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Is the Volkswagen scandal the tip of the iceberg?

Climate policy engagement and the automotive sector

November 2015

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Engagement patterns by automakers with regulators may be crucial in assessing compliance risk in the key climate related standards currently being revised in Europe and the US.

Introduction

In the wake of the VW emissions testing scandal, this report assesses greenhouse gas emissions standards compliance risk in the automotive sector. We propose that a key challenge for a group of 12 leading global automotive manufacturers [1] will be meeting the increasingly stricter CO_2 and efficiency standards around the world. Our report focuses primarily at those currently being considered for revision in the EU and in the US. We propose that a metric describing how automakers engage with the regulatory process may offer insights into the company culture around compliance.

We also devised some highly creative, but approximate, projections of how the present day fleets of these leading automakers would fare under 2020 standards and extrapolated the relative positions in terms of gaps in compliance and resulting fines. The results showed remarkable correlation between the automakers' compliance with future climate standards and InfluenceMap scores measuring support (or lack of) for climate related policy.

1 Forbes 2000, 2015: Toyota, VW, Daimler, BMW, Honda, GM, Ford, Nissan, Hyundai, Renault, FCA, PSA

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Summary

- Investors and engagers concerned with climate issues may be inclined to look more closely at this sector in light of the recent regulatory risks exposed by VW as the scandal spreads from diesel to CO_2 emissions. The fraud by VW has revealed the potential for exponentially higher penalties should any of the automakers be found to have wilfully manipulated any emissions testing process in this manner.
- Past engagement with the regulatory process by the automotive manufacturers on CO2 and efficiency standards can offer clues as to the culture and behaviour of the companies on emissions testing and compliance in general. In 2011, VW, along with Daimler, stood out as strongly opposing the US EPA's plans to double CAFE efficiency standards by 2025. [2]
- Four Japanese and European companies lead the InfluenceMap metric describing how supportive the companies are of climate regulations: Nissan, Honda, Renault and Peugeot-Citroen. Perhaps not coincidentally, these four companies' current fleets are the closest to complying with 2020 EU and US climate standards of the 12 major investor owned automakers examined.
- The major automakers, especially those in the premium sector like Daimler, have for years routinely paid fines for exceeding CO_2 and efficiency standards as a cost of doing business. The highest penalty imposed has been on Hyundai for overstating fuel economy claims over several years with the Wall Street Journal reporting the cost to the company at close to $700 million in 2014. [3]
- We also scored Tesla Motors, the first major manufacture with an all-electric fleet. It now has a market value comparable with FCA and Renault, an indication of how investors view its future growth. Not surprisingly, our analysis of Tesla found it to be highly supportive of climate regulations in the US and it leads all automakers in our rankings.

2 Inautonews.com, November 2011

3 Wall Street Journal, November 2014

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The key regulations at a glance

US Federal Level

At the Federal level the US Environmental Protection Agency (EPA) and the National Highway Traffic and Safety Administration (NHTSA) enacted the Corporate Average Fuel Economy (CAFE) system in 1975 to impose fleet fuel efficiency standards on passenger cars and light trucks sold in the US. The system was expanded in 2009 to include greenhouse gas (GHG) emissions limits and the system is reviewed every five years. In August 2012, the EPA & NHTSA issued CAFE and GHG standards to cover model years 2017 to 2025. Of this the standards for 2022-2025 are subject to review process known as the Midterm Evaluation, and will be finalized over the next two years, a process likely to be of great interest to the automotive makers active in the US market. Penalties for failing to meet the standards are imposed which manufacturers routinely pay as a cost of doing business. BMW and Daimler have each paid CAFE penalties more than 20 times in the last two decades. A precedent was set when Hyundai settled with the EPA for fraud associated with its CAFE submissions.

