Scene setter

You will meet Mr [redacted], Board Member of the Volkswagen Brand responsible for electro mobility.

Mr [redacted] wishes to discuss current and future initiatives at EU level to support electrification of road transport, including the review of the Alternative Fuels Infrastructure Directive.

It is likely that he wishes to raise specific points on infrastructure-related topics. Defensive points have been structured according to some preliminary information received from Volkswagen. A short summary of VW's current initiatives is in the background.

Objective(s)

- Present current initiatives on electrification, in particular in relation to recharging infrastructure (AFID revision) and funding (CEF)
- Take note of Volkswagen's electrification initiatives, and of their views in relation to the necessary framework conditions for mass deployment of electric vehicles.
- Explore VW's views on other alternatives fuels, in particular hydrogen for heavy-duty vehicles

Key Messages

- We are working at full speed to prepare the launch of the new Commission, under the leadership of the President-elect Ursula von der Leyen and, as regards transport, Commissioner-designate Adina Vălean.
- Mrs von der Leyen has made it very clear in her political guidelines the level of ambition she wants to pursue for our Union. Becoming the world first climate neutral continent and having therefore a clear path towards 2050 is a priority for our new term. Stronger ambition level will however be required already by 2030.
- President von der Leyen also asked Commissioner Vălean to put forward a comprehensive strategy for sustainable and smart mobility by the end of next year. The strategy will certainly look into issues such as infrastructure needs for zero-emission mobility.
- Overall, the European Green Deal Communication, soon to be adopted, will set the scene for our action in all relevant sectors.
- Even before we look into higher ambitions, however, we know that the targets in the recently adopted CO2 emission performance

standards for light and heavy-duty vehicles will already require a fast rollout of low- and zero-emission vehicles.

- It is clear that transport electrification will be a key element in the decarbonisation of our mobility; we need to work together to create the right conditions for its development. This involves ensuring good coverage of recharging infrastructure, and providing the necessary financial support for its deployment.
- *While for passenger cars, battery electric seems to be most popular solution, what are your views for other applications (heavy-duty) – will there be a role for hydrogen?*

AFID review

- The Commission is currently reviewing the Directive on the deployment of alternative fuels infrastructure (AFID).
- The main focus of the evaluation is to asses if the current provisions are sufficient to ensure that adequate alternative fuels infrastructure will be available throughout Europe to ensure seamless travel across the whole EU, under specific consideration of the expected massive uptake of electric vehicles in the next years.
- Specifically for e-mobility we will also assess if the provisions are sufficient to ensure:
    - A high level of interoperability, for example ensuring user friendly payment options;
    - That sufficient real time user information is available to consumers, e.g. on location, characteristics (e.g. max. power) and availability of charging points;
    - That users are fully informed about the charging costs at a charging point in a transparent manner;
    - That e-mobility can efficiently be integrated into the electricity system. Meaning that charging can be shifted to times when electricity network capacities and electricity are available.
- Depending on the outcome of the evaluation the Commission may propose a revision of the Directive, possibly in early 2021.
- It goes without saying that we are carefully looking at the possible synergies with the revision of the TEN-T guidelines. We want to

provide a comprehensive transport infrastructure policy that is fit for the future.

- *Is there any other particular issue that you would like to highlight in relation to EVs?*

Financial Support

- We have already allocated EUR 698.3 million of CEF funding to alternative fuel supply points, contributing to a total investment of EUR 2.3 billion. Under CEF transport, we are supporting 89 actions investing in greener road transport. These actions have installed or will install almost 13,000 supply points for alternative fuel for road transport, of which almost 12,000 are electricity.
- Most recently, in November we launched the CEF Blending Facility, an innovative approach and the first of its kind facility under the EU budget. The deployment of alternative fuels is one of the two areas we will support with the blending facility, with EUR 99 million available for this priority. It should leverage a strong investment from the market.
- Concerning the next financial period, earlier this year we reached a Common Understanding between the Council and European Parliament on the CEF programme for 2021-2027. The co-legislators have retained the 60% target climate expenditure the Commission had proposed for the CEF programme, and I expect the climate expenditure in the transport sector to reach 70-80%.
- A key focus of CEF 2021-2027 will remain on rail investment. However, it is clear that EVs will also play a part in the decarbonisation of the transport sector. Investments regarding alternative fuels supply points will be eligible for a higher maximum co-funding rate of 50%, compared to 20% in the current period. We will also be able to support the deployment of alternative fuels infrastructure on both the core and comprehensive TEN-T, compared to only the core network in the current period.
- As well as CEF, both the Cohesion Fund and the European Regional Development Fund must dedicate significant amounts to support modal shift and the deployment of alternative fuels in the next period. The Sustainable Infrastructure Window of InvestEU

will also provide ample opportunities for the sector. The lending and advisory support provided by the EIB will also be crucial to achieve our goals.

