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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

Delivering on low-emission mobility

**A European Union that protects the planet, empowers its consumers and defends its
industry and workers**

*"I want Europe to be the leader when it comes to the fight against
climate change*

*The Commission wants to make our industry stronger and more competitive
I call on the car industry to come clean and make it right. Instead of looking for
loopholes, they should be investing in the clean cars of the future
The Commission will shortly present proposals to reduce the carbon emissions
of our transport sector"*

President Jean-Claude Juncker,
State of the Union Speech, 13 September 2017

1. Introduction

Climate change is one of the greatest challenges facing humankind today. The future of our planet is at stake. This was recognised by the international community in Paris in December 2015, where a truly historical agreement on climate change was reached. The Paris Agreement showed that moving to a modern and low-carbon society is not just indispensable, but also now possible.

The European Union is leading by example. Its action to drive the global fight against climate change is central to the EU's positive agenda "*to help create a Europe that protects, empowers and defends*".¹ The **transition to a modern and low-carbon economy** is a key political priority for the European Commission and is embodied in its priority of developing a **resilient Energy Union and a forward-looking climate change policy**. The objective is to strengthen Europe's ability to confront the challenge of climate change and improve the quality of life of citizens, while at the same time maintaining and extending the competitive edge of our industries to create jobs, generate sustainable economic growth, and drive innovation in renewable energy technologies. This means striving to become the world leader in innovation, digitisation and decarbonisation.² These developments can also be disruptive, creating new jobs while making others obsolete, requiring new skills and re-training. The transition to a low-carbon economy is therefore both an opportunity and a challenge for EU industry.

The transport sector makes a huge contribution to the EU economy, to employment and to the mobility of citizens. The transportation and storage sector employs more than 11 million people in the EU, more than 5 per cent of total employment³ and generates almost 5 per cent of EU Gross Domestic Product.⁴ It accounts for about 20 per cent of exports to the EU's main trading partners.

But at the same time, transport is a big contributor to Europe's greenhouse gas emissions - second only to energy, as well as being responsible for increasingly severe air pollution in our urban areas. All projections suggest that transport activity across Europe will continue to grow. From 2010 to 2050, it is estimated that passenger transport will grow by about 42 per cent. Freight transport is expected to increase by 60 per cent.⁵ This makes achieving a mobility system that is sustainable all the more challenging.

Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of reduced air quality in cities, which poses a serious threat to public health. Road transport alone is responsible for almost a fifth of total EU emissions and 73 per cent of emissions from transport.⁶

Unless action is taken to cut its emissions, transport risks becoming the largest source of emissions, offsetting the progress being made in other sectors and jeopardising the EU's

¹ State of the European Union (2016) speech by President Juncker, 14 September 2016; European Council conclusions, 24 October 2014.

² COM(2017) 479.

³ EUROSTAT Labour Force Survey, 2016 data, for NACE H: "Transportation and Storage".

⁴ EUROSTAT National Accounts, 2014 data, for NACE H: "Transportation and Storage".

⁵ All data references can be found in the Commission Staff Working Document SWD (2017) 177.

⁶ Nearly three times as many people suffer a premature death in the EU due to transport-related pollution than die in road accidents, and millions suffer from life-long respiratory and cardiovascular diseases. <https://www.eea.europa.eu/publications/air-quality-in-europe-2016>; http://ec.europa.eu/transport/facts-fundings/scoreboard/compare/people/road-fatalities_en

ability to meet its overall emission reduction goals. **Decisive action on emissions from transport is therefore essential.**

The ambition of low-emission mobility is embedded in the EU's core strategies in this area and especially in the Energy Union Strategy of February 2015, which identified the transition to energy efficient, decarbonised transport sector as of critical importance.⁷ This was followed up by concrete measures outlined in the Strategy for Low-Emission Mobility adopted in July 2016: these are now being implemented.⁸ Earlier this year, in response to the profound transformations underway in the transport sector, the "Europe on the Move" initiative presented an agenda for a socially fair transition towards clean, competitive and connected mobility for all, accompanied by a first package of proposals.⁹ Most recently, the Commission has unveiled a renewed EU Industrial Policy Strategy that aims at empowering European industries to continue delivering jobs and sustainable growth in this changing and challenging environment.¹⁰

