VOLKSWAGEN GROUP UNITED KINGDOM LIMITED RESPONSE TO THE GREEN PAPER ON A NEW ROAD VEHICLE CO_2 EMISSIONS REGULATORY FRAMEWORK FOR THE UNITED KINGDOM

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INTRODUCTORY STATEMENT

Volkswagen Group United Kingdom Limited is a wholly-owned subsidiary of VOLKSWAGEN AG, and is the importer of Volkswagen, Audi, SEAT, ŠKODA, CUPRA passenger cars and Volkswagen commercial vehicles. The company directly employs approximately 1,000 people in the UK, and approximately 25,000 more are employed in the retail networks, logistics operations and financial services operations. Volkswagen Group UK brands hold over 20% of the passenger car market share. Turnover in 2019 was £10.2 billion.

VOLKSWAGEN AG was the first major automotive company to commit itself to the aims of the Paris Climate Agreement and has developed a group wide decarbonisation programme for this purpose. The company aims to make itself balance sheet CO_2 neutral latest by 2050.

VOLKSWAGEN AG has launched the most comprehensive electrification initiative in the global automotive industry and is unreservedly committed to the introduction of e-mobility. The company will bring more than 70 fully electric models to market by 2030 as well as around 60 plug-in hybrid models. The company will invest €35 billion in electrification by 2025. There are around 20 vehicles in the market today including for example the well-known Volkswagen brand ID.3 and ID.4.

VOLKSWAGEN AG supports the ambitious plans to establish a carbon neutral and zero emission vehicle based transport sector in the UK.

In our view the prerequisite for this unprecedented decarbonisation of the transport sector is the availability and adoption of green electricity in passenger cars, light commercial vehicles and heavy duty vehicles. At the same time the usage and support of fossil based energy, mostly liquid fossil fuels, should be limited, reduced and replaced by green electricity.

The decarbonisation of electricity and of the energy sector is the foundation to deliver the fast growing share of required green electricity for the switch to carbon neutrality in the transport sector and to achieve the Paris climate targets. VOLKSWAGEN AG welcomes UK Government ambitions in relation to greening the energy supply and electricity.

Consequently, to achieve the ambitious UK climate goals, VOLKSWAGEN AG is convinced that technologies making use of electricity as a truly decarbonised energy carrier are the only technologies that should be supported by government and in regulations. These future oriented technologies are available and market ready today: Primarily Battery Electric Vehicles and as bridging technology Plug-In Hybrid Electric Vehicles.

Support for automotive technologies which purely rely on fossil fuels as source of energy should come to an end. These technologies should not be supported beyond 2030 within a UK regulatory framework.

Until 2035 Plug-In Hybrid Electric Vehicles remain a helpful transitionary technology. The further development of this technology and a growing charging infrastructure will increase the pure electric distance driven. Plug-In Hybrid Electric Vehicles are an important step in consumer acceptance of electric drivetrains and obviates the barrier of range anxiety and charging anxiety whilst being capable of operating in full electric mode for the majority of journeys undertaken.

VOLKSWAGEN AG recommends that government attention should focus on the implementation of an e-mobility ecosystem, especially on charging infrastructure and measures to support market uptake of e-mobility. A comprehensive, interoperable and integrated charging infrastructure network across the whole of the UK needs to be implemented and binding targets for its development should be set to enable the e-mobility technology introduction and to generate certainty for the customer. All Government consumer incentives should focus on market uptake of technologies making direct use of green electricity.

Furthermore we believe prioritisation of Battery Electric Vehicle and Plug-In Hybrid Electric Vehicle technologies will increase the confidence of investors in the e-mobility ecosystem such as chargepoint operators, green energy companies and sends a clearer message to customers.

The suggested approach can be applied to passenger cars and to light commercial vehicles. There is no doubt that electrification will also be the dominant technology for this market. However, light commercial vehicles and passenger cars serve very different markets. They have fundamentally different usages with different journey times and charging patterns. Payload is a critical factor when considering appropriate and cost-effective technologies. Therefore, light commercial vehicles should be considered and treated separately. It should also be noted that the e-mobility light commercial vehicle market is still in its infancy.

In summary, VOLKSWAGEN AG recommends that a future CO_2 regulatory framework needs to focus on Battery Electric Vehicle and Plug-in Hybrid Electric Vehicle technology. There should be a conditional link to the right e-mobility ecosystem, the use of green energy/electricity supply for passenger cars and light commercial vehicles and a comprehensive, integrated and interoperable e-mobility infrastructure and consumer support measures.

We welcome the opportunity to respond to the CO_2 Green Paper and remain committed to working closely with government and other stakeholders to achieve a carbon neutral and zero emission vehicle based transport sector in the UK. We are aware of the Society of Motor Manufacturers and Trades (SMMT) consultation response but want to use our own submission to highlight VOLKSWAGEN AG's priorities. We will group our responses under the question chapters.

SIGNIFICANT ZERO EMISSION CAPABILITY

VOLKSWAGEN AG is convinced that the use of electricity in transport is the only technical solution to meet the Paris climate targets. Therefore, only technologies making direct use of electricity, which is on track to become decarbonised, should be considered in any future regulations. Technologies using only fossil fuels should not be supported. In this regard VOLKSWAGEN AG does not agree with the proposal to establish a metric incorporating entirely fossil fuel based drive train technologies after 2030.

POSSIBLE FUTURE FRAMEWORKS

Any framework should be simple and appropriate, embodying the principles of better regulation.

The current efficiency-based CO_2 regulation is a workable solution for a future CO_2 regulatory framework in the UK. It delivers on efficiency improvements and promotes and includes the best technology, Battery Electric Vehicles. The current CO_2 regulation is known and established.

