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A Green Deal
**for a Sustainable &
Competitive Industry**

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A Green Deal for a Sustainable & Competitive Industry

The European Commission will soon be presenting a strategy to put industry in Europe on the path to carbon neutrality by 2050. The Industrial strategy will be realised together with a Circular Economy Action Plan.

Central in this approach is the need to improve the energy efficiency of industrial processes, as a major source of greenhouse gas emissions. In addition, promotion of new value chains and industries will be based on the circular economy principles.

The Action Plan will be integrating the sustainable development strategies in our business models and integrating environmental and social concerns into all aspects of decision-making as well as staying economically healthy and prosperous.

The Green Deal will have to be a growth strategy while reaching climate goals. Its industrial policy will therefore have to allow access to fast-growing markets while safeguarding jobs through innovation and new technologies.

These developments need a governance process that needs to be up to the task: adjustments are to be made to monitor technological and industrial change as well as identify future emerging strategic value chains. This would not only meet the Green Deal goals, but would also make the Union

less dependent on imports, and strengthen its strategic autonomy.

Aside from having a major influence on the developments within in the European industrial playing field, the plans require significant levels of investment. The Sustainable Europe Investment Plan initiative, presented under the Green Deal, is expected to mobilize at least €1 trillion of sustainable investment over the next decade. In addition, the Just Transition Mechanism aims to mobilise at least €100 billion in investments to accommodate such changes and reach climate objectives.

The digitalising our economy is of key importance in order to achieve the much needed industrial transformation. It is estimated that digitalisation has the potential to cut global CO₂ emissions by 20%. We need to leverage the link between digital and circularity, with the use of AI and the European Data Space.

The need for investment in digitalisation is also a clear example of the cross-sectoral aspect of these investments. The use of new technologies in the energy sector, as well as working on so-called "sector coupling" approach to further optimise our energy systems by better integrating renewables into our current energy mix through mobility, transport, industrial processes, and consumption.

The cross-sectorial aspect of it all is also reflected in the EU Circular Economy Action Plan, which aims to make circularity, or a closed-loop economical system, the new norm.

Lastly, energy-intensive industries especially, will need Commission support through extensive safeguards against global competition. Take the proposed carbon border adjustment mechanism, at European borders; This would make it possible to raise the cost of imported products, prevent environmental dumping avoid 'carbon leakage', and encourage our trading partners to align with European standards and norms, or to implement carbon pricing in their countries.

This issue of The European Files encourages the EU to take a comprehensive approach and engage each sector of the economy as an opportunity for growth under this new economic model. It is up to Europe to lead the necessary negotiations to create a greener world. An ambitious Green Deal trade policy will help internationalise EU standards and regulations to influence production and investment patterns worldwide. We have the opportunity to meet the challenge of a new industrial approach based on resource efficiency, circularity and innovation while being competitive and low carbon; We can no longer afford to waste this chance.

Editor-in-Chief
LAURENT ULMANN

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THIERRY BRETON

*Commissioner for Internal Market,
European Commission*

The European sustainable industry strategy aims for low carbon technological sovereignty

As the most important industrial continent in the world, Europe has great responsibilities in leading the way. We have set a clear ambition: to become the first climate neutral economy by 2050. President von der Leyen has made this the central pillar of this Commission's political priorities, since an ambitious industrial policy is a prerequisite for the successful transition towards a climate-neutral economy.

Our vision is of a competitive and sustainable EU industry that contributes to the strategic autonomy of the EU. One that is firmly rooted in the European social model, and makes the most of its strengths while seizing new opportunities and tackling the "twin transitions" that are the Green Deal and digitalisation. Industry will play a central role in leading this dual transformation. As the Commissioner for Industry, one of my main tasks in this mandate is to support the green transformation of our industry, ensure it continues to prosper and deliver benefits for Europe and its citizens.

To translate this ambition into concrete actions, my teams and I have been fully mobilized during the 100 days of the von der Leyen Commission to present a new European Industrial Strategy taking into account this twin transition, together with geostrategic challenges underlined by the outbreak of Coronavirus. This strategy puts the importance of sustainable transformation right at the very centre, also because it can maintain Europe's strategic autonomy in the context of global action.

Of course, this is an incredible challenge. Transforming our industrial base on this scale requires a generation – 25 years – and consistent efforts by all industrial actors and different government levels. Together we will

ensure that this base is globally integrated, sustainable and competitive.

We have little time to prepare this transition and set it on the right track - but we will make it together by starting now because this challenge is also an incredible opportunity. We will seize it to ensure that our industries become world leaders in green technologies and reap the benefits of being the first-movers and early adopters.

Digitalisation is a key enabler of circular economy and the shift towards climate neutrality. The good news today is that we are ahead of global competitors when it comes to patents, clean technology and the regulatory framework.

But while Europe leads in increased resource and material efficiency, at the same time China and India produce carbon-intensive products for consumption by Americans and Europeans. Global as well as internal market aspects impose upon us to get better at scale-up and investment in low carbon technology.

Our European efforts must surpass so called "carbon leakage" which could lead to relocation of companies to places with lesser climate protection. The pathways we choose to decarbonise our production and consumption patterns will be compatible with WTO commitments with international partners.

As an example of the actions that the Commission is taking, a highly sensitive and strategic point is that European value chains are vastly dependent on foreign suppliers of critical raw materials, and manufacturing industries are facing strong competition from fast-growing economies on the global raw materials markets.

That means that we have to ensure strategic autonomy - access to sustainable raw materials - such as rare earths or cobalt that are crucial for the future of the EU industrial value chains, particularly e-mobility, batteries, renewable energies, aerospace, defence and other digital applications. Improving the diversification of raw materials' sourcing and good circular economy practices that result in higher recycling rates could both help to reduce our dependencies.

This challenge is recognised in the EU Industrial Strategy, which in addition to horizontal measures to create favourable framework conditions, provides more targeted strategic actions along value chains.

In order to remain globally competitive in key technologies and strategic value chains, the EU will encourage more risk-taking and step up investment in research and innovation.

By announcing a new alliance on clean hydrogen together with our new industrial strategy, we have set the pace, allowing Member States and companies of all sizes to partner.

We have a strong existing industrial base, talents, and most crucially, sufficient political will to make it happen.

Europe has a potentially unique leadership role to play globally as a climate neutral market: low carbon technology that results in circular products and services is the way to get there.

Climate neutral and green Europe has no alternative

As reports and scientific studies show, we are getting critically closer to a tipping point. Response to climate change, biodiversity loss and environmental degradation and its health risks requires urgent action. This response implies a radical transformation of the EU economy, with a just and prosperous society, representing a completely new paradigm.

Although the first Croatian presidency of the Council comes in the period of the global uncertainty, we see this as an opportunity for further connectedness and unity of the European Union.

Considering the developments in today's world and in line with the New Strategic Agenda, the Croatian presidency has defined four main priorities: *A Europe that develops, A Europe that connects, A Europe that protects and An influential Europe.*

Our plan is to keep climate and environmental objectives high on the EU agenda. During the Croatian Presidency, we have initiated discussions to ensure a Council contribution or concrete response. This refers especially to Climate Law, Biodiversity strategy and Action plan for circular economy. The Presidency will continue the work on implementing the Paris agreement objectives and promoting a global role of the EU as the leader in low-carbon transition.

The year 2020 should be a turning point for biodiversity. Our objective is to give a momentum for the EU's global leadership aimed at halting biodiversity loss. Therefore, we will work on Council Conclusions on the EU Biodiversity Strategy for 2030, in order to facilitate discussions in the EU and at international fora and contribute to the preparation of the EU mandate for the biodiversity COP15 in China.

In addition, we will continue discussions on reinforced protection of the marine environment from pollution in the context of the transition to a circular economy. Our focus will be on a future revision of the Packaging waste directive, further modalities for marine

litter prevention as well as the post-2020 implementation of the Marine Strategy Framework Directive.

Moreover, our intention is to ensure policy guidelines of the Council to emphasize the importance of synergies and coherence of air quality policy with other sectoral policies, while avoiding trade-offs, and the need to ensure that new sectoral initiatives under the Green Deal reflect the air quality objectives.

The Croatian Presidency will support a balanced, sustainable and inclusive development of the Union that takes into account the specifics and needs of all Member States. We will encourage policies that strengthen infrastructural connectivity of the Union and bring its citizens together.

Our priority is the credible and effective EU neighbourhood policy, therefore, we will engage with the Western Balkan countries in discussions to improve the implementation of EU environmental *acquis* in line with the Green Agenda for the Western Balkans, as envisaged in the European Green Deal.

Moreover, the Croatian Presidency will strive for keeping the EU's leading role on a global scale by promoting European values and interests. This concerns primarily the EU's ambition to achieve climate neutrality by 2050 and set an example for the rest of the world. In this respect, we will put all our efforts to advance work on Climate Law and will do our best to ensure that the Council submits the EU long-term strategy on greenhouse gas emission reductions to the UNFCCC. As achieving climate neutrality entails significant financial resources, we will facilitate discussions on financial challenges of the low carbon transition.

The ambition on building a climate neutral and green Europe requires a genuine transition in all sectors, including the energy sector. Through the priority *A Europe that connects*, we will encourage the further integration of the energy market. We plan to focus on strengthening the process of energy security through infrastructure and



TOMISLAV ČORIĆ

Minister of Environment and Energy

diversification, including renewable and low-carbon energy sources.

The promotion of the role that islands have in the clean energy transition will also be emphasized during Croatian Presidency. We intend to focus on the future Framework, Memorandum of Understanding, based on the Valletta Declaration of Clean Energy for EU Islands.

As Presidency we support the vision of the European Green Deal. However, we need to carefully evaluate the proposed objectives and measures, taking into account the different circumstances and varying starting points of Member States. It is absolutely crucial that the EU reaches its ambitious energy and climate targets for 2030, in order to progress on decarbonisation and to make the EU less dependent on energy imports. Progress can be also achieved through sector integration by looking at our energy system holistically, while creating the stronger links between the electricity, gas, buildings, transport and industry. In Croatia, we see decarbonisation as an opportunity for our economy and its growth through advanced technologies and innovative policies and a chance to catch up with stronger economies, so we intend to use it.

We especially welcome the path set by the Green Deal for mobilizing the EU industry towards achieving a fully circular and climate neutral economy.

Indeed, this is a great challenge that will require significant investments and additional financing, but climate neutral and green Europe has no alternative.



PETER ALTMAIER

*German's Federal Minister
for Economic Affairs and Energy.*

The implementation of a strategy to decarbonise the economy

The new year has begun with good news: greenhouse gas emissions in Germany have plummeted, with the energy sector alone cutting around 50 million tonnes of CO₂. The carbon price, which Germany has now extended to the heating and transport sectors, will speed up this process. Our target of reducing domestic emissions in 2020 by 40 per cent over 1990 is thus within reach. Meanwhile, renewable energy accounted for an encouraging 43 per cent of electricity consumption in 2019, and German power plants generated far less electricity from coal. All of this shows that our climate change mitigation policies are working.

However, when taking decisions on energy policy, we have to make sure costs will not spiral out of control and there is broad public acceptance. That is why, in the context of the German EU Council Presidency in the second half of the year, we will seek to secure political backing from the EU for the transformation processes taking place across the continent. The opportunities offered by the energy transition have already been highlighted by the European Commission in its European Green Deal.

The EU's target of achieving climate neutrality by 2050 is certainly very ambitious. Business is facing a simultaneous rise in investment, production, transport and energy costs. This is why there are considerable risks with regard to carbon leakage and the loss of market shares in international competition. We must find answers to this problem before enshrining the climate target in law.

Energy-intensive industries will be particularly affected by the transformations entailed in the European Green Deal. I advocate far-reaching protection against carbon leakage, not only as regards direct emissions, but also indirect emissions that are due to electricity consumption. All

energy-intensive industries facing international competition should continue to enjoy comprehensive protection after 2020. The deliberations of the European Commission concerning the establishment of a "Carbon Border Adjustment Mechanism (CBA)" raise a lot of legal and administrative questions. It is also still unclear how the new mechanism would relate to existing carbon leakage instruments that have proven successful and should be continued.

One of our tasks for the coming years is to strengthen cooperation both within Europe and internationally. We are, after all, unable to achieve the decarbonisation of our economy with German wind and solar power alone. On the one hand, there is a lack of eligible land for these types of electricity generation. On the other, the manufacturing, heating and transport sectors also require green and synthetic fuels. These can be

more cheaply produced in areas outside Germany, such as in sunny North Africa or the windswept North Sea.

The way I see it, the Green Deal is a growth strategy for our economy that will allow us to access fast-growing markets and safeguard jobs with the help of innovations and new clean technologies. We need to reconcile economic growth with ecological considerations. Wherever possible, we ought to face increasing complexity by relying more on competition and the market. We ought to create an environment in which the best technologies and innovations can thrive. This will give us an edge in research and development while making the EU fit for the future. Possibly, other countries will follow suit and replicate our approach to the energy transition. This would deliver the greatest benefit in terms of global climate action.