Today's package of proposals under the "Europe on the Move" initiative¹¹ focuses on helping the European automotive industry and the mobility sector to prepare for the future by setting the right conditions and incentives for the **industry to be globally competitive, as well as to generate innovation, growth and jobs**. At the same time, the proposed measures are aimed at ensuring that mobility in the future is **clean, accessible and affordable for all**, and that consumer trust can be restored. This is crucial, following the crisis of confidence on diesel car emissions caused by the automotive industry. Rules must be robust and properly enforced, Europeans must have accessible and affordable transport alternatives to fossil fuel-powered vehicles, and investments in alternative fuels infrastructure must be targeted and coordinated accordingly.

This package will establish clear, realistic and enforceable rules to help secure a level playing field between actors in the industry operating in Europe and to increase their credibility. It will also put in place a clear direction of travel towards achieving the EU's agreed commitments under the Paris Agreement and will stimulate both innovation in new technologies and business models, and a more efficient use of all modes for the transport of goods. Furthermore, the facilitating measures within this package will help to ensure a smooth transition and make the path ahead more predictable. Consumers will only truly make the shift to clean vehicles and other clean mobility solutions if alternative fuels infrastructure is available and if they can make informed judgements about the costs of the different fuel-types on offer and the related total cost of ownership over the full life of the vehicle. Finally, these measures also aim to make new mobility services accessible to all Europeans and to provide workers, communities and components of the value chain in the automotive industry, and others that can lose out from this transition, with new perspectives for the future.

New **CO₂ standards** will help manufacturers embrace innovation and supply low-emission vehicles to the market. The **Clean Vehicles Directive** will promote clean mobility solutions in public procurement tenders and thereby provide a solid basis to stimulate demand and the further deployment of clean mobility solutions. The package also includes investment support

⁷ COM(2015) 80.

⁸ COM(2016) 501.

⁹ COM(2017) 283.

¹⁰ COM(2017) 479.

¹¹ This package builds on many of the European Commission's other strategic work streams, including, the Investment Plan, The Capital Markets Union, the Digital Single Market, The European Pillar of Social Rights and Skills Agenda, Climate Action, and the Circular Economy.

measures for the **trans-European deployment of alternative fuels infrastructure**, as well as common standards. A **methodology for consumers to easily compare fuel prices** is under preparation. The revision of the **Combined Transport Directive**, which promotes the combined use of different modes for freight transport (e.g. lorries and trains), and of the **Directive on Passenger Coach Services**, which will stimulate the development of bus connections over long distances across Europe and offer alternative options to the use of private cars, will also contribute to further reducing transport emissions and road congestion. These initiatives will also contribute to the EU's integrated industrial policy¹² so that the vehicles and other mobility solutions of tomorrow and their components will be invented and produced in the EU, with the **battery initiative** of particular strategic importance in this context. These initiatives seek to be cost-effective, technologically neutral and socially inclusive.

This second "Europe on the Move" package thus addresses **three key political** priorities:

- Europe that protects the planet;
- Europe that empowers its citizens;
- Europe that defends its industry and workers.

2. A Europe that protects: The EU's key role in the Paris Framework and in international standard-setting

The challenge of sustainable mobility is a global problem, common to a growing number of countries and cities in the world. This is driving strong global demand for clean products, technologies, and business models that support sustainable mobility, which present a huge business opportunity for a competitive EU industry in this sector.

It is critical that the EU promotes the next generation of CO₂ emissions reduction standards for transport. This will provide a clear signal to the market and help maintain the EU's leadership in addressing climate change while at the same time reinforcing the competitiveness of European industry and ensuring that Europe remains the global standard-setter in the automotive manufacturing industry. The proposal for **new CO₂ standards for cars and vans post-2020** is therefore a key element of this package. These standards will help Member States to achieve their 2030 climate targets and allow cities to increase the quality of life and the health of their citizens.¹³ The existing passenger car CO₂ Regulation is estimated to have accounted for 65 to 85 per cent of the reduction in car emissions achieved following its introduction in 2009.¹⁴ At the same time, these standards will link the implementation of the Paris Framework to Europe's global trade agenda by giving our industries competitive edge, allowing them to export their products and tap into growth markets as global demand for clean vehicles grows. The revision of the **Clean Vehicles Directive** will help to stimulate additional public demand for these vehicles in the EU. A well-developed market and industry base in the EU is essential for strengthening our export potential.