The EU CO_2 Emissions Standards

The Road Transport part of its Climate Action plan currently requires that the new automobiles registered in the EU do not emit more than an average of 130 gm CO_2/km by 2015. As with CAFE in the US, the system undergoes revisions every five years. By 2021, phased in from 2020, the fleet average to be achieved by all new automobiles is 95 gm CO_2/km. There is a system of penalties for non-compliance (which many manufacturers routinely pay) and super credits to incentivize sales of vehicles with emissions less than 50 gm CO_2/km. The process leading to revision of the standards for implementation following 2025 will get underway in 2016 and is likely to be closely followed by the automotive sector and other interested parties.

California and US State Level

California's 1990 Zero Emission Vehicle (ZEV) program requires auto companies to produce a certain percentage of zero emission vehicles for sale in California, which was expanded to partial ZEVs in 2001, spurring sales of hybrid vehicles. The ZEV program has been highly contested by the automotive industry through its life and currently allows automakers like Telsa Motors to sell surplus credits to other makers who do not meet the targets. In April 2015, the California Air Resources Bureau issued its target of 1.5 million ZEVs on the road by 2025, with some concessions to low volume suppliers to allow "transitional" ZEVs. The program has been cited frequently as a key catalyst for ZEV development programs among the global automakers. In 2013, eight additional US states pledged to roll out ZEV programs with ZEV uptake targets for 2025.

Rest of the World

China is the world's largest passenger vehicle market and since 2004 has imposed standards on fuel consumption by weight, in a corporate-average fuel consumption (CAFC) system. Japan's passenger vehicle fleet is among the most efficient in the world, mainly due to the low average weight of vehicles. Japanese standards are expressed in liter/km with weight of vehicle accounted for. Most manufacturers have easily achieved the standards well before the implementation stages. Fuel consumption standards are in place in Australia while greenhouse gas emission standards are in place in place in Canada.

A crystal ball into future compliance risk

With the exception of the settlement between Hyundai Motor and the US EPA in 2014 for CAFE-related fraud for a reported $200 million [4], fines paid by the automakers for non-compliance with US Federal regulations have been relatively minor (e.g. less than $100 million for the entire industry [5] between 2010-2012). Moreover, according to a 2015 report by Transport Environment [6] only three manufacturers (Honda, Hyundai and Suzuki, of which only Hyundai is a top 10 European player) will fail to meet their 2015 CO_2 emissions targets. The Japanese makers, who dominate their home market, comply with their standards years before the deadlines. This is a strong indication that the risk of non-compliance with current CO_2/ efficiency standards does not present investors with material risk.

Of more concern is the risk of fraud being revealed in the process (as in the case with VW on NOx and CO_2 testing and Hyundai on CAFE reporting). Forewarnings and signals for this risk are hard to come by. Clearly corporations will not reveal such activities in advance to investors and traditional environmental indicators do not appear to have picked up this risk in the case of VW. Prior to its revelations in September 2015, it was identified as an automotive industry group leader in the Dow Jones Sustainability Index, a position quickly suspended following the scandal. [7]

It is more likely that a thorough assessment of corporate culture, attitudes towards compliance and other behavioral aspects may offer more clues. Of interest to investors may be a snapshot of how the automakers' current fleets would fare under 2021 EU CO_2 and US CAFE planned standards. It is highly likely that technology advances will mean automakers will actually meet the 2021 standards but investors may find a comparison of the current gap (combined US and EU standards, weighted for fleet size) interesting as an indicator of readiness for compliance and potential risk of non compliance related behavioral issues noted in VW. These figures are placed along side the companies' current InfluenceMap scores for climate policy engagement.

In our scores InfluenceMap examines the engagement behavior of the 12 largest automakers (according the latest Forbes 2000 list) towards key climate regulations, particularly the EU and US CAFE strands, and provides a metric for their level of support or obstruction. Four Japanese and European companies lead the InfluenceMap metric describing how supportive the companies are of climate regulations: Nissan, Honda, Renault and Peugeot-Citroen. Perhaps not coincidentally, three of these four companies are the closest to complying to 2021 EU and US climate standards out of the 12 major investor owned automakers. We include Telsa Motors, with a market value comparable with FCA and Renault, for comparison.