KATRI KULMUNI

Finance Minister and Deputy Prime Minister of Finland

Green taxes and just transition

Right now, we are all concerned with the COVID-19 pandemic. Our decision-making is focused on coping with this acute stage of crisis and building bridges to reach the other side. However, many important issues are waiting for solutions, and we must return to them once we have overcome this crisis. One of these issues is combating climate change in a manner that is just and equal.

As we are well aware, in addition to purely fiscal objectives, taxes and taxation systems can have other aims as well, such as promoting certain activities, directing consumption or reducing harm. In fact, taxation is often an attractive way for politicians to achieve different objectives.

Finland introduced the energy tax model ten years ago to respond to the problems caused by emissions. In this model, taxation is based on both the energy content of the product and its carbon dioxide emissions. The objective of the energy content component is to promote energy efficiency and preserve energy and natural resources, whereas the carbon dioxide component aims to take into account the life cycle emissions. In addition, local emissions that are harmful to health are included in taxation. In my view, calling Finland's energy tax structure among the most modern in the world is not an exaggeration.

In addition to energy taxation, also our car registration tax and annual vehicle tax are based on carbon dioxide emissions of the vehicle. For example, the car tax payable in connection with registration of a vehicle is 2.7 % for electric cars and 50 % for the most polluting cars.

Although Finland's energy tax system is a pioneer in many respects, the debate on climate change is putting further pressure

on the system. We have therefore decided to abolish the system of energy tax refund to industry and, correspondingly, to lower the electricity tax on industry to the EU minimum level. This will benefit climate, because electricity is mainly emission-free, whereas the energy tax refund also applies to fossil fuels.

Finland has taxed carbon dioxide extensively as part of its tax system for a decade now. This experience shows that taxing carbon dioxide alone is not enough to combat climate change. One of the main reasons for this is the unfeasibility of sudden and substantial tax raises. Such a measure would put both citizens and businesses in a very difficult situation.

For example, high taxes on transport fuels leads to unequal treatment of those citizens who do not have access to public transport and for whom car is indispensable. Moreover, a sudden tax increase would cause substantial additional expenses for transportation. If there is no alternative, an environmental protection tax only serves as a measure of fiscal policy, in fact. While clean technologies reduces emissions taxes serve more a fiscal purpose.

For me, regional and social equality is a key principle in the fight against climate change. For this combat to be effective, I believe that the means must be broadly seen to be just and equal. This is the only way for us to gain legitimacy from citizens to act in this matter. At the same time, we can prevent the growth of populist forces. One of Finland's main contribution globally to solve the climate issue will be the export of high technology and Finnish forest expertise, in particular. We must be effective, but also attentive.

In addition to the equality problems that the environmental protection taxes cause, they also pose a challenge for public finances. This is because collecting such taxes gradually eats away at the tax base. Thus, from the viewpoint of public finances, environmental protection taxes are considered more medium-term and transitional instruments rather than long-term stable tax revenue accumulators.

Tax shift, which will first focus on environmental protection taxes and subsequently on other tax bases, is particularly important for the predictability of business activities. When companies invest in renewable energy and clean alternatives, they must be able to rely on the continuity of the taxation system. In order to ensure the predictability of business activities and investments, a comprehensive debate on how the tax system should be developed beyond the environmental protection taxes is therefore necessary.

We have started to prepare for a debate about the long-term shift in the focus of taxation by drawing up different road maps. At the moment, we are working on a so-called road map for sustainable taxation, which will include various tax measures. The roadmap consists of energy taxation reform, a road map for transport taxation beyond the current government period, promotion of circular economy through taxation, and a report on how emissions by different products could be defined for tax purposes. Our work is only just beginning, so we will have more to tell in a few years' time.

One problem Finland has faced is the amount of faith we put in the effectiveness of a single measure. Various kinds and types of taxes are examined individually in different projects, but their effects are not assessed as a whole. In order for taxation to have a more significant impact, it is essential to consider taxes as a part of the big picture.

In fact, one of the most important effects of taxation is not necessarily its mechanical functioning but its political signal effect. As a part of a whole, taxation can achieve significant results.

As decision makers we must make meaningful decisions to combat climate change. However, they must be made in close cooperation with businesses and citizens. Tax shift is a continuous development that must be based on a fair and predictable transition.

Accelerate the development and financing of electromobility and energy storage in Poland



MICHAŁ KURTYKA

Polish Minister for Climate

The role of the green industrial strategy is to clarify direction and stimulate political, social and economic actors to implement its assumptions, while creating the right conditions and tools for participants of the transformation. As a rule, development support consists of financial incentives, targeted subsidies, facilitation and deregulation. Financial support always constitutes a certain disruption of the market and therefore must be strongly correlated with the planned effect to achieve the goal at the lowest cost of public finances and in addition as soon as possible.

The intensity and form of support also depend on the degree of development of the given technology. Those at the beginning of development require support in the area of research and development, mature technologies - market support, especially shaping demand. Mature market technologies - incentives in the form of facilitation and deregulation. Rational planning is necessary for development tools to be effective. Too strong support for already market-independent technologies can be harmful by disturbing the market balance. Many countries have experienced this, if only through the uneven development of some RES technologies. Such 'over-support' also inhibits cost optimization processes or technological development.

In turn - too weak support will not provide the desired technological growth in the selected area. There is also no economies of scale then, thus it is necessary to increase the value of support and extend its duration. As a result, the total cost of bringing technology to maturity becomes significantly higher than with optimal support. Furthermore, when supporting individual technologies, two aspects should be taken into account - the stage of development in achieving market maturity and the impact of a given technology on the environment. Many analyzes show that two

technologies are already a functioning game changer in the energy sector. In addition, both are sufficiently technically mature and at the same time their potential impact on climate and the environment is very significant.

These two technologies are electromobility and energy storage. It is not necessary to prove how strongly emissions, especially in cities, affect air quality. For Poland, the issue of air quality is also a matter of life quality and health conditions of many thousands of inhabitants. Without the elimination of smog, even the best climate programs will not gain widespread public acceptance and their effect, being distant in time - will be rejected. On the other hand, energy storage, which is strongly correlated with electromobility - is a condition for the modernization of the power system, openness to natural, strong RES development and energy security. It is worth emphasizing that this applies especially to areas with poorer access to energy, weaker networks, rural areas, where disasters in the form of floods or hurricanes - cause long-term power cuts and, consequently, huge material losses. Hence the indication of these technologies (along with accompanying ones - such as connectivity and digitalization, network control, network expansion, etc.) as areas that should be subject to accelerated development.

Considering the electromobility, the implementation of the primary environmental goal, which we consider the most urgent - is the electrification of public transport (including shared), hence the greatest emphasis is placed on this direction of development. In parallel - an infrastructure is being created for private transport (charging systems, energy management systems) and support for electric car buyers for private use. One should not forget about parking facilities or the use of bus lanes. Until the market reaches critical mass - this is the basic scope. The development of electromobility is associated with

the entire energy transformation, including the prosumer movement or energy storage.

The development of energy storage technology is one of the transformation priorities, due to the increase in the number of renewable energy sources in the system as well as changes in the consumption model, generating the need to change the way of managing of the power system. Support for the development of new technologies goes, as a rule, in two correlated directions - on the one hand, it is research and development together with technology implementations, on the other - support for their users. In each case, it is necessary to remember about the need to develop infrastructure for new technologies and regulations supporting their use.

In the field of electromobility, the need to accelerate activities arises not only from the assumptions made in the European Green Deal, but also from the strong threat to the environment through contaminated air and the impact of this fact on health. In addition, electromobility is one of the tasks under the REDII directive in the area of transport, where the 14% renewable energy target for 2030 is significantly above technological and economic capabilities for the simple development of existing technologies.

There is very little time to achieve climate and environmental goals. In this perspective, it is necessary to make a technological change, changes in the behavior of citizens and in public awareness. This time is also measured by the health and comfort of the people. It is necessary to focus efforts on the development of these technologies that can become a factor in changing the living environment as well as accelerating the entire energy transformation process.

How EU trade policy can enhance climate action



PHIL HOGAN

*Commissioner for Trade,
European Commission*

In today's world, EU trade policy is about much more than trade; it is a vehicle for promoting our values and standards around the world.

Europe is the global leader in climate action and all our policies, including those on international trade and investment, have a part to play.

The EU has been instrumental in the negotiation and entry into force of the Paris Agreement; we are a driving force behind worldwide implementation of the COP21 targets; and our ambition has now been turbo-charged by President von der Leyen's flagship initiative, the European Green Deal.

Our target is to be the first climate neutral continent by 2050. Meeting this objective will require nothing less than a transformation of the EU economy, necessitating deep changes to our energy mix, mobility and transport, industrial processes and consumption. All EU policies and actions should pull together to help the EU achieve a successful and just transition towards a sustainable future, ensuring that EU initiatives 'do no harm'.

Trade policy can make a vital contribution to the European Green Deal in a number of ways:

Firstly, our trade policy helps to diffuse green investment and technologies (goods and services) necessary for the transition to a carbon-neutral economy. As green trade increases and environmental goods are sold around the world, we will help others to use less energy and lower their emissions. Trade policy contributes to internationalising EU standards and regulations, shaping production and investment patterns worldwide, such as energy efficiency rules and labelling, green investment frameworks or carbon pricing methodology.

This also has indirect positive spill-overs on the climate mitigation efforts such as encouraging innovation, spurring investment in low-carbon technologies in other countries, and lowering the costs of environmental technologies and skills throughout the global economy.

This is important in a world where Europe accounts for less than 9% of global greenhouse gas emissions.

We have also been "greening" our trade agreements more generally, through, inter alia: tackling non-tariff barriers affecting the green renewable energy sector (trade and investment) in our chapters on energy and raw materials; provisions on green public procurement; and the elimination of tariffs for green goods. On the latter point we have strived for systematic "frontloading" of green goods including climate friendly technologies (such as renewable energy, heat and energy management) which means that the tariffs are immediately eliminated for these goods with no transition periods.

This leads on to the **second important point**: climate and environment priorities feature prominently in the dedicated Trade and Sustainable Development Chapters of our comprehensive trade agreements. These include legally binding commitments to effectively implement the Paris Agreement, and other climate-relevant Multilateral Environmental Agreements, including the Montreal Protocol on Substances that Deplete the Ozone Layer.

This means that trade policy contributes to the Green Deal by leveraging access to the Single Market to encourage our partners to increase their climate ambition. For example, Brazil agreed to bind its commitments under the Paris Agreement in the Mercosur agreement – which is all the more remarkable given that there was a risk of Brazil going in the opposite direction, and exiting the Paris Agreement.

While these are important elements, the Commission now propose that we go even further in future agreements, tying in respect for the Paris Climate Agreement as an essential element of our international agreements.

In that same context - and to ensure that our trade agreements are consistent with our climate, environment and sustainable development objectives - we conduct for each a Sustainability Impact Assessment. This helps us analyse the climate impact of our trade policy and provides real tools for further action where necessary.

Of course, agreements are only as strong as their implementation. To ensure that we are walking the walk as well as talking the talk, we need to strengthen the implementation

and enforcement of climate, environmental and labour provisions enshrined in our trade agreements. That is why we are appointing a Chief Trade Enforcement Officer later this year.

Finally, trade policy may be called upon to ensure the efficiency of our climate policy. Climate change is a global challenge that requires a global response. If, however, differences in the levels of ambition persist worldwide while the EU increases its climate ambition, the Commission will propose a carbon border adjustment mechanism for selected sectors to reduce the risk of carbon leakage. This would ensure that the price of imports reflect more accurately their carbon content. Before any proposal is made, all measures will first have to be carefully assessed in terms of economic efficiency, environmental, social and financial impacts and legal feasibility, in particular with respect to WTO rules and other international commitments, and of complementarity and possible interaction with the Emission Trading System. Designing a WTO-compatible measure will be challenging, but it is crucially important if we are to succeed in our ambitions. We intend to make a proposal in 2021.

New policies will of course be compatible with our international obligations, including those under the World Trade Organisation and our trade deals. The European Green Deal can only succeed if we bring others with us. This means working with our partners around the world to design global solutions.

In summary, when it comes to the climate agenda and the Green Deal in particular, trade policy can make a real positive difference. We have a lot of work ahead of us, with many different options on the table, and we need to make the right choices to build a values-driven, sustainable trade policy that drives a positive climate agenda both at home and abroad.



GABRIELE GALATERI DI GENOLA

Chairman, Generali Group

The Commission's work programme on fighting climate change should resume, in parallel to the necessary crisis contingency measures that continue to be adopted in addressing the impacts of Covid-19. We believe it is particularly important to continue to flesh out the European Green Deal. Generali believes that sustainability is not only an ethical obligation but also a necessary strategic way to approach business.

