CLEANING UP TRANSPORT IN EUROPE – THE COMMISSION'S CO_2 STANDARDS

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The transportation sector is an essential economic driver, connecting businesses and people around the world. It is inextricably linked to many other sectors including energy, tech, digital and agriculture, to name a few. It is at the intersection of urban planning, logistics, infrastructure, and personal freedom. The car as we know it today is arguably the most important invention of the 20th century, and demand for mobility is on the rise. The European Commission has estimated that from 2010 to 2050, passenger transport will grow by about 42 percent. With this growth comes a responsibility to reduce its carbon footprint. But before we talk CO2, let's take a look at the state of affairs for this revolutionary and controversial industry in Europe…

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Driving Growth

When conducting a situational analysis of the automobile industry, it would be prudent to first acknowledge all of the societal benefits the industry provides, as well as its economic contribution. This industry alone accounts for 12.6 million jobs across the EU, which is about 5.7 percent of the entire workforce. It also accounts for approximately 6.8% of the EU's GDP, and is the largest private investor of R&D in Europe, with more than €50 billion invested annually. In terms of trade, it is a global player delivering EU products around the world, and bringing in €90 billion in trade surplus.

And that's not to mention the obvious societal benefits that the freedom of movement allows for, which provide us with direct access to goods, services, education, jobs, and healthcare. Many of the public services in our everyday lives also rely on this industry to deliver our products, collect our waste, and provide emergency responses. The automotive industry is undeniably linked to our welfare.

Challenges at Every Turn

That's not to say the industry is without its challenges or harmful impacts. In fact, the auto industry hasn't been this shaken perhaps since the 2008 financial crisis. Aside from the regulatory requirements the industry is facing, several other factors are also impacting its performance. With a slow EU economy, car sales all over Europe are down. According to ACEA, the European automobile trade association, in September 2017, passenger car registrations across the EU fell by 2.0% year over year.

Further, today's economies are changing dramatically, in part by technology-driven trends that are revolutionising how industry responds to changing consumer behaviour, partnerships, and ultimately, its business models. The auto industry is no exception, and digital disruptors the likes of Uber and MyTaxi are fundamentally changing how automakers position themselves in the market. Changing mobility needs, like car sharing, have led most major Original Equipment Manufacturers (OEMs) to introduce their own platforms for Mobility as a Service (MaaS) in order to compete, such as BMW's DriveNow. Hyundai Motor is also breaking into the market by delivering fuel cell vehicles to the Paris-based electric taxi start-up STEP.

Congestion, land-use, parking, pollution and cost are all good reasons to support car sharing, but they are also the impetus for rethinking the future of transport, particularly in urban city centers. To that end, OEMs are also investing heavily in future technologies, such as Artificial Intelligence (AI) and connected and autonomous vehicles. Carmakers are very publically partnering with tech companies and working with local governments to position themselves as the leaders in this field in order to achieve a competitive advantage and hopefully snag the connected customer.

Adding to its recent troubles is of course the 2015 emissions scandal, and the continued impact it is having on the reputation of the industry, as well as the regulatory (and legal) avalanche that ensued. So before we get to the European Commission's (EC) mobility package, let's talk NOx. We have all heard of the "VW scandal" and other brands have since been accused, which has resulted in low consumer confidence in the industry as a whole. To make matters worse, the recent accusations of collusion among the German automakers has served to further degrade their public image and consumer trust. The scrutiny from NGOs and public outrage has created political pressure for governments to act, and act they have. European capital cities such as London, Paris and Madrid and even countries, like Slovenia and the UK, are mobilizing to tackle the air pollution problems they are attributing to excessive diesel emissions by creating low-emission zones and even banning all fossil fuel vehicles, including petrol, in the near future – although implementation plans are unclear at this point. Air quality problems are said to cause 40,000 premature deaths a year in the EU, and Dieselgate has been the scapegoat.