4 Wall Street Journal, November 2014

5 US National Highway and Traffic Safety Administration, 2014

6 Transport Environment, How clean are Europe's cars 2014, 10th Edition

7 Dow Jones S&P Indices, October 2015 Press Release

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The top 12 automakers (plus Tesla):

InfluenceMap climate policy engagement and 2020 standards compliance

InfluenceMap Performance Band	Organization	Progress Towards 2020 Compliance	2021 Non-compliance fines in US $ bn	EU vs. US fleet sales 2014, mn
C-	Nissan	85%	$ 1.3	0.46 vs. 1.3
C-	Honda Motor	84%	$ 0.75	0.12 vs. 1.5
C-	Renault	79%	$ 2.7	1.24 vs. 0
C-	PSA Peugeot Citroen	83%	$ 2.2	1.36 vs. 0
D+	General Motors	75%	$ 4.4	0.89 vs. 2.8
D	Toyota Motor	81%	$ 1.9	0.54 vs. 2.4
D-	BMW Group	78%	$ 2.4	0.79 vs. 0.3
D-	Volkswagen	76%	$ 9.4	3.16 vs. 0.5
D-	Hyundai Motor	77%	$ 3.1	0.76 vs. 0.8
D-	Daimler	76%	$ 2.1	0.69 vs. 0.3
D-	Ford Motor	75%	$ 3.7	0.94 vs. 2.3
E+	Fiat Chrysler Automobiles	72%	$ 3.0	0.67 vs. 2.0
B+	Tesla Motors	100%	$ 0	less than 20,000 in total

Notes and data sources:

2021 compliance CAFE is averaged at 10mpg above 2015 standards for each manufacturer/class. Each maker has different CAFE targets for passenger cars and light trucks depending on average weight of vehicles.

The EU 95 gms CO2/km by 2021 does not apply to individual car makers, but is a EU wide target. Each maker's target depends also on the average weight of its vehicles, a factor accounted for in the above numbers.

All 2021 compliance gaps and non-compliance fines are combined for US & EU fleets, weighted for vehicle sales volumes.

EU compliance and fleet data courtesy of Transport Environment, How clean are Europe's cars 2014, 10th Edition

US CAFE data from US National Highway and Traffic Safety Administration, 2014

US fleet sales data from Autodata Corp, 2014, (passenger cars + light trucks as apply to CAFE standards)

For updates on this, visit our full rankings here.

Contacts us on info@influencemap.org for details on our calculations.

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The automakers' engagement with climate regulations

Volkswagen's disregard for diesel and CO_2 emissions compliance globally and the ensuing fall in shareholder value could trigger investors to examine the entire sector's relationship with the critical regulations shaping its future. Looking more widely at greenhouse gas emissions regulations that affect all the automakers, InfluenceMap's research shows the companies exhibiting a wide spectrum of engagement patterns with climate legislation in the EU and the United States.

InfluenceMap has examined the automotive manufacturers in terms of how supportive (or obstructive) they are of climate change related regulations. Two crucial pieces are EU CO_2 tailpipe emission standards now being revised by the European Commission and the equally important US CAFE auto efficiency standards also being tightened.

The four clear leaders in our survey (aside from the all electric Telsa Motors) are Honda, PSA Peugeot Citroen and the due of Nissan and Renault, both headed by Carlos Ghosn whom the research shows vocally supports [8] more progressive policy towards low emission vehicles. Perhaps not coincidentally, Nissan and Renault rank 3rd and 4th lowest out of 15 automakers on their EU fleet CO_2 emissions based on data from the European Commission, according to leading policy think tank Transport Environment [9] (Peugeot is 1st and Toyota 2nd, with BMW and Daimler 13th and 14th respectively). Honda has the most efficient fleet in the US according to EPA data compiled by Autonews. [10]

In the lower half of the automotive sector table are the German trio of Volkswagen, BMW and Daimler. All three, including Volkswagen, have been cited in the media (1,2,3) [11] for obstructing the progress of EU CO_2 emission standards for passenger cars in last three years. Climate laggard Daimler has also been prominent in its opposition [12] to the progress of the key US CAFE automotive efficiency standards for passenger cars. Ranking low on our list is Ford which in its SEC 10-K filing [13], aimed at investors, expressed concern at the spread of ZEV (zero emission vehicle) regulations to states outside California.