At Generali we think that, as an insurer, we should "Enable people to shape a safer future by caring for their lives and dreams". It is no longer and not only about selling policies, but rather about becoming a life-time partner by creating a vision of the future and standing by people in the most important moments of their life. It is, again, about protecting and enhancing the value we give to everything we care for with a long-term vision. This dramatic switch in our way of thinking about our business allows us to really understand the needs of our stakeholders, to connect more deeply with our customers' needs and meet the fast-changing demands of society.

To create this shared value over time for all our stakeholders, we decided to start rethinking our business by understanding, forecasting and managing the huge global challenges we have in front of us today. The Global Risk Report, just published by the World Economic Forum, underlines that "climate change is striking harder and more rapidly than expected, and climate-related issues dominate all the top-five long-term risk in terms of likelihood". Geopolitical instability is rising due to terrorism, trade wars, conflicts in the Middle East and northeast Asia, causing an economic impact on the global economy calculated to \$14.1 trillion in 2018. Aging has become a global phenomenon: in 2050 one in six people in the world will be aged 65 years or over. Financial volatility and the fast spread

The sustainable purpose of insurance

of technology are completing this complex scenario. In this environment, the insurance industry is a resilient presence in the global economy, and continues to guarantee the growth, development and welfare of modern societies. Generali has identified these global challenges, as megatrends that, in the long-term, bring the biggest risks and opportunities to the Group and to our stakeholders as one of the most important steps in our sustainability journey. In 2019, we engaged in a wide process to set these priorities, involving many stakeholders, both internal and external, combining their views, and getting the final approval from our Board.

As Chairman of Generali, I'm proud to say that we have set up a governance, management and reporting system, which ensures alignment with our sustainable business transformation and the practical integration of sustainability into day-to-day decision-making: a Governance and Sustainability Committee has been included in the Board of Directors and a Sustainability Committee has been set up in the top management. A set of policies and guidelines, such as the recent Group Sustainability Policy, the Remuneration Policy, the Responsible Investment Guideline and the Responsible Underwriting Group Guideline, drive our business while we transparently account for our non-financial performance through our Group Annual Integrated Report.

As part of our sustainable business transformation, in the new Generali 2021 strategy, inspired by our ambition to be a life-time partner, we commit to increasing the premiums deriving from green and social products by 7-9% and to allocate €4.5 billion to green and sustainable investments. Our sustainability commitment is an enabler of our strategy and it is about creating long-lasting value shared among a wide array of stakeholders. We follow and support the Sustainable Development Goals of the United Nations (2015). The Goals are the blueprint to achieve a better and more sustainable future for all, facing 17 global challenges to be reached by 2030. Generali plans to achieve some of these Goals through the best

innovations that the insurance sector can offer. To "take urgent measures to combat climate change and its consequences", the Board of Directors of Generali approved on 21 February 2018 the Strategy on climate change which envisages specific actions on investments and underwriting and identifies in the dialogue and involvement of our interlocutors the tool to encourage the transition towards a low environmental impact company. We are helping to "make cities and human settlements inclusive, safe, long-lasting and sustainable" with the pan-European platform for integrated mobility. In order to "Build a resilient infrastructure promoting innovation and fostering innovation" we can mention the platforms which digitalize the relationship between agents and customers to manage policies remotely, or the extension of advanced data analysis and machine learning programs within the Group's processes to optimize the estimation of risks and rates, and facilitate the identification of fraud. With Generali Vitality, the innovative health and wellness programme that works with biometric data designed to encourage and reward healthy behaviour for customers seeking a healthier lifestyle, we address the Goal of "Ensuring healthy lives and promoting the well-being for all ages". We will invest 1 billion euro by 2021 in innovation and digital transformation to personalise the insurance offer and create a life-time partnership with our clients.

Generali contributes to economic and social progress not only by running a sustainable business. Generali implements sustainability by living in the community, playing an active role where it operates, and going beyond day-to-day activities. Generali's sustainability domain incorporates one of the most innovative projects of the last few years: The Human Safety Net. This initiative takes a pragmatic approach to some of the challenges in the communities we live in, specifically in the most fragile social context. In this way, with strong, complete and long-term commitment to sustainability, we are not only running a business but we are contributing to guarantee a fairer world to future generations.

**WERNER HOYER**

President of the European Investment Bank (EIB)

**AMBROISE FAYOLLE**

Vice President for innovation and development (EIB)

Investing in the transformation to a modern and low-carbon economy



The transition to a modern, low-carbon economy will require big investments in innovation – in the creation, development and implementation of new products, processes and services. We also must improve efficiency, effectiveness and our competitive advantages. We see creativity as the ability to come up with valuable ideas in any activity, any sector, any part of the value chain and in any location. At the European Investment Bank, innovation is the process of transforming these ideas into a commercial product that helps people, businesses and our planet. **Investing in the creation of ideas and translating them into positive values – or zero-carbon values – is a top priority at the EIB.**

A zero-carbon society

Our long-term vision is to create a climate-neutral society by 2050. The public sector is making a great push to turn the power industry green, but to meet the objectives of the Paris Agreement and keep global warming well below 2 degrees Celsius while pursuing efforts to limit the temperature increase to 1.5 degrees, we need to place more attention on changing transport and other industries, particularly in areas where it is difficult to stop burning fossil fuels and switch to clean energy.

Kicking the oil habit

Why are certain sectors so difficult to change? One word: oil. This is one of the most valuable resources on earth, intrinsically tied to growth, consumption and wealth. Crude oil has become vital to our modern existence: petrol for cars, diesel for trucks and jet fuel to propel aircraft. The world runs on oil. The transport sector emits about 25% of total greenhouse gases in Europe and is one of the oil industry's biggest customers. Road vehicles account for more than 40% of global oil consumption. Add aircraft, ships and trains,

and this percentage rises to 60%. Many other parts of our lives rely on oil: plastic packaging, clothing, medical equipment, mattresses, coatings for television screens, paint, nail polish and washing detergent. This is not sustainable. **It is time to kick our oil habit, to let the economy flourish while respecting the limits of the planet.**

While the EU has been working hard to make the economy less reliant on oil and to reduce CO₂ emissions since the turn of the millennium, we are now seeing the first signs of the decoupling from oil at a global level. Global CO₂ emissions from energy use, which make up the largest portion of greenhouse gases by far, remained flat at 33 gigatons in 2019, while the world economy expanded by almost 3%. This is instilling hope. The world is waking up, realising that the climate emergency is real. To have a 50% chance of reaching the 1.5 degrees target, we must emit fewer than 580 gigatons of CO₂. That is our carbon budget – forever. At current rates, the budget will be exhausted in about 15 years. **Emissions need to fall. Fast.**

Climate leadership: Businesses must do more

Pledges to reach net-zero emissions are becoming fashionable, ranging from tech champions such as Microsoft and SAP to industrial giants such as ArcelorMittal, Unilever and AstraZeneca. Even BP – one of the world's largest oil and gas companies – has made it clear on this goal: "The direction is set. We are heading for net zero. There is no turning back," the company's chief executive said. **The details may be lacking, but the green movement is here.**

The keys to success will be combining business leadership and ambitious public policies. By setting policies and targets in line

with a carbon-neutral society, governments give businesses the clarity and confidence to invest decisively in the transition to green energy. For example, in the road transport sector, stringent CO₂ emission regulations in the EU are forcing automakers to develop vehicles that emit less carbon and to encourage the purchase of zero- and low-emission vehicles. The number of hybrid and electric vehicle models is rising and prices are dropping. Electric car use is expanding rapidly, from below 0.1% of total EU new car sales in 2011 to 2% in 2018. For passenger cars, technologies are advancing quickly and we can get a glimpse of a fossil fuel-free future for vehicles. However, most other sectors are only at the demonstration phases, involving first-of-a-kind pilot products at best. We need to speed up and broaden such products. **We also need a deep transformation in production and consumption models.** This transformation is only possible with innovation and the broad application of emerging technologies and digital technologies.

Industrial decarbonisation

The industrial sector, especially the part that uses a lot of energy, constitutes the building blocks of our economy. This includes strategic sectors such as steel, cement, plastics and ammonia. These sectors are crucial suppliers for many other sectors. However, they also emit large amounts of greenhouse gases. These four industries are responsible for 14% of the EU's total CO₂ emissions. Globally, this figure reaches 20%. **To achieve our climate goals, industries that use a lot of energy need to significantly reduce their carbon emissions.**

Recent research shows that achieving net-zero emissions by 2050 from EU industries that use a lot of energy is becoming possible. In some cases, solutions

are technically viable, but the economic challenges are daunting. This change will require significant investment and radical changes in value chains and business models. High capital costs, a lack of incentives or revenue models, long payback times and high risks are just some of the factors restricting financing in the switch to green energy. In other cases, the necessary technologies are not here yet.

Reducing carbon emissions in the industrial sector will require substantial research, development and innovation. It will require innovative, low-carbon production processes, significant investment in industrial equipment and changes in the energy supply system. In short, we need a completely new, greener industrial ecosystem. The global emission equation will not be easy to solve. Cutting emissions is an expensive and inconvenient burden that will mostly help people in other locations or in future generations. The benefits will accumulate over decades and centuries, but the costs must be paid now. This long-term horizon poses financial challenges and calls for long-term investors.

We need more low-carbon research and innovation

To make low-carbon technologies economically viable and to bring new technologies to the market, we need to mobilise efforts and increase research, development and innovation. We are far away from the EU's target to spend at least 3% of gross domestic product on research and development,

leaving an annual investment gap of roughly €110 billion. Climate-related R&D does not even reach 0.04% of GDP. **We need to step up our efforts and place low-carbon solutions at the heart of our investments.**

We need to act now for three main reasons. First, the energy sector is complex and rather inflexible. Infrastructure and regulatory changes take decades to implement. Today's decisions will shape our energy systems for years to come. The technical life of industrial projects can be up to half a century. Upgrading or replacing such facilities requires planning and investments well in advance. Secondly, global competition is rising. Finally, the remaining global carbon budget is dwindling.

Encouraging experimentation

The notion of "not putting all eggs in one basket" fits well when we speak of low-carbon innovation. We cannot lock ourselves into one path. We have to pursue many solutions and technologies. For every failure, a success comes closer. Even small successes, leading to small reductions of emissions, are still successes. It is hard to say how a new technology will help us in the future or how it will evolve. **Betting on research, development and innovation to create a modern, low-carbon economy is the best bet we can place.** We need to put our money to work here.

Climate is part of everything we do

At the EIB, we will no longer finance traditional fossil fuel energy projects after 2021.

This means more money will be directed toward innovative green energy projects such as a floating wind farm in Portugal or one of the world's most advanced battery factories in Sweden. The green project is a great opportunity to improve European society and foster economic growth. We want to support the goals of all EU countries to accelerate their transition to clean energy. We are supporting the European Commission's European Green Deal to be at the forefront of carbon-emission reductions and the creation of new, green industries and companies. **As the EU's climate bank, our mission is to play a leading role in mobilising the finance needed to meet the Paris Agreement's goals** and support the transition to an environmentally friendly economy that is resilient to climate change.

We are already starting to fulfil our promises. In 2019, the EIB exceeded its target for climate action for the 10th year in a row, providing €19.3 billion to fight climate change. That is 31% of our total financing. This is great, but not enough. We aim to increase our work in climate action and environmental sustainability to 50% of total financing by 2025. In addition, by working with the public and private sectors, we plan to mobilise more than €1 trillion in climate action and environmental sustainability investment over the next 10 years. And we will make sure all our activities meet the Paris Agreement's guidelines by the end of this year. **There is a climate emergency – and we are ready to tackle it.**



What are the **strategic value** chains for Europe?



CHRISTOPHE GRUDLER

MEP (Renew Europe Group),
Member of the ITRE Committee

The identification of strategic value chains is an excellent initiative of the European Union. It aims to support the emergence of European industrial leaders capable of ensuring Europe's strategic autonomy.

European industry employs 32 million people in Europe and accounts for more than 2/3 of our exports. However, in recent years, despite its essential nature for our autonomy, it has been neglected and is now in decline. Its share of European GDP has fallen from 20% twenty years ago to 16% today.

In this changing world with the digital transition, the environmental transition and the new phase of globalisation, European industry must be able to adapt and modernise if it is to stay ahead of the game. That is why we need to develop relevant policies at European level for our industry. By jointly investing in Europe's industrial strengths and assets, the EU can maintain its leading position in many sectors and face global competition.

So far, nine strategic value chains have been identified at EU level: Microelectronics, High Performance Computing, Batteries, Connected and Autonomous Vehicles, Cybersecurity, Personalised Medicine and Health, Low Carbon Industry, Hydrogen and the Internet of Things. Priority was given to areas related to improving global productivity, combating climate change and technological development.