Promoting multimodality and efficiently combining different kinds of transport is also crucial to reducing emissions. The revision of the legislation on **combined transport** will stimulate the combined use of trucks and trains, barges or ships for the transport of goods, by making it

¹² COM(2017) 479.

¹³ COM(2016) 482.

¹⁴ Ricardo-AEA and TEPR (2015), Evaluation of Regulations 443/2009 and 510/2011: https://ec.europa.eu/clima/sites/clima/files/transport/vehicles/docs/evaluation_ldv_co2_regs_en.pdf

more competitive compared to road freight transport only. Reducing the number of lorries on the road will mean a reduction of CO₂ emissions and air pollution by the freight transport sector, as well as reduced congestion and accidents on our roads.¹⁵

Similarly, the Commission's proposal to revise the Directive on **passenger coach services** will improve the mobility of citizens by stimulating the development of bus connections thereby offering alternative options to the use of private cars and increasing the use of sustainable public transport modes.¹⁶ Such services will also bring economic and social benefits, being more responsive to consumers' needs and providing real options for people on lower incomes.

These legislative proposals will be supported and reinforced by the wide range of enabling measures that are foreseen in this package.

3. A Europe that empowers: No second-class consumers and leaving no region behind

The freedom for citizens to move unhindered across the Union's territory is a major achievement of the European Union. It has enabled people to travel smoothly between Member States, be it for business or leisure. The EU has a duty to its citizens to facilitate and make freedom of movement easier across borders. Transport will continue to grow, but it must develop sustainably.¹⁷ The daily experience of traffic jams and the crisis over diesel car emissions have understandably provoked calls for road transport to contribute to better health and air quality. These have in some cases led to the adoption of policy measures at local level to discourage car use in urban areas, which are already influencing consumers' mobility choices.

In the aftermath of the debacle over diesel car emissions and the severe crisis in consumer confidence that ensued, the Commission has already taken action to ensure a better deal for consumers and restore trust in the EU's approach. We are putting in place a **robust testing framework for type-approval** based on new testing procedures that will ensure effective compliance with the rules.¹⁸ This framework will also provide a solid platform for applying the new CO₂ emissions standards post-2020.

We must also pay attention to facilitating **consumers' access to affordable** new and cleaner forms of mobility and make sure that the benefits of these new mobility services are available to all and are spread evenly throughout the Union. New technologies and innovative and collaborative business models make our mobility system more sustainable. However, we must avoid that they create a digital divide, causing new inequalities or depriving some regions or areas from the benefits derived from these innovations.

Low- and zero-emission solutions will not become a widespread reality on Europe's roads without an **adequate alternative fuels infrastructure** in place. Industry is now announcing considerable investments, particularly in electric vehicle production. Having sufficient infrastructure in place will be vital if consumers are to be attracted to credible alternatives to

¹⁵ COM(2017) 648.

¹⁶ COM(2017) 647.

¹⁷ COM(2016) 501.

¹⁸ COM(2016) 031. In addition, new test procedures have been introduced at EU level to test emissions from cars in real driving conditions as well as in the laboratory, and these apply to new types of vehicles since September 2017.

conventionally-fuelled vehicles. The 2020-2025 timeframe will be critical in Europe, with current projections suggesting that low- and zero-emission vehicles will account for up to 7 per cent of vehicles on European roads in 2025.¹⁹ Investments will need to be mobilised rapidly to prevent a lack of appropriate infrastructure becoming the bottleneck of tomorrow.

A clear EU policy framework for alternative fuels infrastructure is already in place, where Member States have a primary role in its deployment on their territory.²⁰ However, **the level of ambition of national policy strategies is insufficient to meet future demand.** Moreover, it is important that infrastructure and services are interoperable across borders. Consumers need to experience low-emission mobility as trouble-free mobility.²¹ Public authorities and market actors need to ensure infrastructure services are interoperable.

