Green on the outside, red in the middle: the untold story of Tesla's carbon emissions

As the pathfinding developer of electric cars, Tesla isn't shy about brandishing its green credentials. The Company's chief executive, Elon Musk, has accused politicians of bowing to the "unrelenting and enormous" lobbying power of the fossil fuel industry - warning that a global "revolt" may be needed to accelerate the transition to more sustainable energy and transport systems.

However - unlike its older, "dirtier" counterparts in the automobile industry, many of whose stock market valuations it has long since overtaken - Tesla doesn't report its greenhouse gas emissions. Indeed, Tesla does not even acknowledge climate change as a current business issue in its company reporting.

Already a company beset by corporate governance doubts, Tesla trails behind the more traditional carmakers when it comes to monitoring and managing ESG-related risks. Investors need robust, comparable data and Tesla remains opaque.

Engaged Tracking has estimated Tesla's emissions based on industry benchmarks and the published energy consumption levels of Tesla's cars. Its findings follow industry norms by using "emissions intensity" – in other words, the amount of carbon emitted by a company for every dollar of revenue it earns – as their fundamental unit of measure. Engaged Tracking's analysis across each category of emissions[1] shows that:

- **Tesla has an estimated 13% higher emissions intensity than BMW, its closest "fuel-burning" rival.** BMW produced almost 2 million vehicles in 2017, 20 times that of Tesla's 100,000 vehicles in the same year. But its net carbon footprint is only 13 times greater. BMW also has revenues that are 15 times higher than Tesla's
- **Tesla has emissions intensity more than 70% higher than Mercedes**, in an even greater disparity with a supposedly "traditional" competitor in the market for luxury cars (*see Figure 1, below*)

Sam Gill, CEO of Engaged Tracking, said:

"Tesla is what we call a Watermelon – green on the outside, but red in the middle. *Our research suggests that Tesla's best possible carbon performance contrasts markedly with its 'zero emissions' status.*

"Tesla's electric vehicles may seem environmentally benign. They're lightweight, energy-efficient, and potentially greener than their conventional counterparts. But the reality is more complex.

"Tesla must begin to disclose its emissions properly - not just to maintain public trust but also to regain the confidence of investors. They are increasingly aware of the need to align their strategies to the realities of a low-carbon economy, and view emissions transparency as nothing less than an issue of governance."

[1] Greenhouse gas emissions are categorised into three groups or "scopes" by the most widely-used international accounting tool, the Greenhouse Gas (GHG) Protocol. While Scopes 1 and 2 cover direct emissions sources (eg fuel used in company vehicles and purchased electricity), Scope 3 emissions cover all indirect emissions due to the activities of an organisation (eg waste disposal, purchased good and services, employee commuting).

Engaged Tracking, specialists in impact investing and carbon footprint analysis, has conducted an in-depth assessment of the carbon performance of Tesla, alongside two of the most famous luxury car manufacturers, BMW and Mercedes, to shed some light on the Company's carbon emissions.

The research shows parts of the industry taking seriously their impact on the climate; while corporate disclosure on climate change and carbon management remains weak for other, outwardly more "green", companies.

Tesla does not declare its emissions, so Engaged Tracking has estimated its emissions using industry benchmarks. In contrast, BMW and Mercedes have integrated climate change into their operational decision-making processes and have set time-specific targets for improving their energy efficiency and reducing their emissions.

Figure 1

	Emissions (tCO2e) / $m Revenue			Gross emissions (tCO2e)		
Automotive Company	**Directly Influenced emissions Intensity (Scope 1+2)***	**Value chain emissions Intensity (Scope 3)***	**Total Emissions Intensity (Scope 1+2+3)***	**Directly Influenced Emissions (Scope 1+2)**	**Value Chain Emissions (Scope 3)**	**Total Emissions (Scope 1+2+3)**
Tesla	52	730	**782**	360,000	5.1m	**5.46m**
BMW	14	680	**694**	1.4m	71m	**72.4m**
Mercedes / Daimler	17	440	**457**	2.9m	75m	**77.9m**

From a regulatory standpoint, all electric vehicles are equally green – regardless of whether they are big or small, produced efficiently or with great waste, or powered by electricity generated by solar energy or coal.

However, electricity production still relies heavily on high-carbon sources that go into the local grid. Electric vehicles can reduce greenhouse gas emissions only in the context of a deeper shift toward renewable sources of energy.

Equally, of all the electric vehicles in production, Tesla's are some of the least fuel efficient, according to figures released by the Environmental Protection Agency (EPA) in the United States (*see Figure 2, below*).

The EPA has ranked the fuel economy of electric vehicles produced by leading car manufacturers by its Miles per Gallon Gasoline Equivalent rating. By this measure, the fuel efficiency of Tesla's flagship models are nearly 20% less fuel efficient than BMW's electric vehicles:[2]

Figure 2

Vehicle	Model Year	EPA rated fuel economy
BMW i3 (60 A h)	2014/15/16	124 mpg-e (27 kW·h/100 mi 17.2 kW·h/100 km)
BMW i3 (94 A·h)	2017	118 mpg-e (29 kW·h/100 mi 18.1 kW·h/100 km)
Tesla Model S AWD - 70D	2015/16	101 mpg-e (33 kW·h/100 mi; 21 kW·h/100 km)
Tesla Model S AWD - 85D	2015/16	100 mpg-e (34 kW·h/100 mi; 21 kW·h/100 km)

About Engaged Tracking

Engaged Tracking represents a new approach to sustainable and ESG investing. We are mission-driven specialists who believe impact investing is most effective when it is simple, transparent and measurable. We believe in creating a clear link between corporate sustainability performance and capital allocation through our indexes.

Our mission is to accelerate the transition to a lower carbon, more circular and sustainable economy. As investors align their strategies to the new realities of a low-carbon economy it will be crucial to remain vigilant in their efforts to understand and proactively manage emerging climate related issues.

We publicly rank the world's largest listed companies according to their Scope 1, 2 and 3 greenhouse gas emissions each year. Our public Engaged Tracking (ET) Carbon Rankings reward carbon efficiency and penalise non-disclosure. The rankings provide a data-driven corporate engagement platform to enable investors to track corporate carbon disclosure and performance across their investments in a transparent way.

ENDS

[2] *The table is a comparison of fuel efficiency and costs for all the electric cars rated by the EPA for the U.S. market as of November 2016 against EPA rated most fuel efficient plug-in hybrid, hybrid electric vehicle and 2016 average gasoline-powered car in the U.S. The full list can be found here.*