- This being said, EU public funding will be far from sufficient when it comes to deploying all the necessary infrastructure. In fact, our funding will also need to focus where there is real need for public support, not where there is a business case already. It must be private investments that deliver the bulk of the required EV charging infrastructure.

Defensive Points

Encouraging users to switch to electric vehicles will only happen if re-charging is as convenient and easy as possible. Here aspects like plug and charge (automatic authentication of users) or fixed cables to charging stations are important. Currently many charging stations require that the user brings his own cable. Does the Commission consider to address those comfort aspects with the AFID revision?

- Comfort for users is indeed essential for the uptake of electric vehicles.
- The Commission will specifically look into user information and interoperability throughout Europe. EV users must be able to easily find a charging point, get informed about the prices and can easily charge and pay. We need a European policy framework.
- The Commission is equally supportive of other aspects like automatic authentication – but the EV user should still be able to decide if and when he wants to use this functionality.
- We will look into these aspects during the evaluation of the Directive under user friendliness aspects but also with respect to the associated costs.

Which measures does the Commission plan to implement to ensure that electric mobility does not cause congestion in the electricity grid?

- If all road transport was electrified, electricity demand in the EU would increase by approximately 20%. While this will require grid extension in certain areas (e.g. to supply bus depots) the electricity system can in general cope with such an increase over the next decades.
- However, this is only true if we manage to shift charging from peak hours to times of low grid utilisation and sufficient electricity generation. So for example to night hours or to sunny Sundays.
- In addition, vehicles are on average parked for approx. 23 hours per day. If they are connected to the grid while parked they can also provide electricity to the grid during times of peak electricity demand and can therefore contribute to manage the energy transition in an efficient manner.
- What is needed for this is the right technology and electricity markets that incentivise EV users to participate in such schemes.
- The electricity market design adopted in spring this year ensures that such schemes can develop and that the EV user can be incentivised to participate. It equally sets the rules for making our electricity system more flexible.
- We are working in close contact with our colleagues from DG ENER to see if more actions are needed to ensure that possible remaining technical barriers specifically for smart charging and vehicle to grid on the vehicle or charge point side have to be removed. Here we may need action to further promote

"smart chargers" – chargers that can measure and communicate and can be controlled by electricity service providers.

In order to ensure seamless travel throughout Europe, it needs to be guaranteed that all Member States have sufficient charging infrastructure and that cross border travel is easily possible. Are there any plans to have an integrated infrastructure planning for recharging points at EU level?

- It is the aim of our initiatives to provide full coverage of charging infrastructure throughout Europe, especially on the TEN-T core network and in urban nodes
- Funding to develop this infrastructure is provided for example through the Connecting Europe Facility (CEF).
- Within the planned evaluation of TEN-T it could be considered to look into minimum requirements for TEN-T networks with respect to the provision of alternative fuel infrastructure. Also minimum coverage targets for alternative fuel infrastructure could be considered under AFID. My services will look into such options.
- However, a central European cross border infrastructure planning for alternative fuels infrastructure going beyond minimum requirements for specific roads/corridors would need to be assessed also in the context of the subsidiarity principle.

80% of charging events currently take place at home or at the office and hence in private domains. However, many citizens do not own a private garage and hence rely on charging either at a parking spot in their apartment building or at the office. The Energy Performance of Buildings Directive (EPBD) obliges pre-cabling for new and renovated building to facilitate installations of recharging points. However, this does not help users living in old apartment buildings. Will the Commission aim at strengthening provisions to facilitate the installation of charging points in the private domain?

- Private recharging will most likely remain the backbone of charging in most EU Member States.
- The Commission is aware of the problems that owners of flats in apartment blocks face when they want to install recharging points. Most notably the required consensus from all other owners in the same building in most Member States.
- Our initiative under the EPBD was aimed at facilitating the installation of recharging points in such buildings but was met with a lot of reluctance by Member States who significantly reduced the initial Commission ambition.
- The Commission will certainly continue to look into possibilities to facilitate installation of recharging points in such buildings also under AFID.