The deployment of alternative fuels infrastructure must be accelerated and gaps must be filled.²² This is where the EU can and must make a difference. Financial support from the EU will be crucial to partially cover financing needs in the areas where market failures to invest persist, for example for the Trans-European transport core network. This public support should be seen as a way to leverage significant private investment, including through new financing methods such as blending of grants with loans, as promoted by the Investment Plan for Europe.²³ The package contains **an Action Plan to boost investment in alternative fuel infrastructure** and develop a network of fast and interoperable recharging and fuelling stations across the Union.²⁴

The Commission is increasing financial support to leverage public and private investment for the roll-out of Alternative Fuels Infrastructure; up to EUR 800 million is being made available for this purpose.²⁵ This will combine with the substantial funds already being devoted to this area under the Connecting Europe Facility and the European Structural and Investment Funds.²⁶ Cohesion Policy can support the deployment of infrastructure for alternative fuels, for all modes and all fuels, such as recharging stations in individual cities, as well as in smaller communities, but also help to fund the procurement of alternatively-fuelled vehicles, such as clean city buses.²⁷

¹⁹ SWD(2017) 650.

²⁰ Directive 2014/94.

²¹ "I have a vision of a (...) commuter being able to charge his electric car along the motorway the same way we fill up on petrol today", President Juncker's speech to the European Parliament, November 2014.

²² EUR 1.5 billion is needed for just equipping the Trans-European-Transport core network corridors with a backbone infrastructure by 2025 for all alternative fuels. The investment needs are significantly higher when considering the entire transport network.

²³ https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/investment-plan-europe-juncker-plan_en

²⁴ COM(2017) 652.

²⁵ The Commission is today making available EUR 350 million from the Connecting Europe Facility Transport budget, which could generate as much as EUR 1.7 billion in overall investment from among others the European Fund for Strategic Investments, the European Investment Bank, and public and private banks under the CEF Blending Call. Up to EUR 450 million will be made available from the NER300 programme undisbursed revenues through the Connecting Europe Facility Debt Instrument, managed by the European Investment Bank. More details at: https://ec.europa.eu/clima/policies/lowcarbon/ner300_en

²⁶ Around EUR 70 billion in Cohesion Funds and European Regional and Structural Funds have been programmed to make the EU transport system more efficient, more environmentally-friendly and less carbon-intensive.

²⁷ Outermost regions could serve as testing locations for clean and alternative energy solutions. See COM(2017) 623.

Close cooperation and coordination between the Commission, Member States and at the local level is needed to ensure that any gaps are filled and that consumers and their clean cars are not left "high and dry". Drivers need to know they can drive across the EU with easy access to recharging where and when they need it. **No EU region and no consumer should be left behind.**

This package supports Member States, regions and cities to increase their clean transport offerings to citizens. This is reinforced by increasing the contribution of public procurement to market uptake of clean vehicles by **promoting clean vehicles in public procurement tenders.**²⁸ Cities play a critical role in implementing the Paris Agreement, in particular through their clean mobility policies. The Covenant of Mayors ceremony in February 2018 will bring together more than 700 European mayors to further stimulate such action at local level.

In addition, the package will be complemented by ongoing work to improve consumers' ability to make more refined choices when purchasing or using a vehicle by offering a **methodology to compare the costs of the different available types of fuel**, showing them the benefits of switching to cleaner mobility solutions. To this effect, the Commission is developing together with Member States a European **methodology on fuel price comparison** and has already made available a **Green Driving tool** allowing consumers to compare the impact of different technologies on fuel consumption and CO₂ emissions.²⁹

The "**Clean Transport Facility**" has been launched by the Commission and the European Investment Bank to finance projects in clean transport, with a focus on public transport, using Connecting Europe Facility and/or European Fund for Strategic Investment financing. Under the **European Regional Development Fund**, where as much as EUR 35 billion are available for supporting an energy-efficient and decarbonised transport sector, EUR 12.4 billion are earmarked for clean urban transport. Through the European Territorial Cooperation ("Interreg"), in particular, deployment of alternative fuels infrastructure in a coherent manner can be ensured at regional and local levels. Several Member States have already used the opportunity to programme the deployment of alternative fuels infrastructure or purchase clean rolling stock for public transport (e.g. electric buses). For example, in the Czech Republic the Transport programme is supporting (with some EUR 30 million) the deployment of recharging points for electric vehicles. Purchasing electric buses with support from the European Structural and Investment Funds is envisaged by several Member States, including Poland, Slovakia, the Czech Republic, Slovenia and Spain.