These 9 priority areas, on which all our efforts must be focused as a matter of priority, are the subject of a strategic action plan and coordinated mobilisation of funding.

These innovative research projects sometimes involve high risks. They require joint and well-coordinated efforts as well as public and industrial investment from several Member States. This is why the EU has put in place flexible state aid rules to facilitate the funding of these projects.

The Strategic Forum for Important Projects of Common European Interest (IPCEIs) is responsible for providing the Commission with advice and expertise to build a common EU vision on key value chains for Europe and

to facilitate agreements to drive forward new joint investments in these key value chains. It contributes to cooperation and coordination between public authorities and key stakeholders in several Member States.

Take the example of batteries. Battery production in Europe has been identified as a strategic sector given its potential for clean mobility and energy, job creation (2-3 million jobs) and competitiveness. It is clear that the demand for electric batteries is expected to increase very rapidly in the coming years, yet the European industry in this sector is lagging behind, particularly in relation to China.

A European consortium for electric batteries has been set up to keep all the value in Europe and bring together all the players in the value chain, from extraction to recycling, waiting for tomorrow's new generation batteries (solid state batteries, sodium ion) that are fully in line with the circular economy. An action plan has been drawn up containing targeted measures for research and innovation, financing and investment, standardisation, regulation, raw materials, trade and skills development. In view of the significant technological and financial risks involved, the Airbus battery project has been authorised to receive public aid from seven States amounting to €3.2 billion, aid which is expected to generate an additional €5 billion in private investment.

This is a great victory, but I believe that the existing framework on IPCEIs should be reviewed in order to improve the efficiency of the procedures, particularly with regard to approval deadlines, co-financing by European instruments, access for SMEs, notification procedures and notification provisions for reference amounts. The work must continue, we must ensure mapping and the development of the necessary skills across the value chains. We also need to put in place a governance process to monitor progress on these value chains, track technological and industrial changes, and identify future emerging strategic value chains, such as artificial intelligence and satellite technologies.

While being an effective tool, the identification of strategic value chains cannot be sufficient to ensure EU competitiveness. In addition to industrial policies, we also need to mobilise policies related to competitiveness.

The future EU industrial strategy must be ambitious and take all these aspects into account. "It's time to put an end to naïve Europe," says Single Market Commissioner Thierry Breton. We must indeed take into account the global dimension of markets and public support for non-European companies in their countries. Europe is not demanding enough of foreign investment. State subsidies received by Chinese companies, for example, distort competition on the world market. We need to strengthen the rules of free trade agreements in order to limit subsidies and anti-competitive practices from third countries, which can harm European companies.

2020 will be a trial year for a greener and fairer Europe

Green New Deal intergroup



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Ursula von der Leyen announced that she would make climate policy the trademark of the new European Commission. When unveiling her long-awaited European Green Deal on December 11, she recalled that climate change was an existential issue for Europe and the world and that it demanded for environmental policy to become the flagship program of Europe. In its communication on the Annual Sustainable Growth Strategy 2020, the Commission draws once again the attention of the urgency and seriousness of the situation caused by climate change and biodiversity loss. Citing IPCC figures, and the rapidly growing number of environmental disasters, it calls for climate change to be fought, and for action. These different statements of the Commission have shown how much the priorities of the European Union (EU) have changed.

Nevertheless, given the critical human and social issues involved, semantic changes are not enough and Europe as a whole must now take real pragmatic action.

The Commission is not alone in considering global warming as an existential threat. In December, EU heads of state approved the European Green Deal of Ursula von der Leyen, despite Poland's reservations regarding the European objective of achieving climate

neutrality by here to 2050. The European Parliament also boosted these statements by voting on a resolution declaring a climate emergency in Europe in November 2019.

As a matter of fact, the European Parliament is ready to play a crucial role in the economic, ecological and social transition in Europe. The disaffection of the citizens towards the European institutions, the deficit of democracy that can be felt throughout the continent, the crisis of political trust in the political representatives call for a repolitisation of the European Parliament to be leader on the ecological issues.

It is within this context that the intergroup on the Green New Deal has been created in December 2019 in the European Parliament. This transpartisan forum aims at giving impetus to ecology and social justice as high priorities in the European Union. More generally, it aims at reorienting our entire economic system so as not to suffer the devastating ecological and social consequences of the climate crisis that cracks down everywhere.

This intergroup was initiated by its cochairwomen - Aurore Lalucq (S&D) and Alice Bah Kuhnke (Greens / ALE) and its vice-presidents Manon Aubry (GUE / NGL), José

Manuel Fernandes (PPE) and Samira Rafaela (Renew). Working across parties and borders will enable cutting edge ideas and expertise to deliver a truly Green New Deal that is so desperately needed in Europe.

For the next 5 years, the Green New Deal intergroup has determined its agenda by focusing on 4 main objectives.

First, it will focus on increasing the knowledge to make climate change an opportunity for European industries, European jobs and European economies.

Secondly, it will catalyse a productive dialogue with NGOs, businesses, industries, farmers, citizens, European institutions, and MEPs.

Thirdly, it will raise awareness on the transformative potential of a Green New Deal in Europe and support the development of trans-European networks on the matter.

Finally, it will make sure the European Parliament is weighing in the negotiations and the arbitrages that will be made by the Commission under the European Green Deal programme.

And especially by putting more ambition in this programme. The ecological and social transition in Europe requires massive public investment. As a matter of fact, at a time when the environmental crisis is clearly

becoming a matter of survival and security for the people of Europe, public investment must pick up the slack from private investment in the Member States. Also, the euro area has been suffering from systematic public under-investment for many years. Investing in the ecological and social transition, education, public infrastructure and health would make it possible to prepare our economies to cope with current challenges, to create jobs, particularly in the transitional sectors, but also to avoid the costs inherent in a failure to invest.

The Green Deal can become a true big paradigmatic and holistic game changer for our economic models in Europe, or it can be another technocratic proposition for a sectorial amelioration. In the first case, we win. In the second, we lose big, even, if not first, on economic terms. As Winston Churchill said, "If you don't take change by the hand, it will take you by the throat".

To seize the opportunity to influence and shape the proposals put forward by the Commission, the Green New Deal intergroup in the European Parliament has set its timetable of work depending on the Commission's for the European Green Deal's implementation.

In March 2020, the intergroup plans to make concrete proposals on industry, biodiversity and sustainable products; emanating from a collective work with European civil society.

Before the summer of 2020, the intergroup will focusing on food, farm, chemicals and reforestation.

On February the 5th of 2020, the Green New Deal Intergroup will organise its first conference in the European Parliament with speakers from the private sector, researchers, elected members, and NGOs, in order to identify the common concrete policies that the European Union can adopt under the European Green Deal.





VIRGINIJUS SINKEVIČIUS

Commissioner for Environment, Oceans and Fisheries, European Commission

The sense of urgency we need when talking about the transition towards a circular economy can be conveyed by a single equation: if we keep on with our growth model, by 2050 the world will be consuming as if there were three planets Earth.

Global consumption of materials such as biomass, fossil fuels, metals and minerals is expected to double in the next forty years and annual waste generation is projected to increase by 70% by 2050. The circular economy is about providing positive solutions to reversing these trends, reducing pressure on the environment and supporting sustainable jobs and growth at the same time, while ensuring security of supply.

The time to accelerate the transition to a circular economy has come. The commitment of European Green Deal to respond with decisive actions to the challenges of achieving carbon neutrality and decoupling economic growth from resource use, has been described as this generation's defining task. The next five years will likely put us on a path that will directly impact our well-being in 2050. Future generations will be affected by the decisions we make today in ways that probably have no comparisons in human history.

The circular economy is a crucial pillar of the European Green Deal. It is about making the necessary changes in the way we produce and consume so that we can solve the many environmental and climate pressures that are directly linked to the current unsustainable "take-make-use-discard" growth model.

The new Circular Economy Action Plan adopted in March this year will make a considerable difference. We have introduced actions to address inefficiencies along the entire life cycle of products.

Europe takes circularity to the mainstream: the change that the new **Circular Economy Action Plan** will bring

The cornerstone of the Action Plan is a new Sustainable Product Policy Framework, which will ensure that green products become the norm. Products will have a longer lifetime, will be easier to repair and upgrade, and will have lower environmental impacts. This will unleash new business opportunities and provide high-quality products and cost-saving solutions to citizens.

The Action Plan will help protect consumers better: a new "right to repair" will be established, complementing the efforts to design sustainable products. Consumers will also have reliable information on the reparability and durability of products, as well as on their environmental performance. Companies will have the confidence to invest in a fair market for green products, since we will tackle misleading green claims.

Furthermore, in synergy with actions on products, we will work to prevent the generation of waste as a matter of priority. Where waste cannot be avoided, the focus should be on transforming it into valuable resources. The Commission will review a number of legislative instruments to increase their contribution to a circular economy, and continue supporting Member States in the implementation of the EU waste legislation.

In parallel to horizontal measures, smart policy-making means also tackling priority sectors and value chains where there is considerable potential for more circularity. This is the case of "electronics and ICT", "batteries and vehicles", "packaging", "plastics", "textiles", "construction and buildings", "food, water and nutrients". The Action Plan announced comprehensive strategies or tailored actions for each of these key product value chains.

These sectorial actions will bring significant benefits. Textiles, for example, are the fourth highest-pressure category for the use of primary raw materials and water, after food, housing and transport, and fifth for GHG emissions. It is estimated that less than 1% of

all textiles worldwide are recycled into new textiles. We want to adopt a strategy that can trigger circular business opportunities, give consumers more information, and reduce the environmental impacts of this sector.

At the same time, we want to make sure the transition is fair and just for everyone. We will work on strengthening the social angle of circularity, for example by promoting the uptake of the right skills for Europe's workforce of tomorrow. We will also support investments in infrastructure, innovation and digitalisation that will enable the circular economy to become the mainstream in our lives.

We are also aware that the circular economy in Europe will work only if we achieve progress at the international level. The EU has an important role as a global frontrunner in the circular economy, and we can use this position of leadership to actively engage with partners at bilateral and multilateral level to scale-up the uptake of the circular economy worldwide.

The new Circular Economy Action Plan offers an inclusive, future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens and civil society organisations. It has been well received by a broad range of stakeholders because it offers win-win solutions: to protect the environment, but also to create lead markets, to expand sustainable and job-intensive economic activities, and to ensure EU leadership on circular, climate-friendly and safe products and technologies globally.

This Action Plan is a plan for all people in the EU and beyond. It is essential that it delivers on the ground for national and regional policymakers, for businesses, for all EU consumers and citizens. Therefore, its implementation will be successful only if informed by the same collaborative spirit we share today. I am confident this will be the case.



SIMONA BONAFÉ

MEP (S&D Group),
Member of the ENVI Committee

Towards a circular industrial strategy

The European Green deal is at the very heart of this legislature. Before giving birth to the expected set legislative proposals, it has already had the merit of refocusing European political debate on the real economy and its perspectives.

The European institution have set very ambitious goals committing to cut the greenhouse gas emissions at least 40% below 1990 level in ten years and make the European Union the first continent carbon-neutral by 2050. Achieving the EU's climate and environmental goals, however, requires a new industrial policy based on sustainability.

The European industry is an essential part of the European economy generating 24% of the GDP and employing 20% of the workforce. Obviously, this has an impact on the environment: not only the industrial sector accounts for 20% of the EU's emissions, but resource extraction and processing for industrial purposes also cause serious issues of water stress, biodiversity loss and industrial competitiveness. From 1970 to 2017, the annual global extraction of materials tripled and it will not stop growing unless we undertake a structural change. Moving from a linear model based on a "take, make and dispose" approach to a circular one aiming at maintaining the value of products, materials and resources for as long as possible, will entail to save materials and energy and prevent from introducing polluting products and substances in the environment.

Steps in this direction have already been taken at European level. In the previous legislature, policy-makers approved important pieces of legislation such as the Circular Economy package and allocated financial resources to actively encourage and promote the transition towards a circular economy. The latest data released on circular economy are encouraging: for example, the recycling rate of municipal waste and the recycling rate of overall packaging grew from 43.5%

in 2014 to 47% in 2018 and from 65.4% in 2014 to 67 in 2018, respectively. Although it had seen an increase by 3.4 percentage points from 2004, the last data available shows that the European circularity rate amounted to 11.7% in 2016, meaning that only less than 12% of material resources used in the EU came from recycled products and recovered materials. Evidently, this causes a significant loss of resources: for example, from 6,000 used mobiles it is possible to recover about 3.5 kilograms of silver, 340 grams of gold and 130 kilograms of copper, while recycling 10 kilograms of aluminium uses about 10% of the energy needed for primary production.

