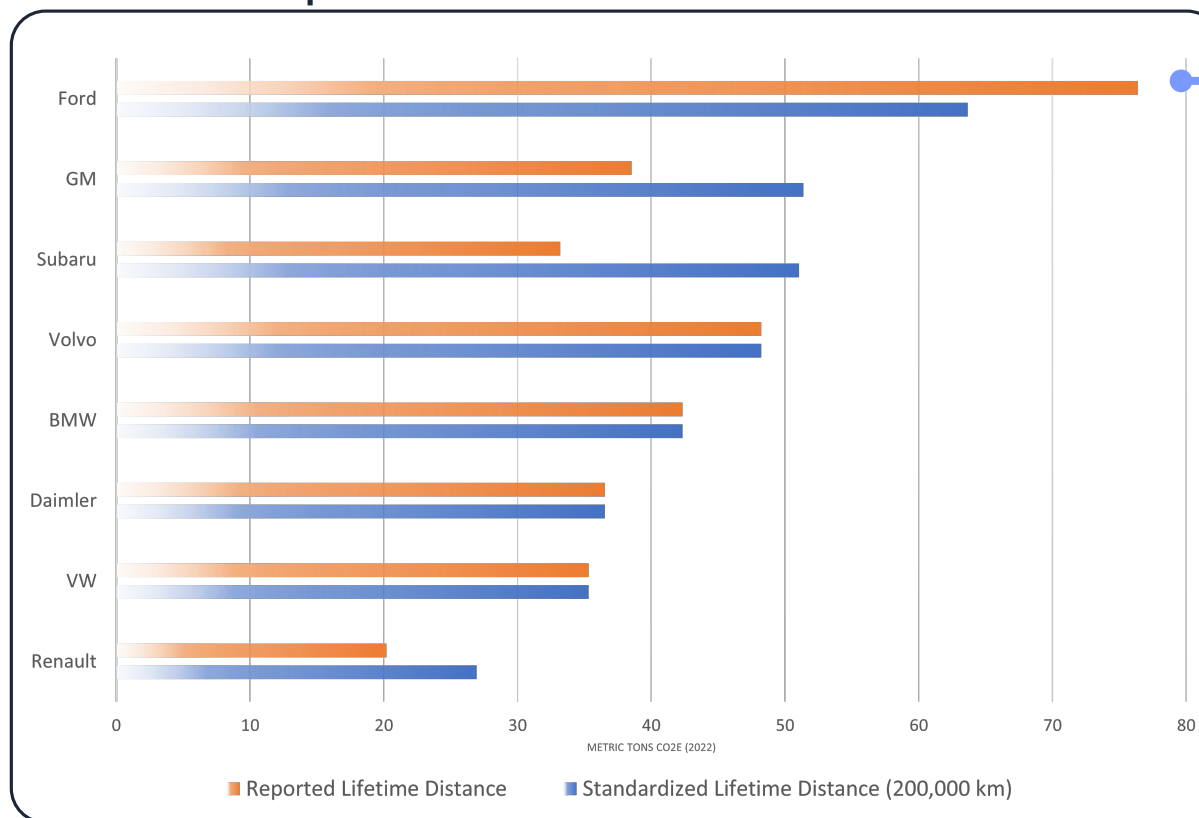
Sustainability Data Book. P39. Toyota 2021

Transparency Failures in the Auto Sector

# Standardization Would Enable Scope 3 Peer Comparisons if Standards were Clearly Defined

A revised Scope 3 Category 11 table, assuming lifetime distance of 200,000 km and computed for firms that disclose lifetime miles, tells a more complete story. Ford stands out with a recent change in its lifetime distance assumption (2021) from 150,000km to 241,000km.

**Lifetime Scope 3 Category 11 Emissions Per Vehicle Sold: Standardized vs. Reported Lifetime Distance**



Ford, for example, who has set a high lifetime distance of 240,000 km would estimate lifetime emissions per vehicle closer to Tata, BMW, and GM all of whom currently estimate lifetime distance of 150,000 km.

Subaru, who disclosed a 130,000 km lifetime distance estimate in 2021<sup>1</sup>— would show the third highest lifetime emissions per vehicle when standardized.

A conservative standardization of lifetime distance at 200,000km —still well below estimates based on historic ownership data—significantly changes the emissions comparisons. Indeed, industry data suggests 270,000km as the expected lifetime distance.

These findings demonstrate that scope 3 category 11 –use of sold products– disclosure (the majority of emissions in the sector) is nearly meaningless in its current reported form.

1. Subaru's most recent lifetime distance disclosure was in 2021. Subaru has not disclosed any lifetime distance assumptions in their new sustainability disclosures or CDP questionnaire through 2022.

There are really just a few metrics that stakeholders would need from the OEMs to enable reasonable performance comparisons on climate impacts... it should be simple.

The chart below provides a quick snapshot of disclosure by the Top 30 OEMs on these 5 critical metrics. Only 5 firms meet these simple transparency standards.