4. A Europe that defends: Promoting the EU's industrial competitiveness to foster jobs, growth and investments

Addressing the energy and climate challenge is a significant opportunity for EU industry to increase competitiveness and strengthen global leadership through innovation. Our main trading partners are already moving in this direction, with China setting ambitious targets for the production and import of clean vehicles (i.e. electric and fuel cell vehicles) in 2019 and 2020, which translates into about 5 per cent of all new sales in 2019. The car was invented in Europe and Europe must take the lead in re-inventing it.

²⁸ COM(2017) 653.

²⁹ <https://green-driving.jrc.ec.europa.eu/>

More than ever, EU industry in general and the automotive and mobility sectors in particular are coping with major transformations in their businesses, product offerings and processes. Emissions reduction, innovation in electrified power trains, autonomous driving and connected vehicles are among their greatest evolutions, while digitalisation and automation are also profoundly transforming traditional manufacturing processes. Value chains in the automotive sector including components are changing fast with new players entering the market. At the same time, the European automotive industry now has a major task to regain the trust of consumers.

The automotive sector is crucial for Europe's prosperity, providing jobs for 12 million people in manufacturing, sales, maintenance and transport and accounting for 4 per cent of the EU's Gross Domestic Product. The EU automotive sector is among the world's biggest producers of motor vehicles. It represents Europe's largest private contributor to research and development, with more than EUR 50 billion invested annually.³⁰

Our ambition is to make the EU industry stronger and more competitive in the long term. **Innovation, digitisation and decarbonisation are the key to sustaining Europe's leadership in the automotive industry of the future.** This is a central pillar in the EU's broader industrial policy.³¹

These ongoing industrial transformations are also putting significant pressure on the workforce to adapt; they must therefore be accompanied by measures to ensure a smooth transition and increase resilience so that **people and communities are able to take advantage of the new opportunities.** These measures must address new job requirements, support lifelong learning and support workers in the transition between jobs by actively helping those in the affected sectors who may need to move out of the sector to retrain and find new jobs. The Commission, in partnership with Member States and stakeholders such as employers, workers' representatives and education and training providers, is supporting the resilience and competitiveness of labour markets, addressing skill gaps and mismatches and supporting the development of new skills through learning abroad. Key initiatives include the EU Skills Agenda³² and the Blueprint for Sectoral Cooperation on Skills³³, the European Social Fund and the Erasmus+ Programme.³⁴ The Commission also set out ways to maximise Europe's innovation potential through "smart specialisation" at regional level, including building social resilience within communities by generating economic activity and creating employment at the same time, and providing support to regions in transition.³⁵ Tools for the industry and education and training providers will also be developed to support skills intelligence and forecasting.³⁶

EU laws must set the right incentives to keep the industry on the path of decarbonisation, and technological and global industrial leadership. This means that investments in decarbonisation must be made alongside investments in digitisation and automation so that Europe can also take the lead in this important technological race. In spite of the expected rapid growth in

³⁰ See GEAR2030 report: http://ec.europa.eu/growth/content/high-level-group-gear-2030-report-on-automotive-competitiveness-and-sustainability_en

³¹ COM(2017) 479.

³² COM(2016) 381.

³³ The blueprint is being piloted in six sectors, including the automotive sector: <http://ec.europa.eu/social/main.jsp?catId=1223&intPageId=4320&langId=en>

³⁴ http://ec.europa.eu/programmes/erasmus-plus/node_en

³⁵ COM(2017) 376.