Introducing a zero emission vehicle (ZEV) mandate in addition to the existing CO_2 regulations means the implementation of a new system which will lead to additional administrative requirements, essentially to two separate sets of requirements without additional benefits towards decarbonisation targets.

The current CO_2 regulation has been effective, for example in 2030 nearly 70 percent of VOLKSWAGEN AG's cars sold in Europe will be electric, without applying a ZEV mandate.

A CO_2 regime together with a phase out date for the sale of new strictly fossil fuel based vehicles - as per government ambition - can deliver and encourage the shift to electric vehicle sales. It could be considered, from 2030, to include in the existing CO_2 regulation an additional ZEV quota in conjunction with a Plug-in Hybrid Electric Vehicle maximum rate in order to manifest the move towards a specific Battery Electric Vehicle share. This addition can help to shape the phase out of Plug-In Hybrid Electric Vehicles in 2035.

For light commercial vehicles the phase out of Plug-In Hybrid Electric Vehicles should consider the delayed market uptake of commercial Battery Electric Vehicles.

A future CO_2 regulatory framework needs to set clear targets and be linked with the right e-mobility ecosystem, green energy/electricity supply and a comprehensive, integrated and interoperable EV

infrastructure and consumer support measures. A comprehensive, interoperable and integrated charging infrastructure network across the whole of the UK - including high-power charging along motorway and major trunk roads, charging solutions in metropolitan areas with limited off-street parking, destination locations, and at home and in the workplace - needs to be implemented and binding targets for its development should be set to accompany the e-mobility technology introduction and to generate further certainty for the customer.

Owning and using an electric vehicle must be convincing and effortless for customers.

ADDITIONAL ISSUES FOR CONSIDERATION

STRINGENCY OF CO_2 TARGET

VOLKSWAGEN AG does not believe that a combined parallel ZEV mandate and CO_2 regime would be a workable solution or that such a scheme would add any benefits towards decarbonisation targets. The current CO_2 regime alone can deliver government ambitions. We would expect strengthened CO_2 targets which foster growing Battery Electric Vehicle and Plug-In Hybrid Electric Vehicle shares.

DEROGATIONS AND EXEMPTIONS

Under a new regulatory framework based on the current CO_2 regime exemptions or modified targets should be considered for certain specialist vehicles. Orientation on the known scheme can be helpful in the application and implementation. Also the small volume manufacturer derogation has worked well to date. In light of the lack of information we look forward to engaging further on this and other topics as regulation proposals develop going forward.

CREDIT LEVELS

VOLKSWAGEN AG supports credits only for technologies offering direct use of green electricity in passenger cars and light commercial vehicles. Technologies, based on fossil fuels only, should not be supported or awarded within a regulatory framework aiming to decarbonise transport.

A new regulatory framework based on the current CO_2 regime should consider credits for Battery Electric Vehicles and Plug-In Hybrid Electric Vehicles only.

CREDIT BANKING AND TRADING

VOLKSWAGEN AG supports the idea of unlimited credit trading and banking within the framework of a CO_2 regulation. Unlimited trading should be possible between passenger cars and light commercial vehicles. Trading should be allowed within the transport sector.

LEVELS OF FINES FOR NON-COMPLIANCE

We do not believe that a combined parallel ZEV mandate and CO_2 regime would present a workable solution. A scheme which administers two sets of fines should be avoided leading to additional administrative requirements.

In a new regulatory framework based on the current CO_2 regime fines can have a strong impact. There would be no need for changes in terms of fine value and administration.

TARGET SETTING PROCESS

We do not believe that a combined parallel ZEV mandate and CO_2 regime would present a workable solution. A future UK regulatory framework should set clear targets. A framework based on the current CO_2 regime can deliver on government ambitions.

For a CO_2 regime with the political ambition of only ZEVs / Battery Electric Vehicles by 2035 we would expect the target of 0g/km in 2035. To monitor the development of the electric vehicle market and ecosystem closely, especially infrastructure developments, interim review dates should be considered to ensure an appropriate charging infrastructure development and supply throughout all regions of the UK.

REAL-WORLD EMISSIONS

A new UK regulatory framework based on the current CO_2 regime should be based on the lab-tested WLTP CO_2 emission figures. Real-world emissions will become less relevant with the introduction of Battery Electric Vehicles and a smaller Plug-In Hybrid Electric Vehicle-share, both being supplied with green electricity.

Technology development of Plug-In Hybrid Electric Vehicles e. g. growing electric range and better and customer friendly charging infrastructure will support this positive development.

EXTENDING THE FRAMEWORK TO ALL ROAD VEHICLES

HEAVY DUTY VEHICLES

VOLKSWAGEN AG is on track to electrify commercial vehicles step by step.

A ZEV mandate for commercial vehicle categories that are not yet covered by the VECTO-based CO_2 regulation is not an appropriate mechanism for heavy duty vehicles. There should be uniform, standardised and scientifically validated measurement methods for the entire commercial vehicle sector. Different approaches to CO_2 regulation create uncertainty.

The market for trucks, buses and coaches behaves very differently to cars and vans and is fundamentally driven by the availability of high-power charging infrastructure as well as total cost of ownership and operating costs. The rapid development of a dense network of publicly accessible charging points, especially for long-distance heavy-duty transport, is required to accelerate the transition towards sustainable, fossil free transport. With the right robust, long-term ecosystem in place (eg. subsidy programmes for ZEVs, carbon pricing etc.), electric commercial vehicles solutions (also for long-haulage) will be able to close the economic gap to diesel vehicles more quickly.