8 InfluenceMap profile for Nissan, September 2014

9 How clean are Europe's cars, Transport Environment, 2014

10 Autonews.com, August 2014

11 InfluenceMap profile for Daimler, Volkswagen, BMW, September 2014

12 InfluenceMap profile for Daimler

13 InfluenceMap profile for Ford, September 2014

Trade associations playing a key role

The research also highlighted the key role played by the automotive trade associations. The European Automobile Manufacturer's Association (ACEA), the Alliance of Automobile Manufacturers in the US, the German Automotive Association (VDA) and the Japanese Manufacturer's Association are working behind the scenes to try to dictate the pace of tailpipe greenhouse gas and automotive efficiency regulations.

ACEA in particular has opposed progressive climate regulations systematically, for example noting in an open letter in 2014 to the President of the European Council "... greenhouse gas emission and renewable energy targets must not be set at the expense of industry's growth and competitiveness in the global marketplace". [14] In the face of scrutiny ACEA is also increasingly secretive on its lobbying and positions on key legislation. Unlike numerous other sectors, the association refused to release its comments associated with a key EU climate consultation process in July 2015. [15] The current Chairman of ACEA is Carlos Ghosn, also CEO of both Nissan and Renault. With Nissan currently leading globally in the number of electric vehicles sold and the Renault-Nissan Alliance branding itself [16] with the COP21 climate talks in Paris, there appears to be some misalignment between these two relatively climate-progressive corporations and the trade association their CEO heads.

Regulatory risk in focus

According to a KPMG study, 14% of manmade greenhouse gas emissions are from road transport, and further significant reductions are possible using lower carbon intensity propulsion. This chance to reduce emissions has attracted the attention of regulators globally and presents the industry with huge challenges and opportunities.

Redesigning automobiles and retooling production entails huge cost and lead-time. Choices of technology and timing of investments will re-shape the competitive landscape and the key driver is likely to be the enforcement of various strands of automotive greenhouse gas emissions regulations globally. In our ranking we focused on three key strands: EU CO2 emission standards, US EPA CAFE Efficiency standards and US State level Zero Emission Vehicle regulations, as well as mainstream climate change applying to automotive production. All three are currently being revised and this examination of the manner in which the leading automakers are engaging with these standards presents a unique insight in to what extent each is really prepared for a low carbon regulatory regime.

Investors are increasingly scrutinising these patterns of engagement by the automakers in the hope of determining potential regulatory risk when it comes to compliance with climate regulations. A company that demonstrates systematic opposition to the progress of these and other climate related regulations may not be as prepared as less obstructive competitors in the event of a sudden shift in the regulatory regime. This recognition may serve as a starting point from which to demand disclosure from the auto companies on their position towards possible climate regulatory risks, similar to those experienced recently by Volkswagen.

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Why the automotive sector could be pivotal for climate-aware investors

- The ten leading investor-owned automotive makers together sell roughly 75% of new vehicles globally [17]. Given the fact that road transport accounts for 14% of greenhouse gas emissions, investors aligned with a low carbon future might carefully examine the automotive industry's interactions with the key climate related standards. According to the IEA, just over 60% of crude oil production is used for road transport, globally.

- These statistics, along with the rapid pace of regulatory-driven low emissions technology development underway point to a useful engagement opportunity for investors to steer the sector towards supporting carbon regulations.

14 ACEA press release, March 2014

15 InfluenceMap profile for ACEA, September 2014

16 Renault -Nissan Alliance press release via PRNewswire, April 2015

17 Toyota, VW, Daimler, BMW, Honda, GM, Ford, Nissan, Hyundai, Renault (Forbes 2000, 2015 list)

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About InfluenceMap

We are a neutral and independent UK-based non-profit whose remit is to map, analyze and score the extent to which corporations are influencing climate change policy. Our knowledge platform is used by investors, climate engagers and a range of concerned stakeholders globally.

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