³⁶ <http://skillspanorama.cedefop.europa.eu/en>

clean, notably electric, vehicles, it is forecast that in 2030 in the absence of new policies, around 90 per cent of cars on European roads will still be powered only by a combustion engine.³⁷ A balanced and sustainable transformation process requires continued investments to increase the fuel efficiency of vehicles and to successfully market more low- and zero-emission vehicles. This balanced approach leaves space for continued efficiency improvements in the combustion engine, and will allow the necessary time for the deployment of infrastructure and for more well-performing clean vehicles to reach the market and become affordable and accessible to all Europeans.³⁸

The Commission's proposal for the post-2020 **CO₂ emission standards for cars and vans** therefore includes ambitious but at the same time realistic emission reduction targets for 2025 and 2030. It also establishes a crediting system based on a benchmark for the share of low- and zero-emission vehicles, rather than prescribing any specific technology with fixed quotas. It provides a clear and strong signal to investors in alternative powertrains and fuels infrastructure, with the intention of giving a firm incentive to front-runners to further invest in low-carbon technologies. A mid-term review of the legislation will allow the Commission to assess the effectiveness of the legislation and, where appropriate, propose changes.

The Commission considers it important to **maintain a technologically neutral definition of low- and zero-emission vehicles**, with the aim of incentivising the market penetration of low- and zero-emission vehicles as the ones with the highest CO₂ reduction potential, but also as the ones that will deliver a very important clean air co-benefit. This approach will allow regulatory stability for the industry, giving them sufficient time to plan, while speeding up the increase of low- and zero-emission vehicles on the EU market for the benefit of European consumers and citizens' quality of life through cleaner air in our cities.

Connected and automated vehicles have a significant potential to reduce congestion, carbon emissions, air pollution, and the number of fatalities on our roads. These vehicles are already entering the EU market and represent further challenges and opportunities for the industry's competitiveness. In order to reap the full benefit of large-scale cross-border testing and research and financing programmes both at the EU and Member State levels, we need to ensure that cross-border and EU-wide deployment and take-up of this technology is undertaken coherently and is well-coordinated. In addition to supporting research and innovation in this field, the Commission is continuing its work on all related policy and regulatory issues, including taking into account the recommendations of the GEAR 2030 high-level group.³⁹

Wide-scale electro-mobility across Europe means the number of **batteries** needed within the EU will increase significantly. Indeed, batteries are at the heart of this new industrial revolution and are a key enabler of the clean mobility transition. Their development and production play a strategic role in the ongoing transition to clean mobility and clean energy systems.

³⁷ SWD(2017) 650.

³⁸ "By 2024 the average 4-year cost of running an electric vehicle should match that of a petrol car." See study by BEUC: http://www.beuc.eu/publications/beuc-x-2016-122_low_carbon_cars_in_the_2020s-brochure.pdf

³⁹ See also GEAR2030 report.

Global market forecasts project demand for Lithium-ion batteries to grow to 210-535 GWh by 2025, as compared to 78GWh today. Market demand forecasts in Europe range from 37 to 117 GWh in 2025, while being below 10 GWh today.⁴⁰

The proposal regarding CO₂ standards for cars and vans, including the crediting system for low- and zero-emission vehicles, will create the required clarity and predictability regarding the pace of deployment in the EU until 2030 while facilitating consumer's access to affordable cleaner forms of mobility. Announcements of car manufacturers as regards the timing and ambition of new electrified models coming to market in the next years confirm the expected surge in battery demand. From an industrial perspective, the growth in demand will require major investments in the battery value chain between now and 2025, including a massive upscale of battery cell manufacturing. We are therefore presented with a clear opportunity for Europe to attract investments along the value chain to the EU.

Europe therefore needs to urgently take decisive steps towards **establishing a complete value-chain for the development and manufacturing of advanced batteries in the EU**. This should apply to all stages of the battery life cycle, including re-use or recycling, as well as increased efficiency in the use of resources and raw materials. It will also be crucial **to move quickly from research to testing and demonstration of advanced EU battery cell technology manufacturing**. European companies have the expertise and the capacity to make Europe the lead continent for electro-mobility and next-generation batteries. This can be achieved by creating a pan-European and cross-sectoral battery ecosystem capable of translating technological leadership into high-performing and customer-differentiated battery systems competitively produced in Europe.