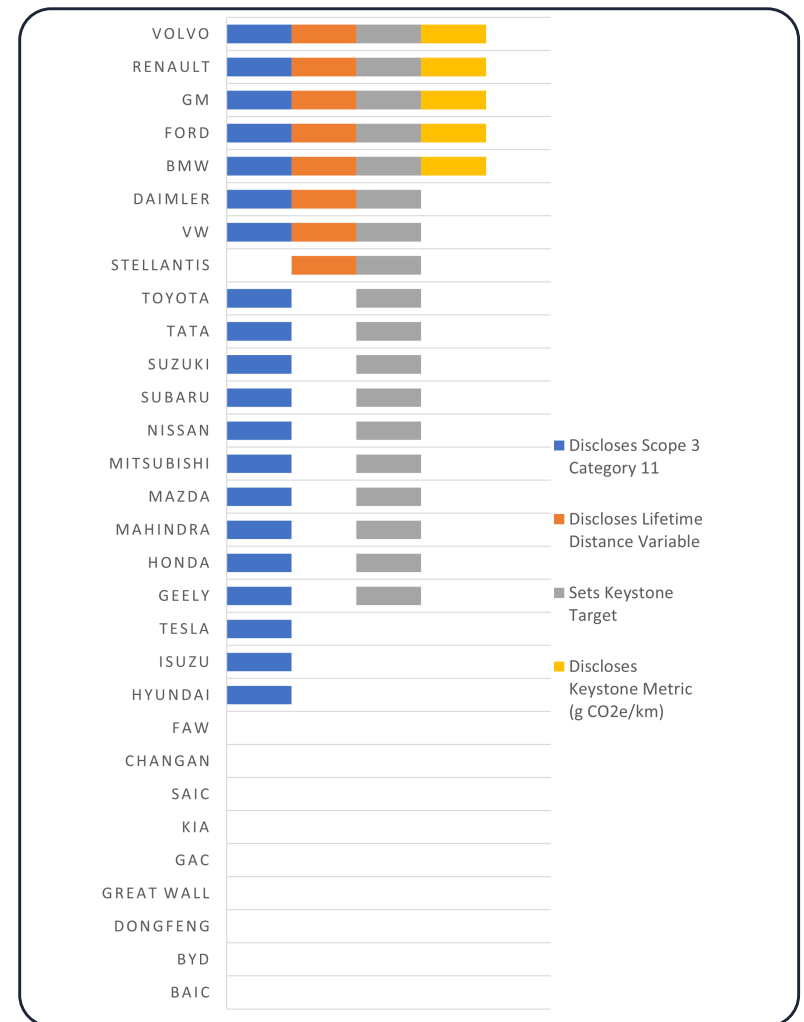
## Transparency Failures in the Auto Sector

# Real Transparency in the Auto Sector Requires Just a Few Key Metrics

## Why aren't these few metrics available?

- 1. Disclosing Scope 3 Category 11 Emissions**
- 2. Disclosing the Core Assumptions for Scope 3 Calculation**
- 3. Disclosing the Sector Keystone Metric- (g CO2e/km) → Tailpipe Emissions**
- 4. Disclosing a Target(s) for Keystone Performance Improvement in the Near to Intermediate Term**

Real Transparency in the Auto Sector



With 5 notable exceptions, the auto sector fails to fully disclose the few Metrics that Matter Most for real transparency. While these 5 OEM's vary considerably on the average grams of CO<sub>2</sub>e per km of their sold vehicles (tailpipe emissions), they provide the critical information needed for assessing performance and management accountability for improvement.

## Transparency Failures in the Auto Sector

# OEM's Disclosure

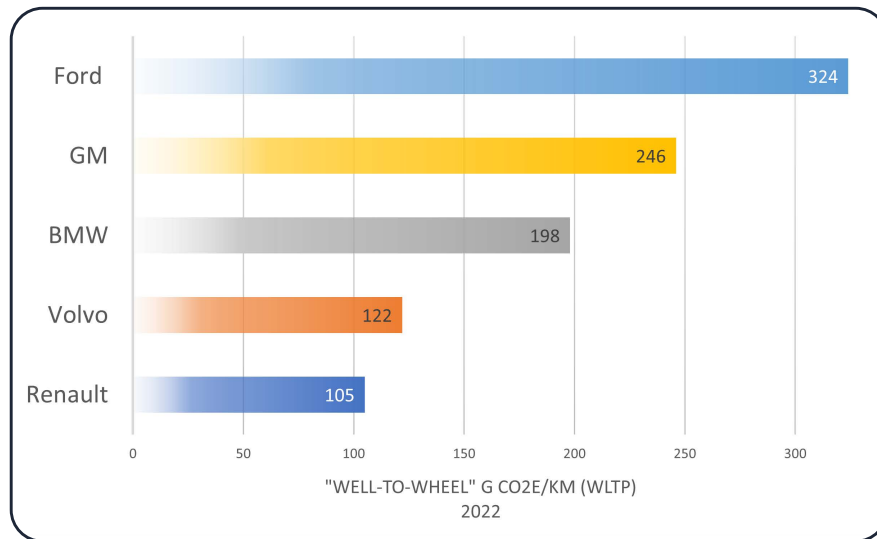
Disclosing the metrics that matter most for real transparency in the auto sector