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Due to the wide gap between real-world emissions and those measured in a laboratory under controlled conditions, new, more accurate emissions tests have come into force. For CO2, the Worldwide Harmonized Light Vehicles Test Procedure (WLPT) and for NOx the Real-Driving Emissions (RDE) test. Currently, both only apply to new types of cars sold on the market with a phased-in approach for all new car registrations as well as a conformity factor to ease the industry into compliance.
The last key regulatory outcome of the emissions scandal is the overhaul of the car-type approval process, which consists of a series of tests to ensure that the car meets the necessary requirements to be sold in market. This process is administered by national-level authorities, but after Dieselgate's investigation by the Parliament's EMIS Committee (Inquiry into Emission Measurements in the Automotive Sector) it became clear that national authorities were looking the other way on cheat devices. The reform of car-type approval is thus meant to increase surveillance and oversight of the approval process.

"Ambitious but not disruptive"

Dieselgate is perhaps a good segway into the legislative proposals issued by the Commission on November 8. With the recent policies set at the city and market level to ban fossil-fuel vehicles, the timing is ripe to address the air quality and decarbonisation issues of the industry at the EU level. After all, the transportation sector accounts for about 25% of all GHG emissions in the EU, and 70% of those emissions come specifically from road transport. With the expected growth in mobility demand, coupled with the EU Paris Agreement target of a 40% CO2

reduction by 2030, there is a clear need to decarbonise this sector.

The second batch of the Mobility Package, "Europe on the Move" consists of two communications and four legislative proposals. Most notably, the post-2020 CO2 standards for new passenger cars and light commercial vehicles. The Commission VP for the Energy Union, Maroš Šefčovič, called the proposal ambitious but not disruptive, with the ultimate goal of continuing to ensure that Europe has the best, cleanest and the most competitive industry in the world. VP Šefčovič also emphasized that no region in the EU should be left behind, and that we must ensure that we retain our labour force. Highlights from the proposed CO2 standards include:

- The proposed numbers are a 15% CO2 reduction by 2025 and 30% reduction by 2030 – compared to 2021
- The two compliance points of 2025 and 2030 are by design – the 2025 target is meant to aid Member States by providing certainty on how transport can help them to reach their Effort Sharing Regulation (ESR) decarbonisation targets in 2030
- The interim 2025 target also accelerates the CO2 reductions. Without it, OEMs wouldn't have to comply with the 30% emissions reduction until 2029
- Contains a review mechanism in 2024 with the potential to revise the standards
- No Zero-Emission Vehicle (ZEV) mandate (as in China, California and 9 "ZEV sates" in the US)
- Contains an incentive scheme granting partial exemptions of the standards when OEMs achieve a production share of ZEVs higher than a benchmark level of 15% in 2025 and 30% in 2030
- Stronger market surveillance and enforcement – penalty of €95 for each gram above the limit

Analysis

The global trend in the development and sales of ZEV and low-emission vehicles, particularly in China, will have an impact on the EU OEMs who want to sell their cars globally. To that end, many OEMs have made announcements to fully electrify their fleet in the coming years. The Commission's proposal is meant to maintain the competitiveness of the EU industry by building the cars demanded around the world. The standards are also meant to reduce fuel consumption and thus cost to the consumer – an average of 600 euros for new cars bought in 2025 and 1500 euros in 2030. And finally, the standards are designed to help the EU reach its Paris Agreement commitments.

A ZEV mandate would be quite costly for OEMs and potentially the tipping point for some manufacturers. It can be said that carmakers are being forced to sell a technology that the consumer doesn't want or can't afford. OEMs must then discount the price even further in order to compete in some of the EV markets, and end up losing money on each unit they sell. This is not a sustainable business model, and a ZEV mandate could have put some of them out of business in the short to mid-term.

Perhaps unsurprisingly, the auto industry's trade association ACEA has said the 30% target was "overly challenging" and the pace of change demanded too swift. But of course, the auto industry will need to balance the NGOs. Transport & Environment – a vocal advocate of a ZEV mandate called the standards "an early Christmas present" for the auto industry. In the Parliament, Greens had been pushing for a 60% target, and some Member States such as the Netherlands, Austria and Slovenia have jointly asked for a 40% target.

The 30% CO2 reduction is certainly a much needed step towards decarbonizing the sector, but will this be enough to meet the Commission's unofficial transport target of a 60% CO2 reduction by 2050? This sector must be addressed holistically in order to reach the 2050 scenario, and fuels are an inextricable part of the solution.

