

Our position

Low-Emission Mobility strategy: a technology-neutral and holistic approach



AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate US investment in Europe totalled more than €2 trillion in 2016, directly supports more than 4.5 million jobs in Europe, and generates billions of euros annually in income, trade and research and development.

Executive summary

Reducing emissions in the transport sector is key for the European Union to achieve its energy and climate objectives. AmCham EU members believe that a comprehensive and technology-neutral Low-Emission Mobility strategy is the way to address this.

In this paper, we support the Commission's approach looking at the contribution of vehicles, fuels and infrastructure to reducing emissions from transport. A balanced approach, without advantages given to certain actors or technologies, will be instrumental to success.

Too prescriptive legislation on low-emission vehicles and the lack of a clear definition will hurt the chances of an efficient transition. The fuels of the future must be allowed to develop in a free market. Special attention should be paid to the RED recast, to make sure it does not undermine progress already achieved. The role of digital and intelligent technologies should be equally taken into consideration when assessing emission reductions.

Moving forward, we believe that the key to success in delivering a climate-friendly transport environment is involving all actors in the discussions.

Introduction

The transport sector is a driving force of the EU economy. It directly employs around 12 million people, representing some 5% of the total workforce in Europe. It also creates around €548 billion in Gross Value Added (GVA)¹. Transport is fundamental to the 30% of the EU economy represented by goods and agriculture, and is an enabler for a substantial part of the service sector, which covers the remaining 70% of EU GDP.

Limiting the rise in global temperature to 'well below 2°C' this century would require an energy transition of exceptional scope, depth and speed, according to the International Energy Agency (IEA). This would depend upon doubling the annual average energy-related investments. The IEA analysis finds that a deep transformation of energy production and consumption needs to occur by 2050 to achieve this objective, meaning for instance that seven out of every ten new cars would need to be electric, compared with one in 100 today.

Convenient, affordable and versatile mobility of people and goods is crucial to support the economic and social well-being of the EU. At the same time, there is a real need to reduce the greenhouse gas emissions of transport. Therefore, the American Chamber of Commerce to the European Union (AmCham EU) welcomes the holistic approach of the Low-Emission Mobility strategy released in July 2016 by the EU Commission focusing on three levels: vehicles, fuels and the transport system.

¹ Source: ACEA

Key principles towards a low-emission mobility

AmCham EU promotes six key principles to achieve a low-emission mobility:

Support economic activity – Sustainability in transport can only be ensured if the social, economic and environmental dimensions are given equal attention. As pan-European investors, AmCham EU members see the huge potential of completing the EU Single Market, especially for transport.

Address risks of climate change in an integrated and balanced manner – For the transport sector to further reduce its carbon dioxide (CO₂) emissions, innovation and technological improvements are crucial. Policies should: avoid market distortions; take a technology/fuel neutral approach; strive for market and science-based integrated solutions while minimising costs to society; avoid regulatory overlap and allow proper lead time for implementation.

Invest in infrastructure – Transport emission reduction largely depends on further and accelerated investments in infrastructure, including Intelligent Transport Systems (ITS) and refuelling. Good infrastructure reduces congestion, emissions and accidents, whilst supporting jobs, trade and economic growth through more efficient transport.

Maintain a level playing field between transport modes – All modes will be needed to move the growing volumes of the future. Therefore, no transport mode should be advantaged in any way over another. Only a truly co-modal approach will secure an efficient and effective supply chain, enhance the EU's competitiveness and limit environmental impact.

Factor-in the international dimension of transport – The transport sector is fundamentally international and strong transnational policy cooperation is required. In other words, maintaining an international level playing field goes hand in hand with finding global solutions for global challenges, crucial for the environment and competitiveness of Europe.

Uphold Better Regulation and robust evidence: In this highly technical area, it is essential that policy is rigorously based on facts and evidence. Impact assessments must be conducted in an impartial and transparent manner, and only parties with no specific policy bias should be contracted for technical studies. All data and sources should be fully transparent and the baseline scenarios must reflect real achieved conditions.

Moving towards zero-emission vehicles

Clear definitions of zero and low-emission vehicles are needed in EU legislation. To this day, when talking about a zero-emission vehicle, many stakeholders mainly refer to those powered by battery electric vehicles. However, the alternative term 'electrically chargeable vehicle' covers a wide range of technologies², which include vehicles that are zero-emissions capable. There should be a clear differentiation.

² **Battery electric vehicles (BEV)** are electrically chargeable vehicles with no other energy source than the battery. **Fuel cell electric vehicles (FCEV)** are powered by hydrogen and offer the same performance in terms of speed, refuelling times, and driving experience as conventional cars. Today,

AmCham EU believes that effective emission reduction in transportation requires **contributions from all propulsion technologies**. We encourage policy-makers, when discussing possible EU strategies and regulation in this field, to account for all technologies and their technological and market feasibility.