Despite the importance of the Keystone metric –**global fleet gCO<sub>2</sub>e/km**– for making absolute assessments or relative peer comparisons of tailpipe emissions in the auto sector, as of Q1 2023 only 5 of the Top 30 companies disclose this measure:

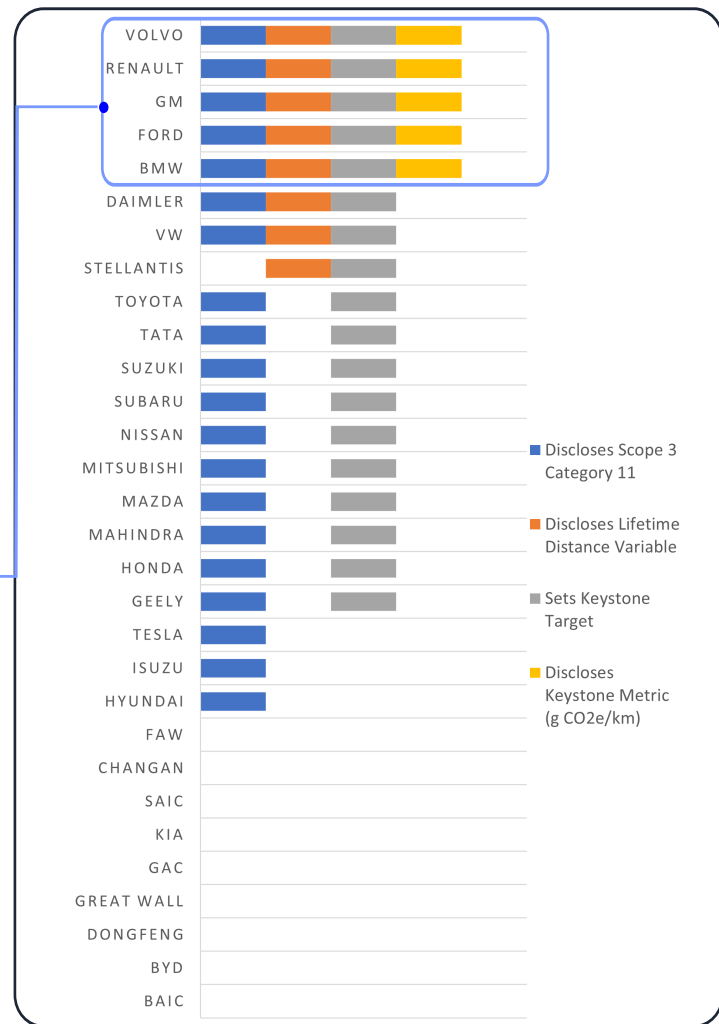
### GM, BMW, Volvo, Ford, and Renault

These 5 companies disclose tailpipe emissions using standardized “well-to-wheel” and “WLTP” methodologies, allowing for real comparability and transparency.

Automakers Who Disclose the Keystone Metric – 2022



## Real Transparency in the Auto Sector



Surprisingly, 13 companies set future Keystone targets for tailpipe emissions (gCO<sub>2</sub>e/ km), but do not disclose current annual Keystone performance, limiting both transparency and management accountability.