Being able to use more efficiently the resources that already are within the European market can be considerably advantageous for the European industry from several points of view. Firstly, it can benefit the competitiveness of European industry. Despite the worldwide acknowledged high quality, security and credibility of European products, the European industry has been facing a regression, dropping 2% on monthly basis and 3.9% on annual basis in 2019. In this context, a greater use of recovered resources can help industries to save annually €630 billion and ultimately boost their competitiveness at the international level. Secondly, it can be a potential solution for reducing the dependence of the European Union from outside resources. Indeed, not only it relies on energy imports, but it also depend on outside sources of critical raw materials for chemical, construction and other industrial sectors, exposing European industries to prices fluctuations occurring in the international market. The long-standing overexploitation of resources will lead soon to a situation of resource scarcity worsening this situation of vulnerability of European industry and seriously putting the European competitiveness at risk. In addition, developing an industry based on circular economy creates new markets, new products, new jobs and value for business potentially boosting the European GDP by up to 3.9%. Finally yet importantly, restructuring the nature of European industry will cut the carbon emission by 450 million tonnes by 2030.

In order to deliver this transformation, the paradigm shift must be hasten. Since few years, some industries have started developing circular business models and

consumers have increasingly become more sensible to environmental protection and recycling. However, to develop an economy base on circularity, the production process as a whole must be re-designed. From product design and incentives for consumer to the creation of a market for secondary materials, everything should be efficiently optimized for closing the loop.

The European Commission will soon release a new Action Plan that is expected to undertake further steps especially in the area of product design. This should be encompassed by a consistent and comprehensive industrial strategy adopting a long-term perspective and clearly pointing out how the European Union actually intends to support and promote this economic transition. From digitalization of SMEs and rapid advances in technology to development of new and missing skills, it is necessary that the EC gives a clear vision.

As soon as taxonomy regulation will be approved, the European Union will have a framework fit to stimulate private investments in environmental sustainable economic activities, including waste prevention and increasing the uptake of secondary raw materials. Although engaging private actors is important for achieving a greener growth, mobilising adequate public investment is crucial. Indeed, fiscal incentives, investments in research, strategic infrastructures and ad hoc schemes for the re-skilling and upskilling of workers are all important factors that will lead the transition. This is one of the reasons why the European Parliament calls for a more ambitious Multiannual Financial Framework 2021-2027 able to support the realisation of the Green new deal. Furthermore, considering the levels of EU and Member States' budgets, the financial needs of the transition require an open discussion on the Stability and Growth Pact. In order to mobilize the necessary resources it is time to recognize a substantial flexibility for Member States' sustainable investment.

In conclusion, we need to bear in mind that the decisions that we will take in this term will be decisive to determine whether the European Union will be able to achieve its climate goal by 2050. We can succeed only by involving actively our industrial system, starting from an ambitious and more circular industrial strategy.

**JEAN HORNAIN***Director General of CITEO*

EPR: a relevant and committed response to the challenges of packaging and paper circularity in Europe

our common target for a carbon neutral economy in 2050. This European plastics pact is a unique opportunity for governments and businesses to work together for a greener future, and a major step towards creating a circular economy for plastics.

action plan on Circular Economy published on the 11th March 2020 along with the new European Industrial Strategy. This action plan will speed up the EU's transition towards a circular economy by strengthening the European industry while helping to fight

Citeo, the French company in charge of Extended Producer Responsibility (EPR) for household packaging and graphic papers, fully supports the European Commission's vision of the need to move towards a circular economy, encouraging materials to become not waste but economically, socially and environmentally beneficial resources.

Towards a Circular plastics' approach

Citeo has understood the need to be more involved in the Circular economy debate on the European level, that is why it contributed to the work of the European commission's Circular Economy Package and the SUP Directive through the working groups and the public consultations, was present in the Circular Economy missions to Mexico and Nanjing and was active within the Circular Plastics Alliance.

Citeo believes in the involvement of all the actors of the value chain from public authorities to brand owners in order to build a truly Circular Economy with, measures to reinforce competitiveness of recycled material opposite to virgin materials, a common vision on recyclability, on reusable models and on littering issues, sharing the vision that post-consumer plastic is a "resource" and not a "waste" anymore.

This vision requires not only the commitment of all actors, but also coherence and harmonization at the European level for both standards and targets. This is a key factor for future investments in eco-design as well as new technologies of recycling

Therefore, Citeo as a supporting organization, signed the European Plastic Pacts on 6th of March along with 14 governments and more than eighty other companies; to push forward a coherent European vision on plastics, eco-design and eco-modulation on plastics packaging with concrete Life Cycle Analysis to help European actors to reach

*Launching of the European plastics Pact in Brussels, 6th March 2020.*

Participants of the European Plastics Pact have set multiples targets by 2025:

- Design all plastic packaging and single-use plastic products placed on the market to be reusable where possible and in any case recyclable by 2025;
- Move towards a more responsible use of plastic packaging and single-use plastic products, aiming to reduce virgin plastic products and packaging by at least 20% (by weight) by 2025, with half of this reduction coming from an absolute reduction in plastics;
- Improve collection, sorting and recycling by increasing the collection, sorting and recycling capacity by at least 25 percentage points by 2025 and by reaching a level that corresponds to market demand for recycled plastics;
- Increase the use of recycled plastics in new products and packaging by 2025, with plastics using companies achieving an average of at least 30% recycled plastics (by weight) in their product and packaging range.

Towards a circular and European loop for packaging and papers

Moreover, the European Commission just launched a Green deal with a new European

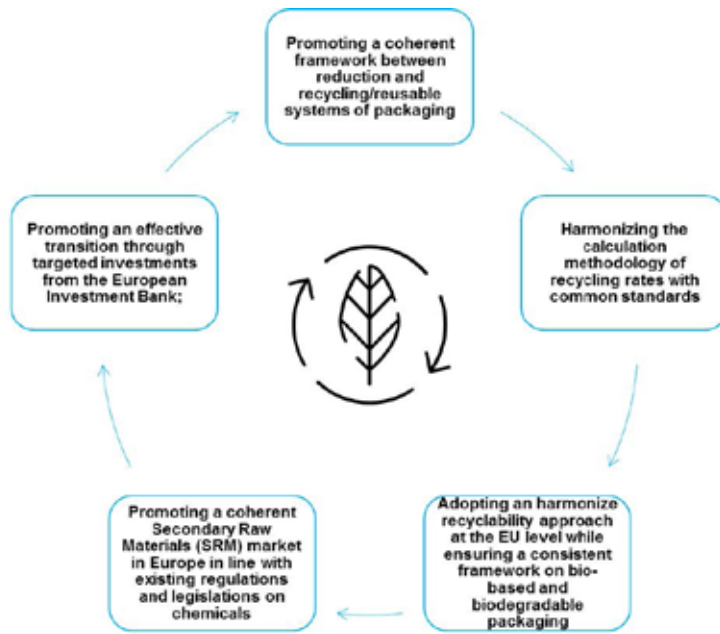
against climate change and preserving the EU's natural environment.

The Circular Economy Strategy is a pillar for industrial competitiveness in the Single Market today, promoting a paradigm shift from a linear to a circular production and consumption model, ensuring a consistent approach on EU environment, climate & energy and industry policies and promoting an ambitious resource-efficient production and consumption model to modernize EU industry and set high standards.

Citeo's views for the implementation of the circular economy of packaging and paper in the European single market

First, Citeo believes that the Commission should **adopt a coherent vision between reduction and recycling-reusable systems of packaging with common life cycle analysis standards and viable impact assessment from the economic and environmental sides.**

Citeo also thinks that **the notion of "recyclability" which requires a national collection, sorting and recycling stream should be defined at the EU level.** A coherent and consistent definition of recyclability constitutes a prerequisite in order to make EPR organisms such as Citeo able to emit recyclability



certificates. Citeo believes it is necessary for EPR organizations to have guarantee that packaging waste which are defined as recyclable at the EU level are effectively being recycled.

Regarding the **promotion of transparent and harmonized standards regarding the environmental footprint and material content of product and packaging**, it is important to remind that measures on the communication of the environmental footprint of products have been adopted in France with the new law on Circular economy adopted in February 2020. While Citeo acknowledges these national efforts, it believes that this discussion should be held at European level.

While market forces should be allowed to shape business decisions and as we recognize that regulation should be the least burdensome, market forces alone have not been sufficient to create incentives for decarbonization or foster the circular economy in Europe. **In order to answer the challenge of competitiveness between Primary and Secondary Raw Materials**, Citeo believes it is **essential to move towards a more circular and ecological tax system within the Member states and at the EU level**. The Commission should work on the introduction of economic incentives, such as a new taxonomy, with a common and a coherent vision of the translation of this measure at the national scale, in favor of recycled materials. This taxonomy should take into consideration negative externalities related to the extraction of virgin materials and must provide possible ways to offset market losses related to commodity price fluctuations.

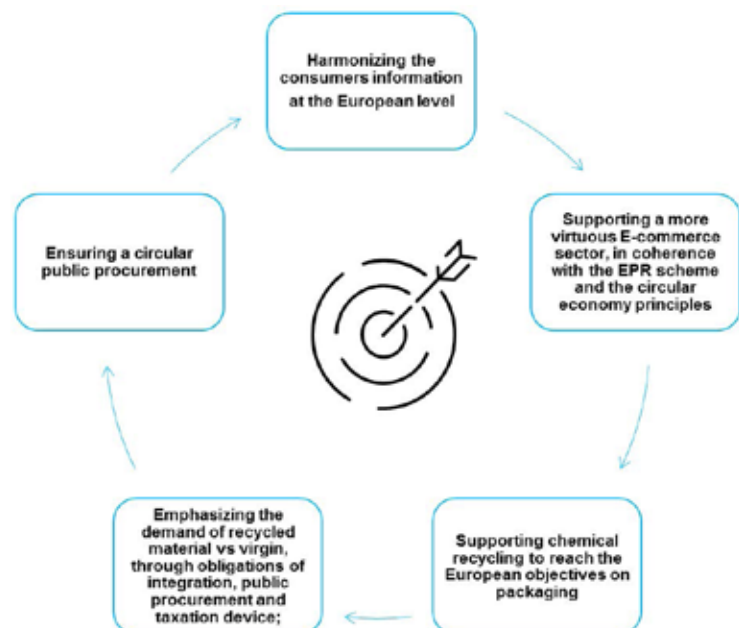
Citeo thinks that **a coherent Secondary Raw Materials (SRM) market should be created in Europe in line with existing regulations and legislations on chemicals**. There are many opportunities and benefits for the environment and consumers derived through the market for SRMs. However, risks associated with the presence of substances of concerns in goods produced from SRMs are relevant, especially when they are used for food packaging. In this regard Citeo believe it is important to align existing regulations and legislations on chemicals (eg. REACH), waste and products in order to guarantee that

products and packaging are exempted from substances of concerns.

In order to effectively promote a transition towards a circular economy, Citeo believes that **public investments should be targeted in the field of circular economy**. Those investments should especially be focused on packaging and papers **through the funds of the European Investments Bank and the Just Transition Mechanism presented by Ursula von der Leyen**. Investments should promote and develop new recycling channels and technologies, especially for plastics packaging; research and development for recyclable food contact materials; innovative business models such as the ones promoted by Citeo with its "Circular Challenge".

Moreover, the mobilization of the consumer-citizen is essential for the implementation of the circular economy action plan. This mobilization must be translated at European level by giving consumers, at national level, the means to act, thanks to clear and complete information on their sorting gesture but also to new information essential for improving the environmental impact of their consumption, in particular information on the recyclable nature of packaging.

Finally, Citeo is willing to collaborate with the European stakeholders and the European commission on developing new recycling solutions at the EU level in order to reach the recycling targets. Completing mechanical recycling technologies with **chemical recycling technologies, in order to better recycle complex and multilayered materials**, should be considered as a solution at the EU level.





HENNA VIRKKUNEN

MEP (EPP Group),
Member of the ITRE Committee

A sustainable industry for a **circular and climate neutral** economy:

The Green Deal should not be seen as a threat but as an opportunity for the European industry to renew itself. If done right, the industrial transformation will bring about significant competitive advantages to Europe, by boosting innovation, clean technologies and markets for sustainable raw materials - while at the same time preserving our environment and increasing our well-being.

Those who see the Green Deal as a threat are usually worried about the costs of transition. However, we should also consider the cost of non-action. Circularity is a key component of the industrial transformation, as it brings clear benefits to both the environment and the economy. Currently the European Union is highly dependent on imported raw materials, we import some 40% of our primary resources. In case of certain critical materials, over 90% is imported. Yet simultaneously the amount of waste annually generated in Europe keeps increasing. It is clear that reusing these materials would not only benefit the environment but could have a significant economic impact.