- However, the main competence in this area lies with Member States and regions. For example in Germany many cities and regions already financially support the installation of private recharging points while for example in Spain the “right to plug” already exists: a flat owner only has to inform the co-owners that he wants to install a recharging point but does no longer need their approval.

The accuracy of measurements of DC fast charging stations has been a problematic issue in Germany as the German calibration law (Eichrecht) needed to be adjusted to cover such charging points. Does the Commission plan to streamline provisions for measurements at charging points?

- European legislation sets detailed rules for the accuracy of for example petrol pumps measurements and measurements of the DSO electricity meters. However, it does currently not set such rules for measurements at recharging points.
- As part of the review of the Alternative Fuels Infrastructure Directive, we will analyse if specific rules on European level are indeed required.
- In the feedback to a recent stakeholder questionnaire under the Sustainable Transport Forum we got mixed responses on this issue: while some stakeholders claimed accurate measurements are essential to ensure user confidence others argued that the price of many charging services is not fully related to the charged kilowatt-hours (kWh) or is provided at a minimum fee anyways. Strict rules and certification processes would only increase the costs for charging stations and ultimately for the consumer.

What can be done to make the transition (automation, digitalisation, decarbonisation) easier and to manage it?

- We already have a number of EU instruments at our disposal. The question is whether they are adapted to the need of our transport stakeholders, which we hope our study will tell us.

- With the **European Pillar of Social Rights**, we already have a comprehensive policy framework at EU level to assist in labour market and social transitions.

- The **European Social Fund** – and in the future the European Social Fund Plus – invests in skills, including digital skills, and education.

- The **Digital Single Market Strategy** and the **Skills Agenda** for Europe both prioritise digital skills. For instance, the Skills Agenda has launched the so-called Blueprint for Sectoral Cooperation on Skills to address skills mismatch at sectoral level. Two such cooperation partnerships related to transport and logistics are already up and running: in the automotive sector (DRIVES project, https://www.project-drives.eu) and in maritime shipping.

- COM has proposed to double the funding for the new **Erasmus programme**, which will invest more in digital skills and forward-looking fields, such as climate change, clean energy, AI and robotics.

- The 2021-2027 **Digital Europe programme** will invest in five key digital sectors: high performance computing, artificial intelligence, cybersecurity and trust, advanced digital skills, and ensuring the wide use and deployment of digital technologies across the economy and society, in order to strengthen European industrial technological leadership.

- In addition, Ms von der Leyen wants to put forward a new **Just Transition Fund**. It should offer tailored support for the most affected, for instance those in industrial, coal and energy-intensive regions undergoing significant local transformations. There should be close coordination between the Just Transition Fund, employment and social funds, as well as the InvestEU programme.

Which skills will be needed in the future and how can we make sure transport workers will be equipped with the right skills?

- This challenge is not transport specific and we have horizontal policies in place to address skills gaps (see question above).

- Given new technological developments, the transport sector is likely to compete with other sectors for information and communication technology (ICT) specialists. (It is true that older and low-skilled workers tend to lack the IT-skills that are increasingly needed in the labour market).

- In order to manage transformation, workers whose jobs are changing or may disappear due to automation must have every opportunity to acquire the skills and knowledge they need, to master new technology and to be supported during labour market transitions. National schemes will be essential for providing up-skilling and training with support from the European Social Fund and other dedicated funds (e.g. the Digital Europe programme).

- We will also need to find ways to adapt training requirements quickly enough to match technological developments.

Background

Volkswagen initiative for electric mobility

Volkswagen has started a comprehensive and massive investment programme into electrification of its model portfolio. 75 electric and 60 plug-in hybrid models are to be rolled out over the next ten years. The objective is now to sell 22 million electric vehicles until 2028. For this purpose, VW is currently repurposing all their factories towards the production of electric vehicles. The company has recently announced to invest up to 60 billion EUR (or 40 percent of overall investment) into the “car of the future” by 2024, including 33 billion EUR for electrification.

VW is relaunching a broad model offensive under the concept header “ID”. The first main vehicle is the “ID.3” (successor to Golf), which will be launched in all 28 Member States in 2020. The Zwickau factory has been repurposed, with a production volume of 100.000 ID3 in 2020 and up to 330.000 as of 2021. Available 30.000 pre-orders have been overbooked.