## Transparency Failures in the Auto Sector

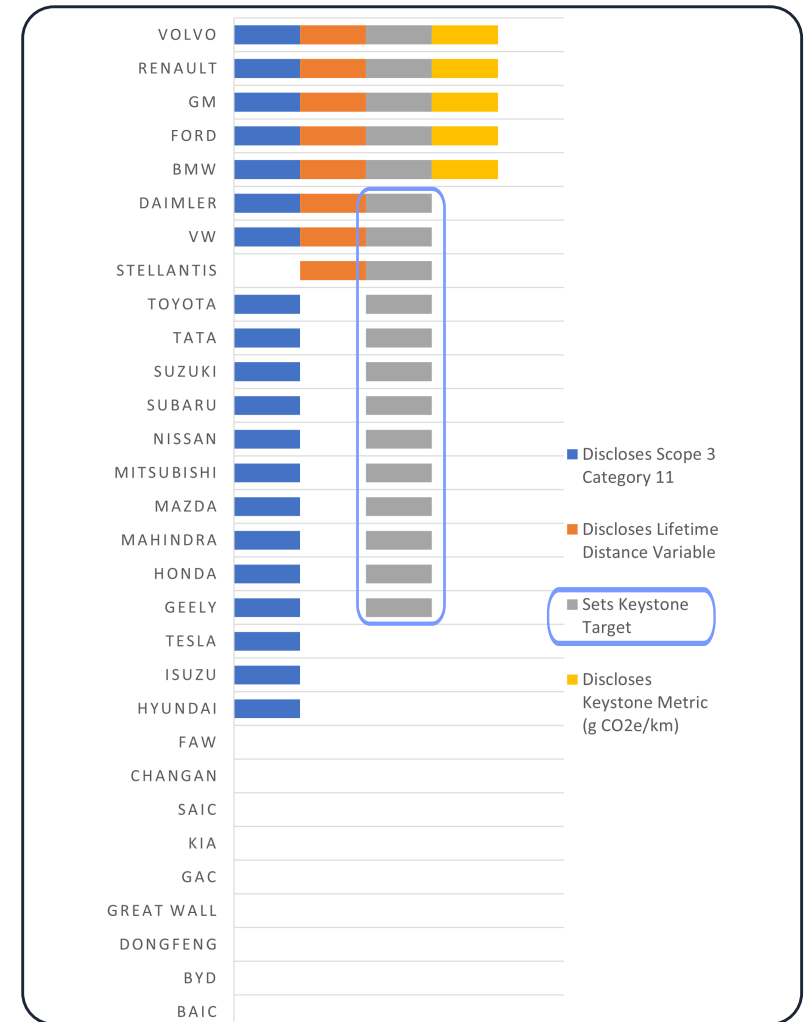
# Keystone Reporting and Forecasting

While OEMs set Keystone metric targets for the future, they fail to disclose current performance of the same metrics