Alternative fuel vehicles consist of various technologies including biofuels, electricity, hydrogen, natural gas, hybrids and liquefied petroleum gas (LPG). Currently, however, these vehicles make up only 3.2% of the existing fleet with fully battery electric vehicles only accounting for about 1%. In fact, 95% of cars on Europe's roads are still conventionally fuelled with about 50% of the fleet comprising of diesel (although declining).

Each fuel has its pros and cons, including existing infrastructure, cost, refuelling time, and range. But many argue that all are needed at different scales, in different locations, regions and at different points in time to optimise the benefits. The auto industry has noted that technology neutrality is crucial so that all technologies (and fuels) can compete to meet consumer needs, as well as air quality and climate goals. Others, however, push for a ZEV mandate in order to give the industry certainty, further reduce emissions, and maintain Europe's leadership position in the industry.

The Commission has touted that technology neutrality was an important element of its proposal, and not having a ZEV mandate but rather an incentive mechanism would certainly support this. However, at closer inspection, one could argue that the proposal does in fact send a very clear signal that OEMs should continue to invest in EVs.

If you follow the money trail, you will find that 200 million euros will be invested in a new battery initiative to create a competitive manufacturing chain in Europe. Together with funds from the European Investment Bank and interested Member States, this figure will likely increase to 3 or 4 billion. The EU Battery Alliance Roadmap is expected in February 2018.

Also, upon further inspection, the incentive scheme for ZEV and low-emission vehicles works on a sliding scale between 0 and 50 grams of CO2 per kilometres. A hybrid vehicle, for example, that emits 45g/km would receive fewer credits than a fully electric vehicle that has zero tailpipe emissions – essentially favouring battery electric vehicles as the preferred technology. To be fair, however, this is an optional program that is meant to reward top performers.

One last point is that the definition of a clean vehicle under the Clean Vehicle Directive, directed towards member states and public procurement, is different and more stringent than the definition of a low-emission vehicle in the CO2 proposal. This is by design in order to encourage the cleanest government fleets, but also appears to pick a preferred technology.

When looking at the transport energy mix towards the 2030 targets, there are clear favorites.

You don't have to look much further than diesel and biofuels to realize that picking winners can have unintended consequences. Electric vehicles certainly improve urban air quality, national energy security, and can further reduce emissions when powered by renewable energy.

But on the other hand, policymakers are pushing OEMs into a new era in which neither Europe, America or China has the proper regulatory mechanism to differentiate between the environmental benefits of these different technologies. Emissions are measured by tank to wheel (in-use emissions) but recent Life-Cycle Assessment (LCA) studies have shown that depending on make and model, some combustion engines are actually greener than some ZEVs.

Currently there is no standardized LCA methodology in which to compare apples to apples, and the burden of measuring value-chain emissions would likely be put on an already heavily regulated auto industry. But it is worth noting and perhaps questioning if EVs are the silver bullet, or if a more inclusive approach is needed, especially given that 80% of new vehicles will still have an internal combustion engine in 2030, according to the proposal.

The road ahead

It can be argued that some of the challenges facing the auto industry today are self-imposed, and certainly that is true. The emissions scandal has led to significant reputational and brand issues, and has lowered consumer confidence. It has also led to political implications resulting in a trend of city bans of fossil-fuel vehicles.

But equally true are the many external and regulatory pressures facing the industry. OEMs are no longer just vehicle manufacturers, but mobility providers. They must adapt to a changing world of consumer needs, digitalisation, and disruptors or be left behind.

The compliance pressure of the increasingly stringent CO2 standards is just one of many hurdles the industry is facing.

The Commission's proposal has already been highly controversial within the EC, creating a split in opinions that took some maneuvering to push through. And the negotiations are far from over. The Parliament and Council will now get their say. We can expect a fight between the ENVI and TRAN Committees over the competency, and it will likely be resolved by the Conference of Committee Chairs (CCC). ITRE is also interested in getting involved, but will likely only have an opinion role. The EPP is said to be very interested in taking the lead on the file, but the S&D group is also keen. There are also whispers that a German MEP will be Rapporteur on the dossier.

Certainly, the Greens will fight to bring back the ZEV mandate and EPP to lower the standards or even remove the 2025 interim target. Member States will care about investments, jobs and keeping manufacturing in their countries, and some will be more concerned with decarbonization targets.

The EP will provide a fresh start to the discussions and all interested parties will need a seat at the table to ensure their voice is heard.

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