Although industry has indicated its readiness to make low-emission vehicles available, to meet the EU's objectives they must be taken up by consumers in sufficient volumes. Market mechanisms should drive this transition and no mandate for specific technologies should be imposed through legislation. Policy-mandated vehicle technologies have been known to fail in the past and could prove counterproductive, potentially undermining environmental protection goals and eliminating choice for consumers and industry.

There are on-going discussions and research on well-to-wheel emissions based on the assessment that an accurate and scientific determination of the CO₂ emissions generated by transport must include consideration of all emissions sources. In addition to tailpipe emissions regulated by EU CO₂ standards, emissions from fuel and energy production, manufacturing, transport and recycling together could represent the full contribution of vehicles to greenhouse gases. A future mix of technologies should be determined by taking into account all the sources above, without solely comparing tailpipe emissions. Within a technology neutral system approach, this could ensure that regulation enables the most effective overall solutions for low-emission mobility. AmCham would support to start discussions among all stakeholders on this topic, whereby any future approach to calculate well-to-wheel emissions accurately will require a common European methodology.

AmCham EU advocates for cost-effective and feasible emissions standards for cars and vans and heavy-duty vehicles. Current CO₂ legislation solely focuses on reducing emissions from new cars and vans. However, for a further cost-efficient reduction, all contributions to emissions reduction need to be considered in addition to vehicle technology (eg. light-weighting and engines), including low-carbon fuels, ITS, connected cars, infrastructure, fleet renewal and eco-driving.

Heavy-duty vehicles (HDVs) account for roughly 5% of Europe's greenhouse gas emissions while delivering 75% of all land-based freight. Fuel efficiency is one of the most important competitive factors in developing and selling HDVs. Driven by market forces, truck manufacturers have delivered a 60% reduction in fuel consumption since 1965.

As part of the *Europe on the Move* package, the Commission took important steps to ensure a sustainable and transparent EU road transport market. It proposed two new regulations, on CO₂ certification from new HDVs and on monitoring and reporting emissions and fuel consumption. It also plans to introduce CO₂ emission standards for HDVs in 2018. To ensure an evidence-based approach, CO₂ emission standards for HDVs should be implemented only when the results of the certification

alongside with BEV, FCEV are the only other technology available for zero emission vehicles. Low emission vehicles also rely on various technologies: **Electrically chargeable vehicles using different energy sources**, with no fixed lines or borderlines among technologies; **Electric vehicles with mobility assistant** using energy from the battery and limited amount of energy from the combustion engine for emergency purposes under given technical limits; **Extended-range electric vehicles (EREV)** which use a battery as the main energy source, but use a combustion engine driven range-extender running on hydrocarbons, after the batteries are depleted; **Plug-in hybrid electric vehicles (PHEV)** which use battery as the main energy source for daily trips, but can also run in common hybrid mode using the combustion engine running on hydrocarbons if necessary.

and monitoring stages are clearly assessed. Moreover, an 18 months transition period will allow the industry sufficient lead time.

Decarbonisation of fuels

Alongside the development of new powertrain technologies, the CO₂ emissions from vehicles with combustion engines must continue being reduced. A regulatory framework that includes all technological options and does not exclude specific technologies is therefore needed. For example, hydrogen, as a synthetic fuel derived from renewable electricity, is an important enabler of the decarbonisation of the mobility and power sectors. Use of Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) in transport can also reduce CO₂ emissions.

The Renewable Energy Directive (RED) has helped build an integrated biofuels market across the EU with technical standards for quality and sustainability. The EU should continue pursuing this harmonised approach. Investments have been made on this legislative basis by agriculture producers, agricultural processors, biofuels producers, transport operators, fuels suppliers and vehicle manufacturers to contribute to the targets. EU biofuels are required to conform to sustainability standards regarding emissions, land use and deforestation. All sustainable biofuels should be an integral part of the EU's decarbonisation strategy, as they will remain a key viable solution in several modes of transport, including aviation, shipping and heavy duty.

Some elements of the recast proposal for the RED in the Clean Energy Package risk undermining progress in ensuring a significant role for renewable energy in transport. The following points are important in the ongoing discussions:

- **Ensure realistic targets for renewable energy use in transport.** The continuation of the EU-wide approach to promoting the use of sustainable conventional and advanced biofuels would help maintain a homogeneous policy across the EU.
- **Ensure policy continuity and investor certainty,** to prevent a fragmented transport fuel market and honour current investments. Sustainable food crop-based biofuels are currently the main ones used in the EU and provide a stepping stone for advanced biofuels.
- **Definition of advanced biofuels:** The list of feedstocks in Annex IX of RED II is too restrictive and unsupportive of the best innovation or the most cost-effective development of advanced biofuels. Therefore we propose complementing the Annex IX list with a clear definition of 'advanced' biofuels: Advanced biofuels are those produced from biomass³ and that meet the EU sustainability criteria⁴ under legislation in force. Applying this definition as an alternative qualification for advanced biofuels, in addition to the list in Annex IX, should allow the promotion of diversified raw materials and advanced biofuel technologies.
- **Promotion of advanced biofuels:** Considering the stated aim to decarbonise transport by 2050, there is a need for a stable and harmonised EU policy, so that investors will have confidence to invest in sustainable biofuel pathways. If we want to cover the potential of renewable energy in the transport sector, more intensive research support and