*Perhaps automakers have reasons to disclose future targets rather than their current performance...*

## Real Transparency in the Auto Sector

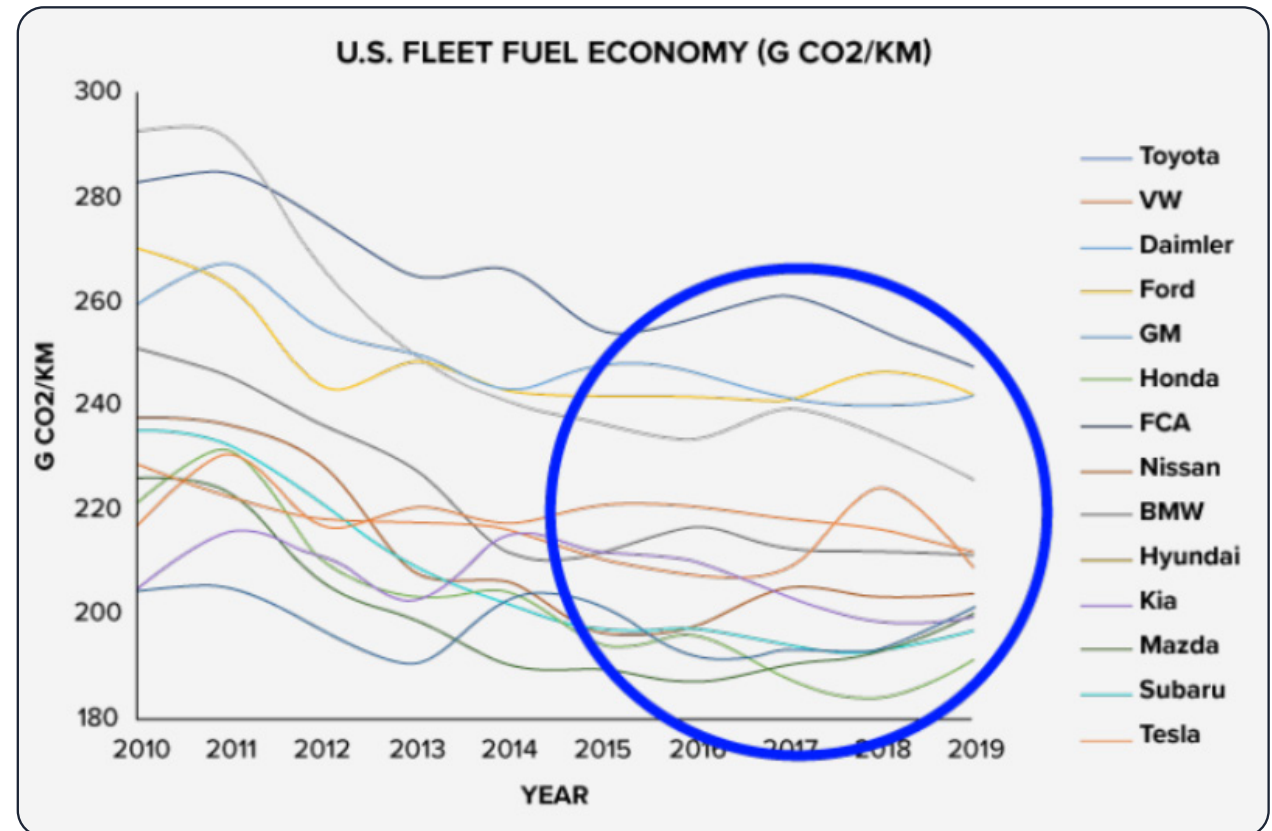
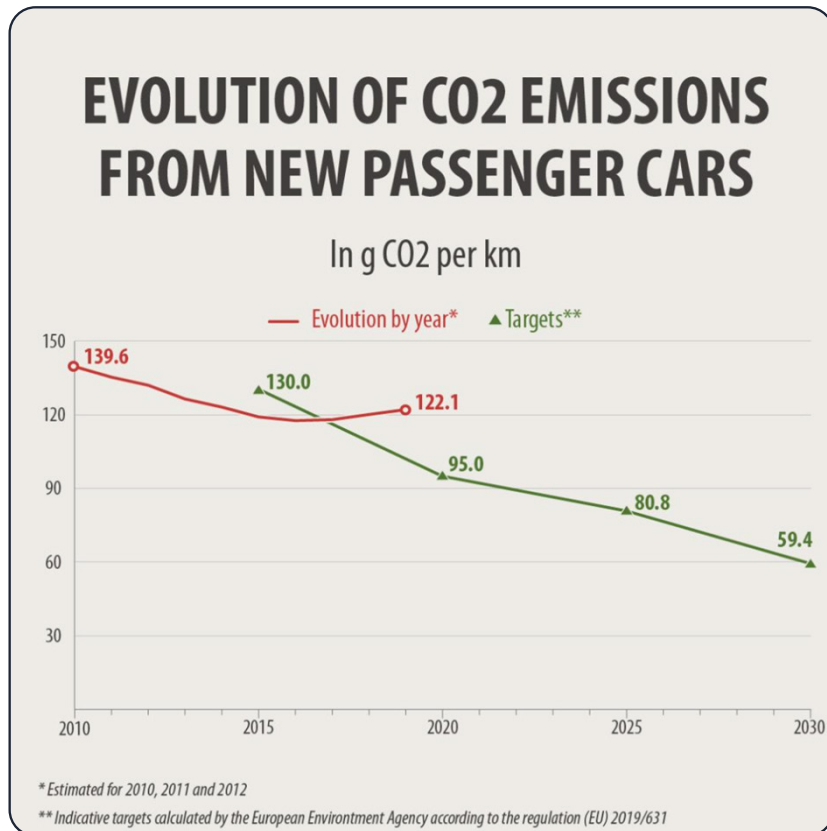