The first Circular Economy package of 2018, including actions such as setting new recycling targets for various materials and measures against single use plastics, was a first step to the right direction. Yet more robust measures are needed in order to truly close the loop and to reap the benefits of circularity. First and foremost, cross-sectoral sustainable product policy is required to make circularity the norm. In addition, well-functioning waste collection and recycling systems are needed to support holistic value chain cooperation.

The expected new Circular Economy Action Plan is vital in stepping up the work to address all parts of the value chain. The Commission has rightly identified to

focus on resource-intensive sectors such as construction, plastics, electronics and textiles. This is important especially from the consumer perspective, as for example the unsustainability of the textile industry is not largely recognised. Not everyone knows that after food, housing and transport sectors, textile industry is the fourth largest cause of environmental pressure globally, or that currently over 70% of all textiles sold in the EU end up in landfill or incineration. Recycling and reusing the often fossil-based or otherwise environmentally burdensome fibres and fabrics would undoubtedly have environmental as well as economic consequences.

As Commission President Ursula von der Leyen has stated, in order to succeed in the creation of a truly sustainable European single market, the transformative power of both climate and digital transition must be harnessed. It is estimated that digitalisation has the potential to reduce global CO₂ emissions by 20%. Digitalisation is a driving force behind a number of industrial transitions, and for transforming our most energy-intensive industries smarter use of resources is needed. We must foster this mutually beneficial link between digitalisation and circularity, by promoting the use of AI and European data space for sectoral specific actions such as industrial manufacturing.

In order to find the most cost-efficient ways to both decrease emissions and to increase our productivity, the focus must be on encouraging research and innovation. Horizon Europe will play a key role in achieving the Green Deal objectives. Another promising initiative is the Sustainable Europe Investment Plan, presented as part of the Green Deal, which is set to mobilise at least €1 trillion in sustainable investments over the next decade. We must ensure that the focus of the funding will be on areas with the greatest innovation potential, regardless of the size of the organisation.

The best way to ensure we can deliver the most innovative solutions is to invest

in education. The future of work will look considerably different from today's. Circular economy and digitalisation will fundamentally transform our business models, from design and production all the way to waste recovery. Developing the right skills set will allow us not only to adapt to the change but also to benefit from it. For boosting our research and innovation performance, the Member States should address the whole spectrum of learning, from quality primary education to lifelong learning as opportunities for continuous skills updating. The upcoming Skills Agenda will be a key building block in this respect.

For the sustainable transformation to succeed we must have a long-term vision, aiming at the 2050 climate neutrality goal. Private sector investments, especially in heavy resource-intensive sectors, are made for decades to come. We need to create a stable and predictable regulatory framework to support market-based mechanisms for the climate transition. All Green Deal measures must be accompanied by science-based impact assessments, prepared in collaboration with industrial experts, to ensure lasting results.

The upcoming industrial transformation is undoubtedly unprecedented in scope and depth, yet there is no reason to believe Europe cannot succeed in it. We have the required resources, technologies and knowhow; they just need to be harnessed in the most optimal, resource-efficient way. However, Europe accounts only for some 10% global greenhouse gas emissions and cannot solve the climate crisis alone. Yet in today's interconnected world where value chains are global, Europe's circular transformation will have an international impact. As the world's biggest single market and free trade champion, we can encourage clean investments and circular solutions worldwide.



MIRIAM DALLI

*MEP (S&D Group),
Member of the ENVI Committee*

When competitiveness meets **sustainability**, synergy thrives

There is no stopping change. Once momentum gains, you either ride the wave or else risk being left behind. I have always seen change as an opportunity to grow. To deliver. To give our citizens what they truly deserve. I also see the industry facing an opportunity - an opportunity to benefit from a new economic model.

For decades there was knowledge of the harm to the environment, climate change and global warming. Reports upon reports were presented, consolidated by studies, showed the harmful impact on the environment. Not only. Scientific studies confirmed negative health impacts and links to diseases and illnesses. Yet, polluting processes always got the upper hand and bad practices ploughed on. It was an economic model that failed to realise how sustainability was a motor of innovation, not a clog in economic growth.

We have reached a point of where doing nothing is simply out of the question. I was recently presented with a report of the Network of Mediterranean Experts on Climate and Environmental Change. 85 scientists from 20 countries contributed to this study. They found that increase in frequency, intensity and duration of heat waves imply significant health risks for vulnerable populations, especially in cities. Increasing frequency in droughts since the 1950s played a significant role in the current Mediterranean crisis.

With the Paris Agreement, signatories agreed to strengthen the global response to the threat of climate change by keeping a global temperature rise - during this century - well below 2 degrees Celsius above pre-industrial levels. They also gave their word to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. But if we retain the current policies, there will be an increase of 2.2 degrees Celsius by 2040.

The Mediterranean region is already warming 20% faster than the global average. Sea level rises may exceed one metre by 2100, impacting one third of the region's population. Half of the 20 global cities set to suffer most from sea level rises by 2050 are in the Mediterranean.

No more hesitation. We have the opportunity to transition to a modern, climate-neutral, highly resource-efficient and competitive industrial base in the EU by 2050. At the time of writing, we are still awaiting the European Commission's industrial strategy. We have to see industrial competitiveness and climate policy as mutually reinforcing. We can create local jobs and ensure the competitiveness of the European economy if the EU adopts an innovative and climate-neutral reindustrialisation mind-set.

As agreed in the European Parliament a few weeks ago, we need a new industrial strategy that focuses on incentivising value chains for economically viable and sustainable products, processes and business models aimed at achieving climate neutrality, resource efficiency, circularity and a non-toxic environment, while maintaining and developing international competitiveness.

As Socialists and Democrats in the European Parliament, we have insisted that particular attention is to be paid to the most disadvantaged regions. 'Leaving no one behind' is about ensuring that the weakest and the most vulnerable in society are supported. Where workers are assisted in their adaptation to new jobs through training, re-skilling and upskilling and where upcoming generations are prepared for today's and tomorrow's jobs.

Small and Medium Enterprises (SMEs) have an important role to play - but there has to be a comprehensive set of incentives and funding opportunities for innovation, for the deployment of breakthrough technologies and for new sustainable business models. Unnecessary regulatory hurdles must be removed.

In talks I have with stakeholders, I can confidently say that the will to act is there. It is agreed that economic growth should deliver prosperity and equity. This will require a push and support.

Sustainable development is about the integration of environmental, social and economic concerns into all aspects of decision-making. It is a paradigm shift towards a new economic model that is socially inclusive and ecologically sustainable. The rapid technological advancements will help us meet these goals. We have to think outside the box and this will help us address social solidarity.

At the end of the day, we are aiming for improved synergies that will give our societies a better living through different aspects: be it workers' rights, better wages, equality, improved health conditions and surroundings.

This is the time for the European Union to prove that it means business. We need a coherent and ambitious roadmap that sets the agenda for the next years. It must be about stronger policy measures, better implementation and monitoring, and investments at a higher scale.

For this to happen, we need to have a European Climate Law with legal bindings goals for reaching net-zero greenhouse gas emissions by 2050; tackle pollutant emissions from ships in ports and planes in airports; commit to an effective Just Transition as an overarching political principle ensuring ecological and social progress go together.

This is a new era: 'sustainability' is no longer a word that scares investors away. It attracts innovators. The tools are there. The ambition is there. It's the decision makers that must rally behind it.



European
Commission

Sustainable industry

The European Green Deal

December 2019

#EUGreenDeal

Achieving the EU's climate and environmental goals requires a new **industrial policy based on the circular economy**.



- From 1970 to 2017, the annual global extraction of materials **tripled** and it continues to grow.

Source: The International Resource Panel,
[Global Resources Outlook](#), 2019



- More than **90%** of biodiversity loss and water stress come from resource extraction and processing.

Source: The International Resource Panel,
[Global Resources Outlook](#), 2019



- EU's industry accounts for **20%** of the EU's emissions.

Source: European Commission,
[EU Climate Action Progress Report 2019](#)



- Only **12%** of the materials used by EU industry come from recycling.

Source: [Eurostat](#),
2016 figures

In March 2020, the EU will adopt an industrial strategy that will support the green transformation.

- Industries must be helped to **modernise and exploit opportunities** domestically and globally.
- A key aim will be to stimulate the development of **new markets for climate neutral and circular products**.

The decarbonisation and modernisation of **energy-intensive industries such as steel and cement** is essential.

The Commission will make a proposal to support zero carbon steel-making by 2030.

A new circular economy Action Plan will help modernise the EU's economy

The Commission will present a 'sustainable products' policy, which will prioritise reducing and reusing materials before recycling them. Minimum requirements will be set to prevent environmentally harmful products from being placed on the EU market. False green claims will be tackled.

Efforts will focus first on resource intense sectors such as:



textiles



construction



electronics



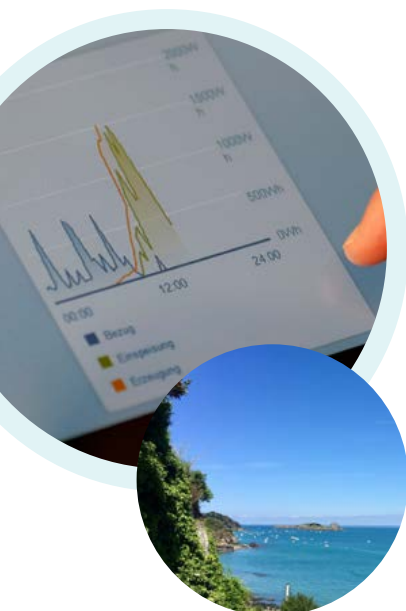
plastics



The Commission will propose measures to ensure that **all packaging in the EU is reusable or recyclable** by 2030.



New business models based on renting goods and services will help to shift **consumption patterns away from single or limited use products.**



- Europe needs a digital sector that puts sustainability and green growth at its heart. Digitalisation presents new opportunities for:
- monitoring of air and water pollution,
 - monitoring and optimising how energy and natural resources are consumed.

- The Commission will explore the benefits for consumers of 'take-back' schemes.

This will incentivise people to bring back their devices – mobile phones, tablets or chargers for recycling.

The transition is an opportunity to foster sustainable and job-intensive economic activity.



Europe's ecologic renaissance will be built upon its infrastructures



DOMINIQUE RIQUET

*MEP (Renew Europe Group),
Member of the TRAN Committee*

Europe's economic renaissance following the Second World War was largely due to a solid, capitalised infrastructure network. These infrastructures have granted the economy a concrete base to exchange goods, provide services and transport people while being energetically supplied. The network was costly, but no economic growth would have been possible without it. It acted as Europe's vector for prosperity and competitiveness in world trade. Its role as a prerequisite of the functioning of the internal market was so obvious we took it for granted. It is not: as all human constructions, infrastructures have a life cycle and that of the European network is no exception.

Yet, investment is sorely lacking. Since the 1990's, investment in maintenance has decreased from 3-3.5% of the European GDP to 2.5%. As a result, 60% of the post-war structures pose problems related to the corrosion of steel. Germany alone has fallen behind investment in maintenance of 1000 billion euros since 1999: the whole Green Deal bill! Besides, this situation is bound to worsen. Changes in climatic conditions alter the resistance of infrastructures and call to a rethinking of their resilience. Roads crack due to drought, rails deform as their temperature exceeds 50 degrees and periodic floods threaten coastal roads and railways. These constraints have to be included in any new infrastructure design, while they accelerate the aging of structures or limit their effectiveness.

Maintenance is not the only stake: infrastructures are an essential tool of the ecological transition. Our greenhouse gas emissions will not go down building highways and coal factories. To the contrary, the new generation of infrastructures has to address the double challenge of increasing competitiveness while being energetically virtuous. In transport, European policies are more and more designed to make the modal shift a reality. Good examples of infrastructures likely to drastically reduce CO₂ emissions and still not hamper traffic are railways. They offer high quality, fast mobility solutions capable of unclogging road axes in many

points in Europe. Regrettably, this possibility is still too untapped. The absence of connections however obvious, as the Bordeaux-Irun high-speed line, or the rail freight modal share are enough to understand the scale of necessary efforts.

So it appears, incentives to invest are endogenous and exogenous. How to explain, in this case, the dramatic situation we have buried ourselves into with regard to the infrastructure network? Major infrastructure projects may meet various obstacles, two of which are the lack of investment and administrative barriers. Surprisingly enough, the seconds can be deadlier to projects than the firsts. Still, we are facing difficulties to raise funds that are particularly worrying since 2008's economic crisis. Things are not going to get better any time soon, with an increasingly sustained rhythm of crises in economic cycles according to forecasts.