VW is also investing 250 million EUR into roll out of infrastructure; VW wants to roll out 36.000 charging points until 2025 including 11.000 at dealerships. VW is also investing into a comprehensive customer service “we charge” for charging solutions across networks – VW customers should have access to more than 100.000 charge points. The company is now concluding additionally cooperation agreements with retailers. Volkswagen is calling for a masterplan for recharging infrastructure to address the manifold planning, permitting and technical realisation challenges related to a mass roll out of recharging infrastructure.

Alternative Fuels Infrastructure Directive (Directive 2014/94)

The Alternative Fuels Infrastructure Directive (AFID) defines a common set of measures, including minimum technological requirements for infrastructure (e.g. recharging and refuelling plugs). Particularly, it requires Member States to develop national policy frameworks. These should set targets and support measures for infrastructure roll out for electricity and natural gas (optional for hydrogen). Directive 2014/94/EU on the deployment of alternative fuels infrastructure requires that Member States provide a minimum infrastructure for alternative fuels such as electricity, hydrogen and natural gas. Member States had to notify to the European Commission their National Policy Frameworks (NPF) proposing national targets and support. The completeness, coherence and ambition of the NPFs varies greatly.

As a consequence, the Commission in November 2017 adopted an Action Plan to boost the deployment of alternative fuels infrastructure, with a particular focus on the TEN-T Core Network Corridors through flagship actions, with an additional financing component, under both CEF and NER300.

We have now started receiving Member States’ reports on the implementation of the Directive, which we will assess in the coming monhts.

The Commission has also started the evaluation of the Directive, which is required for 2020. As part of this exercise, relevant stakeholders have been consulted through a questionnaire, and the main findings will be published soon through the Sustainable Transport Forum (STF).

AFID - Standardisation of supply connectors / sockets outlets for buses

Work on the standardisation of solutions for electric bus supply connectors or socket outlet is included in the standardisation work programme under Directive 2014/94 (Alternative Fuels Infrastructure Directive). CEN/CENELEC informed the Commission of probable delays, but we still expect the work to be completed within the next year. Defining standards for connectors (pantographs and catenary) will facilitate the generation of economies of scale. It will also ensure that vehicles of different models from different manufacturers can use the same infrastructure, and avoid situations where changing buying vehicles from a different manufacturer would also require an expensive update of the charging infrastructure.

Financial support

On 2 May the Commission adopted the next MFF proposal, setting out an ambitious budget for the EU for the period 2021-27 amounting to €1.279 billion in commitments (expressed in current prices) - equivalent to 1.11% of the EU27's GNI.

For transport investment, four complementary instruments were proposed:

- Connecting Europe Facility (€30.6 billion for transport with general, cohesion and military mobility envelopes)
- InvestEU (€11.5 billion guarantee for sustainable infrastructure)
- Cohesion policy funds (€35.3 billion for transport and environment in Cohesion Fund as well as €226 billion for climate, energy, mobility, social and RDI in ERDF)
- Horizon Europe (€15 billion for mobility, energy, climate)

A common understanding on CEF 2021-2027 was reached by the co-legislators on 7 March 2019 in the final trilogue on the CEF 2021-2027. The provisional agreement leaves aside at this stage all budgetary and certain horizontal provisions, pending further progress on the MFF.

Automation in transport

Automation in transport is taking place in the context of a broader transformation of the industry and the world of work. Ongoing discussions about the future of work, the impact of the digital transformation on labour markets, and challenges and opportunities of the ‘fourth industrial revolution’ attest the need of analysing and anticipating the upcoming changes.

The impact on the labour force in transport was recently discussed during the Digital Transport Days (Helsinki, October 2019) in a dedicated session on 'Managing the transition towards digitalisation and automation – social aspects'. The main conclusion was that for managing the transition towards digitalisation and automation in transport, learning from each other’s good practices and dialogue are key.

https://ec.europa.eu/transport/themes/social/automation_en

We have just kicked-off a study on the social dimension of this transition in transport, focusing on the labour force. The study will explore transport stakeholders’ need for guidance and accompanying measures. What we want to get out of it by the end of

next year are recommendations on how to best accompany the transition and what should be possible actions at EU level.

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