Perhaps reluctance to disclose the current period Keystone auto sector metrics is related to what that disclosure might reveal.

## Transparency Failures in the Auto Sector

# Performance Gaps are Growing

When viewed using Keystone metrics the gap between planned and actual is growing



Source: ICCT European Market Statistics, 2019

The IEA cites the incremental emissions from SUVs vs passenger vehicles as accounting for the second largest share of increased GHG emissions in the 2010-2020 period.

## Transparency Failures in the Auto Sector

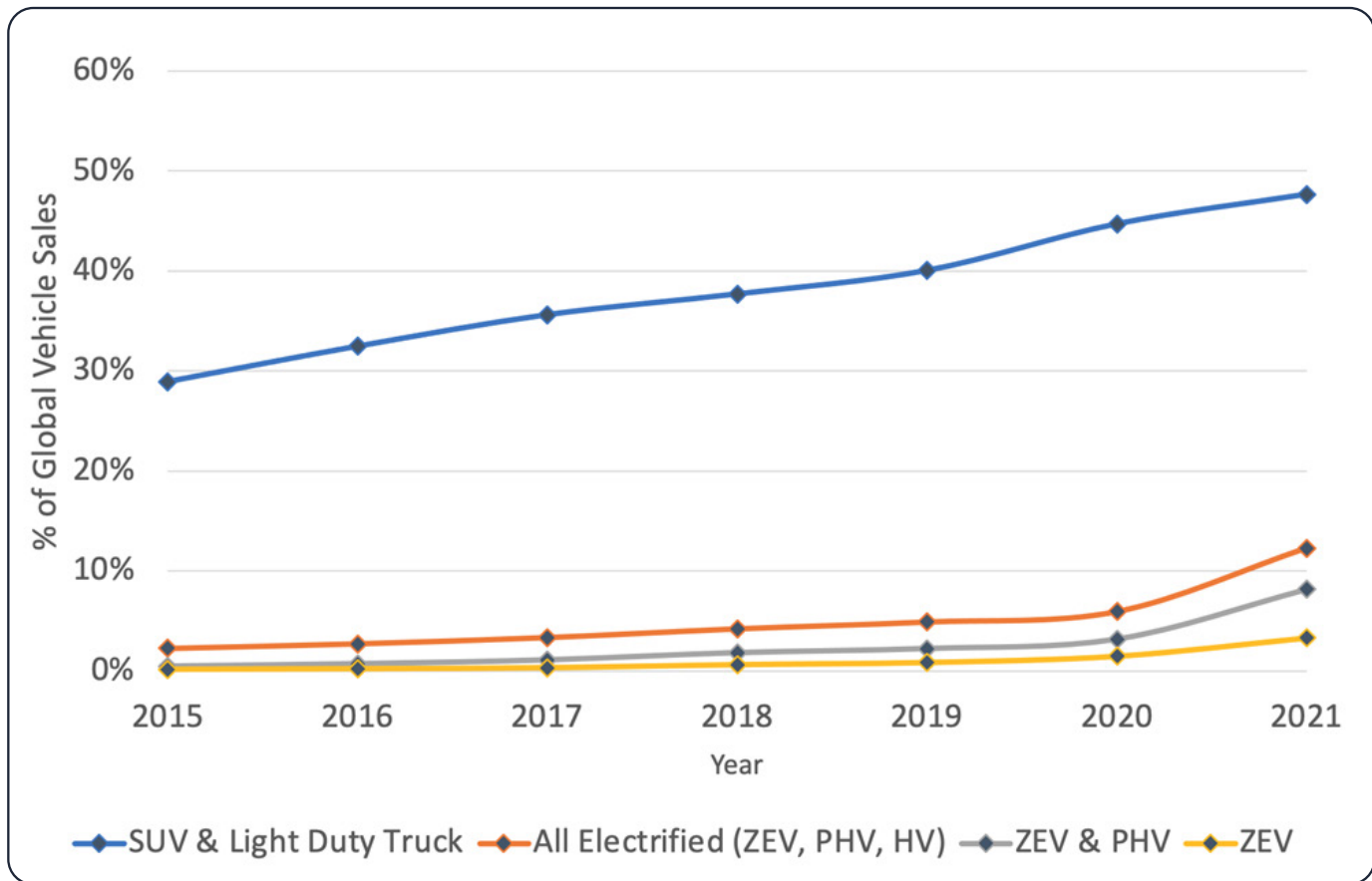
# Truckification vs. Electrification

Excess emissions from current SUV sales more than offsets implied carbon reductions from electric vehicle sales for nearly all ICE vehicle makers

Automakers have been keen to promote their rapid growth in electric vehicle sales in recent years as evidence of their green credentials.

However, closer examination of production data shows that current high-emissions internal combustion powered mid to large SUV sales still more than offset any implied reduction in fleet emissions from electric vehicles, and limits progress on achieving current emissions reduction goals.

% of Global Vehicle Sales: Truckification vs. Electrification



Industry-wide emissions reductions from electric vehicles offsets only 19.5% of auto sector SUV emissions impacts.

For each of the 28 legacy automakers, the blue + green bars represent the total amount of CO2 emissions measured in millions of metric tons that result from the lifetime use of mid to large SUVs sold. The green area of each bar represents the carbon offset from each OEM's EV sales when compared to the average passenger vehicle.