In spite of this deleterious climate, tools do exist to support projects. The first of them is the Connecting Europe Facility (CEF) that the Parliament wishes to endow with 28 billion euros for the period 2021-2027 and which aims at enhancing infrastructural links between Member States. However, the European Court of Auditors (ECA) stated that only 23% of the CEF has been delivered in 2019. In reality, it may prove extremely difficult to mobilise available funds, even with good will from decision makers and promoters. Between land use authorisations, the protection of sensitive areas, environmental assessments or the various consultations that need to be conducted, administrative authorisations can delay the start of works up to 8 years depending on the Member State. As a result, the costs of studies weighing on promoters is tenfold, reaching up to 20% of the cost of the project before the beginning of the works.

A mechanical increase due to the longer delays is also to be deplored. This is discouraging for promoters who become reluctant to invest time and money in projects which outcome is at best hazardous.

As legislators, it is our mission to create the conditions of our readiness towards the ecologic transition. Infrastructures are no exception to this preparatory work, and we are working in the European Parliament towards the reduction of administrative barriers to major infrastructure projects. Should these efforts be successful, they will not suffice: we will need all the legislative creativity to solve this issue. An interesting lead can be found in Germany. In February, the Bundestag has adopted a law approving twelve infrastructure projects, five of which are waterways construction projects and seven rail projects. It is not trivial: approving them by the way of the Law means that, contrary to an administrative decision, it can only be contested in front of a constitutional court, which can only invalidate it if the projects are deemed unconstitutional. The intention of the Bundestag members is commendable, insofar as it sanctuarizes infrastructures which ecologic and economic interests are recognised.

The awareness of the environmental challenges that lie ahead has its roots in the political debates of the 2010s. It is now the time to implement the Green Deal it gave birth to. We must find the societal equation that will allow Europe to flourish again: it will be built on its infrastructures.



KADRI SIMSON

*European Commissioner for Energy,
European Commission*

Delivering the Green Deal in the European energy sector

The European Commission lead by President Von der Leyen has made clear from the outset that the European Green Deal is the main priority for its five-year mandate. Our principal objective is to move to a climate-neutral economy by 2050, and the Green Deal coordinates our approach across all policy areas and all sectors. Energy is of course one of the domains that will play a crucial role in the transition.

If we look at Europe's economy, we see that energy generation, transmission and conversion is responsible for 75% of the EU's emissions. A lot has already been done to make EU energy policy legislation fit for the new challenges. Finalised in 2019, the **Clean energy for all Europeans package** addressed the three main priorities of EU energy policy; security of supply, affordability, and sustainability. The Green Deal aims to continue in this path across all sectors and complete the transformation of our energy system into

one which is not only carbon-neutral, but also more cost effective, energy efficient and secure. At the same time, some areas face a larger transformation than others, and so we must ensure that we do not leave any person or region behind.

The principle of 'Energy efficiency first' is at the heart of the Deal. The cheapest and cleanest energy is the one we do not use, so the more we can do to reduce energy consumption, the better. This approach is also good news for consumers – saving energy will not only cut emissions, but shrink their energy bills. This efficiency principle will be applied at all levels of Commission policy-making. In particular, we will focus on further improving the energy efficiency of our buildings, through a "**renovation wave**", aiming to triple the existing, insufficient rate of renovation in Europe. A crucial aspect is the inclusion of social housing in the wave, to help address the challenge of energy poverty in the EU. Our latest figures indicate that up to 50 million people around the EU are not able to properly heat their homes. This is not acceptable!

Energy efficiency is important, but so is the source of our energy. We need to increase the share of renewable energy by making it easier

to incorporate renewables into our energy system. For this to succeed, we must move towards **smart sector integration**, which will promote stronger integration of the electricity, heating and cooling, transport, gas, industry, and agricultural sectors.

We have already achieved impressive results in decarbonising the electricity sector, where 31% of electricity is produced from renewable sources. In order to further boost decarbonisation, we will present a new strategy to boost **offshore renewable energy**, addressing all the opportunities and challenges, such as the impact on energy grids and markets, the management of maritime space and the industrial policy dimensions of offshore wind.

That said, the decarbonisation of our energy system cannot happen overnight. Natural gas still constitutes almost one quarter of the EU's energy mix, and will therefore have a role to play in the medium term, as a substitute for more polluting sources like coal, lignite or oil shale. While the role of gas in the transition is up to each Member State to decide upon, much like their energy mix in general, the EU can and should contribute to the decarbonisation of the gas sector - ultimately, the gas we use in the EU has to be clean. We are



already working on creating an environment where clean gases can have a significant presence in the EU gas sector.

The EU has managed to diversify our sources of energy supply in recent years – in terms of more varied forms of energy and different suppliers – but we remain dependent on imports. Security of energy supply continues to be crucial and, amongst other policies, we need a forward-looking, modern, secure and smart energy infrastructure to safeguard it. To ensure consistency with Europe's climate neutrality objective and the Green Deal, we will review the regulatory framework for energy infrastructure this year, through a proposal to **modify the TEN-E regulation**.

As for technology and innovation, the Green Deal will trigger a major push towards digitalisation in all sectors, facilitating the clean energy transition in all parts of the energy supply chain, from generation to transmission to distribution, and including smart metres at home. As we increase the digitalisation of energy, we will also need **new rules on cybersecurity** that are tailor-made for the energy sector.

Given the variability of certain renewables such as solar and wind, we also need to improve our capability to store energy. Our forthcoming **Strategic Action Plan on Batteries** will address the urgent need for progress on batteries and other forms of storage. Other new and innovative technologies that will be fostered by the Green Deal are **Carbon Capture, Use & Storage**, and an increase in the use of **hydrogen**, which has the potential to play a major role in our move towards climate neutrality.

Making the Green Deal a reality will depend on funding the necessary investment – and the smartest combination of public and private finance. Just to meet our 2030 climate and energy targets, we need an estimated additional €260 billion in annual investments. Public money alone cannot foot this bill. In fact, we will have to rely primarily on the private sector. By setting clear long-term goals, we are already reducing the risks for investors. Public spending can also play an important role in leveraging private support and providing guarantees. In this context, the Commission has already outlined a **Green Deal Investment Plan**, which, over the course of the decade, can generate as much as €1 trillion to fund sustainable projects.

In a similar vein, the Commission has also already published the **Just Transition Mechanism** – a series of elements to encourage the necessary public and private

investment in regions that face the biggest challenges, such as those, which have been most dependent on coal and other fossil fuels. This includes € 7.5 billion of new funding in the EU budget from 2021-2027 for the Just Transition Fund – aimed at the most vulnerable people and regions.

Our ambition will be achieved, if Member States are not on board. Under existing rules, each Member State has been required to put together integrated **National Energy & Climate Plans** for 2021 to 2030, outlining how it intends to contribute to our 2030 targets. Commission experts are currently analysing these plans – and assessing the cumulative

impact. We are still missing some, so I urge the countries who are still behind schedule to move with haste. This assessment, due out in the summer of 2020, will provide a clearer picture of where we stand – and where we are likely to be in 2030. It will also tell us to what extent we can and should raise our ambition, individually or collectively.

We know that moving towards a climate-neutral economy by mid-century will be a long journey and that the energy sector will need to make a major contribution. But we are not starting from scratch and we are more efficient and stronger by joining forces at EU level.



EDF – Julien Knaub

**JEAN-BERNARD LÉVY**

CEO of EDF Group.

*Interview with***Mr Lévy, what is your reaction to the Green Deal Project?**

Definitely very positive. My view is that the fight against climate change has to be the compass of the European Union's action, especially in the energy sector.

It is my company's compass as well. This is the time for action. EDF is willing to contribute through concrete solutions.

Our Group has got a 90% decarbonized energy mix. This mix is based on the synergy between renewables and increasingly flexible nuclear energy.

Our strategy for 2030 and beyond encompasses the whole range of the technologies of the energy transition. We have developed long term plans for solar, storage and electric mobility, with ambitious targets: installing 30 GW of solar and 10 GW of new storage capacity by 2035, becoming number one in vehicle charging solutions in our key European markets. We have launched a new company called Hynamics specialized in producing hydrogen from carbon free electricity and using it in transport and industry. Our R&D invests about half a billion a year in technology and innovation.

In a nutshell we feel very much in line with the Green Deal and are ready to contribute to implementing it, that means to making carbon neutrality a reality.

How do you imagine the path towards this new reality?

Many studies have been made since the Paris Agreement to find out how to reach carbon neutrality so rapidly. I may surprise you by calling 2050 rapidly but remember that most of the devices we are using in everyday life will have to vanish, since they do emit carbon dioxide. Some of them like cars or boilers have rather long lifecycles, so we must have a sense of urgency and act now to achieve the target by 2050. It is even more true for buildings.

Green Deal: A Low Carbon Utility's Perspective

Anyway, the studies made or commissioned by very different organisations like IEA, IPCC or the European Commission share a strong conclusion. The most cost-effective way of reaching carbon neutrality is to decarbonise electricity and significantly electrify the economy. Decarbonising electricity at affordable cost is possible with existing technologies. Electrifying the economy multiplies the impact of decarbonising electricity.

Regarding power generation, the fleet of 2050 will be balanced, both centralised and decentralised, both dispatchable and variable. The different technologies complement each other to ensure availability of energy at any time at best cost. This is the point EDF has already nearly reached in France where our coal-fired generation will be soon closed down and the share of gas-fired generation is extremely limited.

This does not leave much space to the competitors of electricity, does it?

It does. I was saying "significantly electrify" because I do not think electricity should,

nor could, be hegemonic as final energy vector. We expect a direct electrification rate somewhere about 50 or 60%, a figure you must compare with current 22%. This leaves enough space for other vectors, direct use of biomass as a fuel or low carbon gases, basically hydrogen. We expect hydrogen to be the most effective solution in some sectors of the economy, like heavy duty transport or industrial processes. Of course, Hydrogen must be produced without emitting CO₂. The most cost effective way to do so is through water electrolysis and my company is active in this field with two entities, McPhy and Hynamics.

Will that be enough to ensure sufficient flexibility?

Regarding flexibility, I believe it will be very electrical. Not only generation but also demand will contribute to the supply-demand balance, thanks to the deployment of smart grids and services that has already begun: you will be more and more able to monitor your demand according to available



Centre recherche EDF « Les renardières » – démonstrateur solaire | EDF – Adrien Daste

generation and also to provide flexibility through the battery of your electric car. By the way EDF Group is one of the pioneers of this sort of service with a new company called *Dreev*. Artificial Intelligence will also play a great role. We are investing in this also.

This means the customer will be a key player of the optimisation of power systems: one more reason why he has to be at the heart of our strategy!

Do you see the EU Climate Law as a real game changer?

Definitely yes again! The EU Climate Law has both symbolic and real value.

By committing to a long term objective the EU increases the robustness of its climate policies. It paves the way for an efficient transition to a decarbonised economy. The sooner we act, the more cost-effective the decarbonisation. And also the more limited the damages to the planet.

From our perspective as investors, the Climate Law creates predictability. And to us predictability means timely investment in innovation, clear industrial strategies and robust business plans. Which ultimately translates into affordable energy for our customers, since our efforts are focused on clear strategies, and with more certainty our cost of capital is lower.

This predictability will be even more effective if a milestone is set for 2030, with more ambition than the current one. We support an increase of the 2030 target up to 55%.

And what should be changed in the existing framework for this purpose?

Listen, in a sense it is very simple. Cost-effectiveness is the main issue.

I see decarbonisation as an investment. Not only do we do it because we care about the planet –even though this is of utmost importance– but also we want to be competitive against the rest of the world even though in Europe we have not got the same amount of natural resources as other countries. And we want to be the leaders in new industrial sectors. As with any investment you have to spend some money upfront. The less you spend initially, the higher the benefits when your goal is achieved.

You may discuss the technicalities, but nothing more efficient than a price signal has been invented to meet objectives at best cost. This is why I believe enhancing the ETS is key to the success of the European energy and climate policy.

And how would you do that?

What investors need is a meaningful and predictable carbon price.

Firstly, meaningful. You have to be consistent. If you increase the 2030 ambition economy-wide, you must draw conclusions regarding the ETS sectors. The pace of their emissions reductions will have to be more rapid. This is the main point. And of course we will have to adapt the system to this acceleration but again I am confident, even though this is more technical: we have a window of opportunity for some changes in the stability reserve of the ETS and possibly some more

adaptations, to national policies of phasing out coal for instance.

Secondly, predictable. It has been clear to me for some time that a carbon-price floor is the best tool for that purpose. The topic is on the table again and I am convinced the EU can help investors to overcome the barriers to investment by implementing such a floor.

Regarding sectors currently outside of the ETS, I believe we have to study their peculiarities and find the most efficient solution for each of them: include them or implement another cost-effective tool if more appropriate.

Anything else you expect from the Green Deal?

Yes. We are very happy to see that the European Union is going to support the technologies and to launch an industrial strategy with fresh money in order to accelerate the transition and create a European leadership.