³ as defined under the renewables energy directive or any amendment to it

⁴ defined under EU legislation

demonstration projects for second/third generation non-food based biofuel pathways in Horizon 2020 are needed. This will strengthen EU competitiveness in this sector and encourage the market uptake and production of sustainable biofuels.

- **Promote hydrogen and hydrogen infrastructure for fuel cell electric vehicles.** As a synthetic fuel derived from renewable electricity or natural gas, hydrogen could be an important enabler for reducing emissions of the transport and power sectors. Fuel cell electric vehicles also allow rapid refuelling and long-range travel.

The market uptake of vehicles with alternative powertrains has to be fully developed to contribute to meeting the post-2020 emission targets. When looking at the potential of alternative fuels, future proposals should consider the reality of today's market. Several factors (eg. the lack of infrastructure and non-harmonized supportive schemes on the national level) are limiting a substantial uptake of such technology.

Furthermore, when it comes to renewable transport fuels, quality is extremely important, irrespective of whether it is a pure hydrocarbon petrol or diesel fuel, and regardless of the feedstock. Thus, robust CEN standards for ensuring the quality of the blend stock and the final blend are imperative. They will ensure a sustainable use of biofuels, which is beneficial to consumers and supports industrial progress. Compliance with future vehicle emission and CO₂ legislation should not be compromised by current or future biofuels whose quality or performance does not match current and future vehicle powertrain technology.

Commercial aviation relies 100% on liquid fuels and there is no safe and certified alternative for civil aircraft. As opposed to ground vehicles and despite the aviation industry's significant investment in research and technology, alternative energy such as hydrogen, natural gas and electric batteries will not be part of the picture by 2030. They will likely still be marginal by 2050 for use in aviation due to slow market uptake and physics-based limitations.

Promote an efficient low-emission transport system

Low-emission transport infrastructure

Climate protection is among the highest societal priorities and the transport sector is the second largest CO₂ emitter in Europe. Emissions from cars and vans dropped by 36% in the last two decades and are expected to decline another 39% by 2030, even with a growing demand for transport.

So far, political instruments in this area have been only focusing on vehicle emissions, ignoring infrastructure aspects. However, to achieve the desired results we need an instrument mix that picks up on measures that quickly and verifiably reduce emissions.

Future policy should take a more holistic approach and acknowledge that responsibilities do not only reside with manufacturers.

Intelligent Transport System and the role of digital technologies

Intelligent Transport Systems (ITS) can improve – or even revolutionise – how the vehicles we use interact with each other and with road infrastructure. ITS has the potential to increase the efficiency of road use and improve both the safety and the environmental performance of vehicles.

In-vehicle eco-navigation systems (dynamic navigation tools that use real-time data to reduce fuel) can reduce emissions by 5-10%. Eco-driving systems, which recognise driving behaviour and provide the driver with on-trip advice and post-trip feedback, can bring down emissions by 5-20%. Connected and automated driving will offer great potential for efficiency and safety. Digital technologies such as telematics, that enable real-time diagnostics and monitoring, can also significantly reduce emissions and increase the efficiency of transport systems for both business fleets and private vehicles. For example, awareness of traffic patterns can help drivers optimise their routes and avoid idling, thus reducing emissions. Diagnostic monitoring and alerts about the health of the vehicle's engine can ensure that repairs begin immediately. Similarly, monitoring fuel usage and driving speed can improve driving behaviour, leading to slower speeds and better fuel economy.

The market penetration of new systems is gradually rising, but further comprehensive deployment requires investment in technology both at vehicle fleet level and in the infrastructure they use. The right framework will need to address data protection, cybersecurity, liability etc. Some of these issues should be addressed on an international level to avoid conflicting policy approaches. The success of these new technologies will depend on the right legal framework. The European Commission must involve all stakeholders into the discussion to safeguard the competitiveness of the European automotive industry.

Single European Sky is essential for aviation

The completion of the Single European Sky would allow the aviation industry to reduce its CO₂ emissions by 10%. Policy-makers should speed up its implementation, as the current fragmentation at Member State level results in longer flight times, delays, additional fuel burn and increased CO₂ emissions.

Creating the right conditions for R&D on advanced technologies, such as sufficient infrastructure will allow for new and innovative solutions to be developed that provides societal benefits and meets consumer requirements