Due to the level and urgency of investment needed, this cannot be done in a fragmented manner. It needs a **Europe-wide approach**. Considering the fast-changing global competitive landscape, this approach should not focus on a single project or a single technology, but aim to promote and coordinate industry-led projects across the battery supply chain in joint initiatives to bundle expertise and financial resources in this specific area. Any European battery strategy must be about much more than vehicle batteries, given the broad ramifications for the entire European mobility and energy systems, and even beyond those, given the clear implications for the EU's industrial policy and circular economy strategies, as well as for its economic partnerships with third countries, and in particular with Africa where raw materials are concerned.⁴¹

To kick-start concrete projects, the Commission will allocate EUR 200 million directly to batteries research and innovation under Horizon 2020 (Work Programme 2018-2020) on top of the EUR 150 million already allocated. In addition, the European Fund for Strategic Investments, as well as tailor-made financial instruments such as InnovFin Energy Demonstration Projects can provide attractive financing conditions for industrial projects through the European Investment Bank.⁴²

⁴⁰ JRC Science for Policy Support, EU competitiveness in Advanced Li-ion Batteries for E-mobility and Stationary Storage Applications – Opportunities and Actions, September 2017.

⁴¹ COM(2014) 297.

⁴² <http://www.eib.org/products/blending/innovfin/products/energy-demo-projects.htm>

The Commission is working closely with leading EU industry stakeholders, as well as with Member States⁴³ and will return to these issues in the context of the "Industry Days" in February 2018. The EU industry and innovation community will drive this process, working in close partnership with the Commission, the European Investment Bank and interested Member States to establish a competitive and profitable development and manufacturing chain, capture sizeable markets and boost jobs, growth and investment across Europe. In addition, the Commission has various instruments at its disposal to facilitate joint investment and cooperation among private and public actors along the value chain as well as a well-defined State Aid framework to support such actions.⁴⁴

The EU has a large portfolio of instruments, which can be channelled into batteries development. These include the **European Fund for Strategic Investments**, the **European Regional Development Fund** (with EUR 44 billion potentially available for, inter alia, research and innovation in batteries under the smart specialisation strategies developed in EU regions, and EUR 35 billion for energy-efficient and decarbonised transport), and the European Commission will allocate EUR 200 million directly to batteries research and innovation under **Horizon 2020** (2018-2020) in addition to the EUR 150 million already allocated.

5. Conclusions

The second package of proposals under the "Europe on the Move" initiative seeks to ensure that the best low- and zero-emission, connected and automated mobility solutions, equipment and vehicles are developed, offered and manufactured in Europe and that we have the most modern support infrastructure in place. At the same time it contributes to cleaning up the environment for citizens and improving their quality of life, notably through better air quality in cities and by reducing congestion. Measures proposed under this package also contribute to restore consumers trust.

This package thus includes a combination of supply- and demand-oriented measures to put Europe on a path towards low-emission mobility and strengthen the competitiveness of the European automotive and mobility eco-system. The package sets out clear recommendations for Member States to close existing infrastructure gaps and address identified infrastructure needs, as well as outlining action to mobilise finance, where needed, at the EU level. It will thus provide greater policy and regulatory certainty and create a level playing field.

This package also builds on many of the Commission's other strategic work streams, which, among others, aim to increase the installation of recharging facilities in homes, public buildings and car parks⁴⁵, help European businesses and consumers to make the transition to a stronger and more circular economy where resources are used in a more sustainable way⁴⁶, as well as support resilience and competitiveness of labour markets. It is addressed to all Europeans as citizens, workers and consumers. It will boost Europe's competitiveness and lead to tangible improvements, both for the EU's single market, in Member States at national and regional levels, as well as in urban areas.

The Commission calls on all stakeholders to work closely together to ensure the swift adoption and implementation of these different proposals and measures, so that the benefits

⁴³ High-Level Meeting on Battery Development and Production in Europe, 11 October 2017, http://europa.eu/rapid/press-release_STATEMENT-17-3861_en.htm

⁴⁴ Official Journal C 188 of 20.6.2014, p. 4.

⁴⁵ COM(2016) 860.

⁴⁶ https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en

for the EU's industry, businesses, workers and citizens can be maximised and generated as soon as possible.

The Commission will present the third and final "Europe on the Move" package in the first half of 2018. This will include proposals for carbon dioxide emissions standards for lorries, follow-up to the recommendations of the GEAR2030 high-level group⁴⁷ adopted on 18 October 2017, actions in the area of cooperative, connected and automated vehicles and mobility solutions, as well as proposals to facilitate e-documentation for transport and to improve road safety in the EU.

⁴⁷ GEAR2030 report, October 2017.