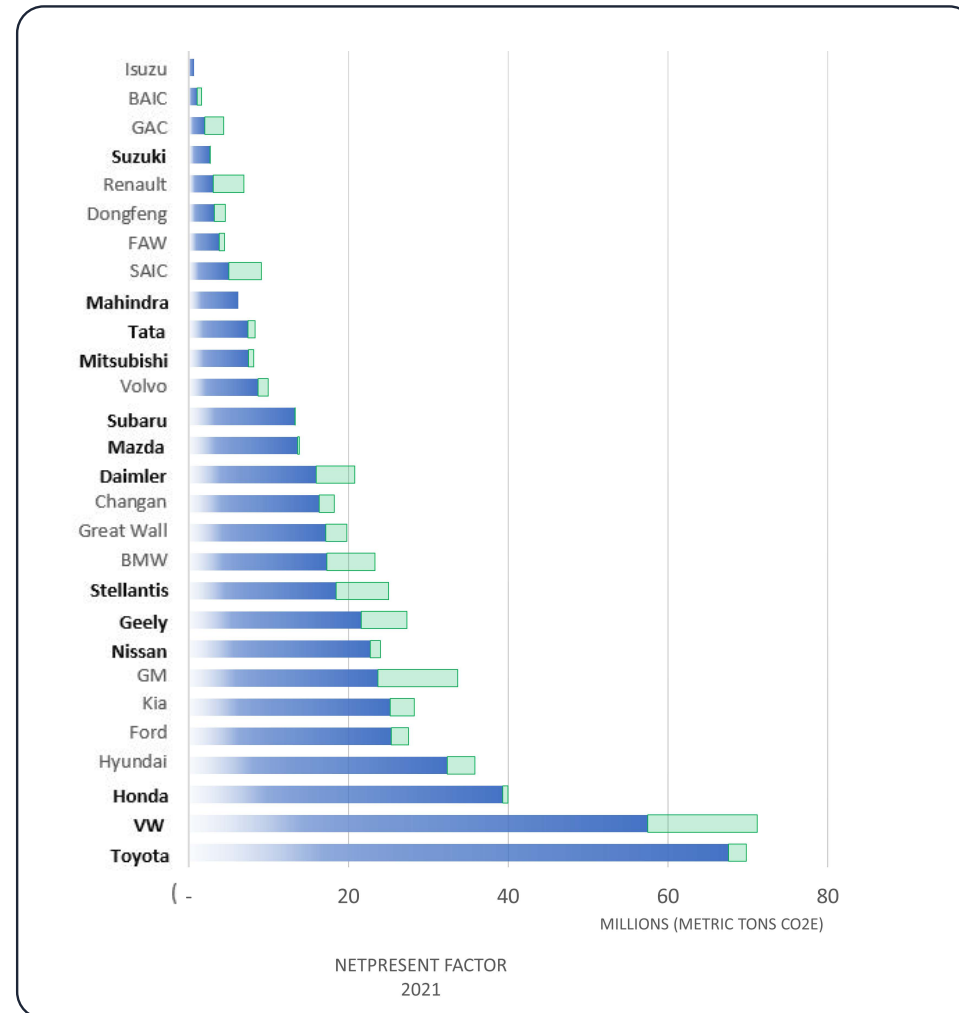
Source: Signal, 2022

## Transparency Failures in the Auto Sector

# Truckification and Keystone Reporting

Keystone reporting lags among manufactures with above average SUV sales

### Truckification vs. Electrification: Mid-Large SUV Carbon Add



The 13 companies in bold set tailpipe emissions targets for their vehicle fleets, but do not disclose fleet average tailpipe performance for the current period. 9 of these 13 companies had above industry average SUV sales as a percentage of total fleet sales in 2021.



Shareholder returns in the auto sector during the 2019-2022 period have been dominated by company position in and/or progress on capturing the Zero Emissions Vehicle market opportunity.

Transparency and transition leaders Ford and BMW have performed far better than the other legacy automakers.

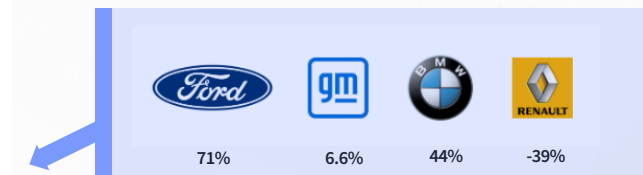
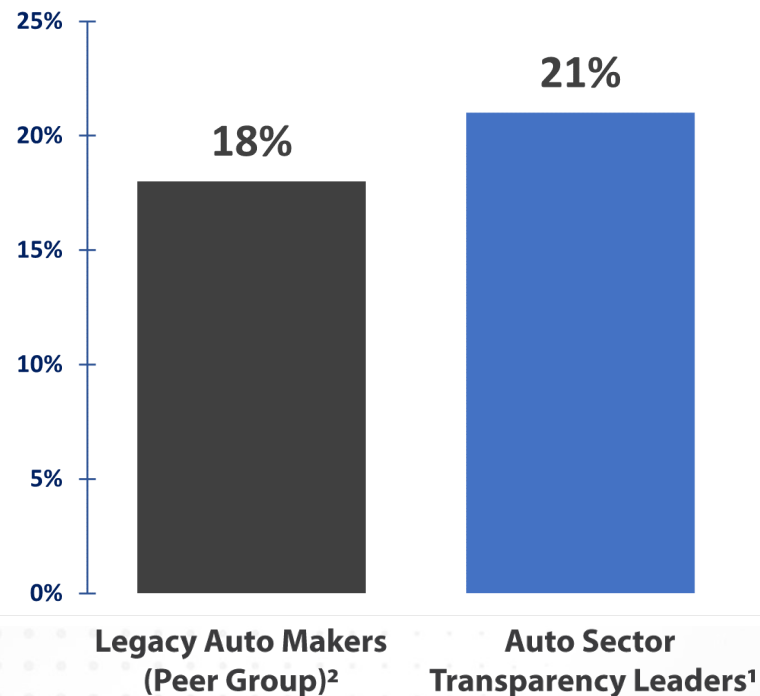
## The Investor's Perspective – The Auto Sector

# Real Transparency as a Quality of Management Signal

While the analysis does reflect modest outperformance among the transparency leaders, the companies vary widely on their shareholder returns. In the auto sector, investors are being rewarded for OEM outperformance on transition opportunity and risk management - with EV leadership associated with higher returns. In fact, the 'disruptors' like Tesla and BYD are the top performers and offer relatively little transparency

Among the Incumbent automakers only Ford and BMW are both Transition and Transparency Leaders and have outperformed the sector returning a combined average of 57.6%, in comparison to 18% among the other Incumbent automakers.

**Total Shareholder Return 2019-2022**



1. Volvo Cars not included in TSR analysis due to recent IPO (2021)

2. Disruptors Tesla & BYD removed. Chinese Automakers: Great Wall, Changan, FAW removed

# Conclusions



Though 2/3's of the 30 leading automakers do report scope 3 category 11 emissions, only 17% provide real transparency that enables management accountability peer group comparisons. This is Disclosure Failure Type 1: Failure to Disclose the Metric that Matters Most.

## Transparency Failures in the Auto Sector

# The Auto Sector Transparency Scorecard

### Disclosure Failure Type 1: Failure to Disclose the Metrics that Matter Most

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**20** of **30**

20 of 30 OEMs disclose Scope 3 Category 11 data – though the usefulness of that data is limited.

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**7** of **20**

Only 7 of 20 OEMs who disclose Scope 3 category 11 emissions (use of sold product), also disclose the assumptions used to calculate this measure.

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**13** of **18**

13 of the 18 OEMs who forecast a target intensity metric (tailpipe emissions), do not report their current year tailpipe emissions performance.

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**5** of **30**

5 of 30 OEMs are fully transparent disclosing current tailpipe emissions (intensity performance in addition to near/mid and or long term intensity targets, as well as scope 3 emissions data and assumptions (as of March 2023)).

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Returning to fundamentals could bridge the divide between disclosure and transparency in the auto sector.

The purpose of this report is to identify the easily implemented steps that automakers must take to address the failure of current disclosure to provide real transparency. Real transparency is needed by all stakeholders to make informed decisions that will help us avoid the worst consequences of climate change.



# Summary Statistics on the Disclosure vs. Transparency Gap

While analysts continue to strive for agreement on broad based regional and global climate impact reporting standards, this report indicates that much could be gained from simplification and focus on the very few metrics that matter most in the auto sector.

Thorough reporting and forecasting of Keystone metrics could pave the way towards genuine transparency and accountability in several key carbon-intensive sectors, including the auto industry.

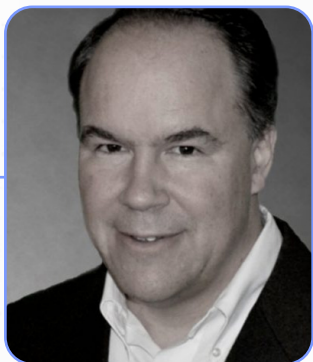
While this report may not be the first to recognize the importance of such metrics, it may be the first to demonstrate how few global automakers meet these minimal criteria.

Given the backlash that ESG is currently experiencing, the crisis of confidence in ESG data, and company push back against the ever-expanding demands for more ESG reporting, perhaps taking the route of radical simplification would move us farthest forward in the shortest period of time.

Responsible investors and stakeholders should request that OEM's promptly disclose these missing 'Metrics that Matter Most' for assessing current and projected decarbonization performance.

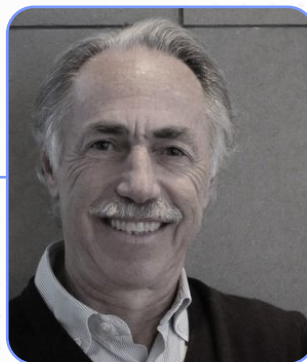
If auto company executives focused on robust Keystone metric disclosure, they might actually take us to simplicity on the far side of complexity. Doing so could enable the markets to work more effectively in helping avoid the worst consequences of climate change.

## Signal Authors



**Tim Nixon**  
CEO / Co-Founder

Tim Nixon is Co-Founder and CEO of Signal Climate Analytics. He is an ongoing contributor to Reuters Sustainable Business and serves as a judge for the Reuters Sustainable Business Awards. He is the Founder of the Sustainability thought-leadership platform at Thomson Reuters, a member of the CEO Investor Forum advisory board and a Founder and Steering Committee member to the United Nations Science, Business & Policy Forum. Tim is a lawyer by training and has spent his career building change-leading products and initiatives.



**David Lubin, Ed.D**  
Chairman / Co-Founder

David A. Lubin has more than 30 years of experience successfully founding and building world leading firms in the fields of corporate performance management, business analytics, and interactive media. David's previous sustainability research has been published by the Harvard Business Review, the MIT Sloan Review, in numerous edited volumes, as well as special reports from the UN Global Compact, IFC/ World Bank, and Reuters.

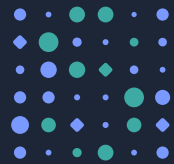


**Iain Sprigman**  
Research & Analysis

Iain Sprigman's work centers around generating novel sector analyses of ESG transformation, which enable both companies and investors. He harnesses his expertise in data analytics, business strategy, and ESG transformation to provide insights that foster responsible investment decisions and stimulate climate-related advancements in carbon-intensive sectors.

View the Full Signal Climate Analytics Team at [signalclimateanalytics.com](https://signalclimateanalytics.com)





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