We are available to engage into partnerships and contribute to innovation in our sector with our powerful R&D, more than 2000 people, in house. We would like to see a strong European industrial policy that helps avoid repetition of the failure of the solar panel industry. Regarding batteries, hydrogen, vehicle-to-grid, I am convinced the EU is able in future to be at the forefront.

What we ultimately expect from the EU is that the new policy sets up a framework conducive to innovation and investment, which will ensure both brainpower and productive jobs located on the European territory.



CENTRALE NUCLEAIRE DE CRUAS-MEYSSSE | EDF – Colin Mathieu



CRISTIAN-SILVIU BUSOI

*MEP (EPP Group),
Chair of the ITRE Committee*

The Green New Deal as a lever for the competitiveness of our industrial system

In my view, I see the European Green Deal as the starting process of modernizing the European Industrial Sector by addressing a double challenge simultaneously: the green conversion and the digital transformation. The Green Deal will shape substantially EU's new model of economic growth for the next decades, aiming to increase European industry's competitiveness in an increasingly resource-constrained world that almost collectively tries to overcome climate change.

Industrial leadership will be a key factor in the geopolitical context, as those who set the production standards today are those who control the international markets tomorrow. It is estimated to take up to 25 years to transform European industry according to the Green Deal's fundamentals, therefore EU's institutional decisions in current mandate are crucial to achieve a digital, circular and climate-neutral industrial sector by 2050.

It will be of utmost importance to succeed in designing a new industrial

strategy that will enable European industry to manage the great challenges of the transformation required to make Green Deal a successful story. During the transition process, it will be critical to ensure our industry's ability to withstand its global competitors and continue to export on global markets, while our main competitors are not facing financial burdens of similar transformation processes. I consider that EU's new industrial policy should be funded on a strong competition policy and significant transition funding for the industrial regions most impacted by the green transition through a Just Transition Mechanism opened to further financial consolidation.

As the ENVI responsible of Horizon Europe Programme 2021-2027, I would stress first that the success of the Green Deal will be directly linked to the robustness and capacity to deliver of EU's research program. Proper investment will be instrumental for boosting global competitiveness of Europe's industries in areas such as robotics, artificial intelligence, supercomputing, 5G, cloud, batteries and

clean hydrogen. In this context, I would like to highlight the important mission of the European Innovation Council to succeed in bridging European Union's long-existing gap from excellent research results to market deployment and ensure that breakthrough industrial innovation reaches our production processes.

A key element of the digital transformation of EU's industry will be represented by our ability to collect, storage and process industrial data by artificial intelligence's algorithms, which will increase dramatically industrial efficiency and productivity and strengthen overall competitiveness of European industry. Europe can maximize industrial performance by combining EU's technological and industrial capabilities in a coordinated manner and further develop and update the digital infrastructure across Member States by adequately funding indispensable EU instruments such as Connecting Europe Facility and Digital Europe. High volumes of data will require inevitable measures to ensure data-sovereignty and will enable European Union to become



a major global hub for data, opening up important opportunities for Europe's digitalized industry.

EU's energy-intensive industries such as steel, chemicals and cement remain indispensable to Europe's economy. Modernisation and decarbonisation of these industries will be crucial to achieve 2050's climate-neutrality objectives and increase competitiveness. Feasible solutions have been already foreseen under the Green Deal planning and I highlight the necessity to broaden and revise the EU Emissions Trading System and particularly to strengthen the Innovation and Modernisation Funds and further develop innovative low-carbon technologies and processes, such as Carbon capture and utilisation (CCU), Construction and operation of carbon capture and storage (CCS) and energy storage.

A clean industrial sector will require adequate market access. I consider of outmost importance to address in due time market barriers to the deployment of clean products and ensure a level playing field for our industry, which often faces unfair competition from third countries based industries. I remind you, while European industry will be required to mobilise considerable investments in technological development and deployment of the new technologies, other parts of the world will not face such financial constraints. In this regard, I recall the concerns and the necessity of establishing in a timely manner Green Deal's carbon border mechanism, in order to reduce the risk of carbon leakage, ensure that price of imports reflect their carbon footprint and avoid jeopardizing the global competitiveness of EU's industries during the transition process.

The Green Deal also aims to deepen the switch of focus from extracted materials to waste and recycled materials, which currently represent just 12% of total material used. This strategy can generate a notable international advantage, reduce production costs, decrease Europe's industry import dependence and cut green gas emissions. But, the process will require strengthening our efforts in developing an homogenous market for climate-neutral and circular products. A comprehensive circular economy action plan with clear principles could become, as other EU policies, a worldwide model of developing sustainable products, where European Union will benefit from the first to act.

Finally, a successful industrial transition towards climate-neutral will require a massive both public and private investment. In this regard, I firstly highlight the decisive role of the European Investment Bank in the years ahead and secondly, I underline



that industrial competitiveness represents a major factor in determining private investment attractiveness. European Union will face the unprecedented mission to increase in a balanced manner both private investment and sustainable and climate-neutral productivity.

To conclude, I personally see the Green Deal as a new opportunity for our industrial sector. An accelerated process of an inevitable industrial evolution, where the European Union takes the leading role.

**PHILIPPE KNOCHÉ**

CEO Orano

The ambitious target set at European level to decarbonize our economy is essential to drive a drastic reduction in greenhouse gas emissions. The Green Deal proposed by the European Commission is a major step forward, linking the success of achieving climate neutrality in 2050 with continued growth supported by a renewed industrial strategy. To succeed, access to reliable, competitive, low-carbon energy is a priority. All low-carbon power technologies are needed and nuclear energy will play an essential role in the long term. This should trigger awareness that the European Union benefits from a long-standing technology and industrial leadership in the nuclear sector.

The EU can only achieve clean growth if its energy system delivers competitive, reliable and low-CO₂ energy to industrial users and households. Nuclear energy will play an essential role.

All long-term European energy scenarios foresee that electricity demand will grow significantly (between +35% and + 150% by 2050 versus 2018¹). As the European Commission put it in its *Clean planet for all* strategy, "nuclear will form the backbone of a carbon-free European power system, together with renewables" which guarantees a reliable, carbon free and competitive energy supply.

Today, almost 26% of the electricity produced in the EU comes from nuclear energy. This makes it the largest source of electricity (ahead of gas and coal) and by far the largest low-CO₂ source, ahead of wind (11%), hydropower (10%) and solar (4%).

In a low-carbon world, energy technologies deliver more than power: they are an essential part of sovereignty

Almost half of the low-carbon electricity produced in Europe is nuclear.

Fossil fuel power generation still accounts for almost half of the EU electricity mix. This generating capacity would have to be replaced by low-CO₂ technologies while increasing overall generating capacity to meet the rising electricity demand. In addition, energy efficiency actions plan must be implemented. The investment challenge is huge. The European Commission estimates that 2.8% of the EU GDP would need to be invested in the energy system, as opposed to 2% today. It will also be an industrial challenge.

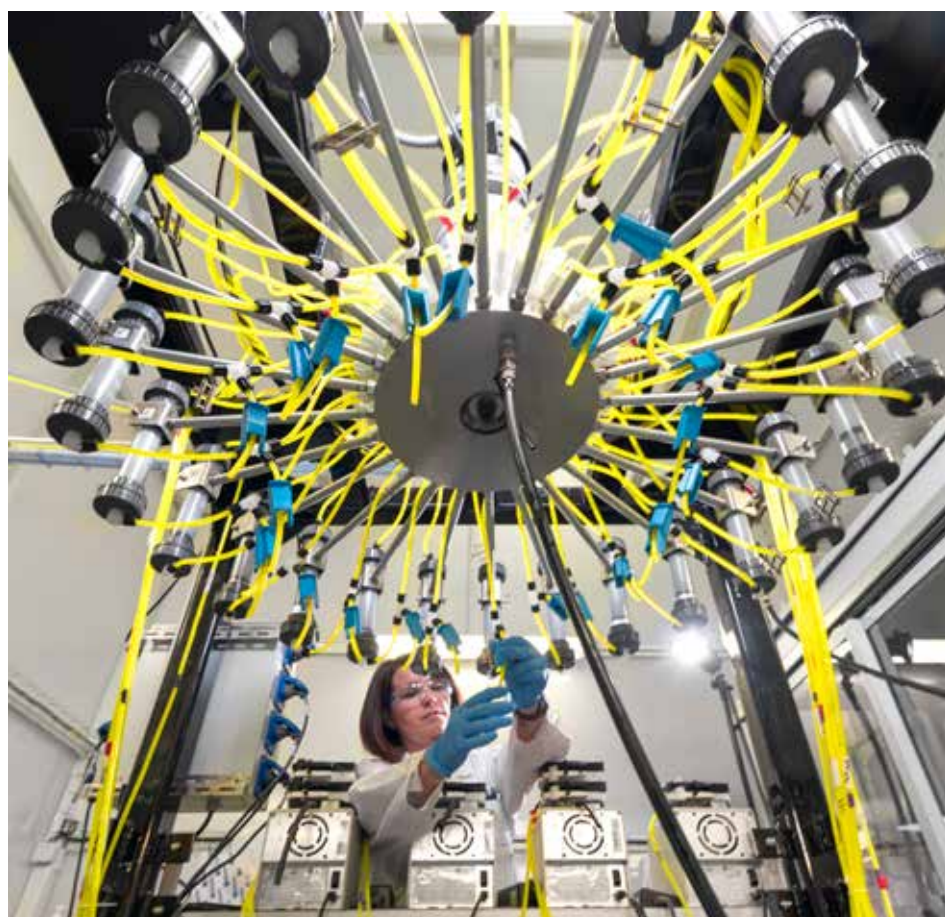
Therefore, clear signals are needed in order to facilitate investment and support the

industrial sector that will deliver those new low-carbon power plants. Investments in new capacities must drive a rebuild of competitive European supply chains, creating local jobs and maximizing the socio-economic impact of the transition.

In a low-carbon world, energy technologies deliver more than power: they are an essential part of sovereignty. It is crucial that the EU embeds a technology strategy in its energy and climate policies.

Projecting to 2050, in a decarbonized power system, dependence on fossil fuels will become less of a factor than secure access to certain strategic raw materials, the mastery

Pilot CIX (Continuous Ion EXchange) increasing significantly the power supply flows for the development of new resins for the extraction of the uranium. Centre of Mining Innovation. Bessines (France). Copyright : Orano, LARRAYADIEU ERIC



¹ In the European Commission's long-term strategy, the EU's final energy consumption decreases from 1,639 Mtoe in 2016 to 1,200 Mtoe in 2050, but all scenarios predict an increase in electricity consumption.

of technologies and supply chains, cybersecurity, maintenance capabilities and grid technologies. This becomes a matter of sovereignty: as is the case for data, low-carbon power will be the blood of the economy.

This is why the EU must develop the right tools to maintain or develop technological and industrial leadership in the low-carbon power sector, including nuclear.

Most of the EU's large trading partners have a thorough technology strategy when they define their energy policy. This is notably the case in the field of nuclear energy, with China, the US and Russia ramping up budgets for R&D, devising energy plans with an increasing share of nuclear or supporting exports².

In terms of low-carbon power technologies, nuclear energy is one of the few instances where the EU masters the full value chain

from raw materials to the management of wastes. It is high time that this be fully recognized with a fully fleshed-out industrial strategy. There is a clear need to accelerate R&D by establishing a coherent set of priorities. This would help boost the competitiveness of the European nuclear industry, including through standardization, innovation, digitalization and even new reactor concepts such as SMRs. A thorough screening of foreign direct investments should be implemented, building on the European regulation which recognizes the supply chain of the nuclear sector as strategic. It is also necessary to ensure a level playing field with our non-EU competitors.

Orano will continue to play its part in the European Green Deal, ensuring that the EU reaps all the benefits of the sustainable use of nuclear power and improving its own environmental footprint.

Orano contributes to ensuring that the EU reaps all the benefits of the sustainable use of nuclear energy. Our mining assets and our leading-edge uranium conversion and enrichment technologies serve a secure and competitive supply of nuclear materials

for reactors. We provide industrially proven solutions for the management of radioactive waste, including the recycling of used nuclear fuels.

As any company, we must shoulder our responsibilities and respond to what has to be our main driver: our duty to succeed in making the EU the first carbon neutral continent. This is why we have reviewed and strengthened our commitments in matters of corporate social, environmental and societal responsibility. We are also building precise, scientific knowledge of impacts on the environment and investing substantially in research and development to improve our practices. The radiological footprint of our main industrial sites is negligible, less than 1% of the natural radioactivity impact.

Finally, through our expertise, technologies and materials, we are seeking to provide innovative solutions both to societal (health) issues and to strategic industrial challenges (circular economy and access to critical raw materials, sustainable electric mobility, space).

² In its WEO 2019, IEA's "Stated Policies Scenario" sees installed nuclear capacity growth of over 15% from 2018 to 2040. The scenario envisages a total generating capacity of 13,109 GWe by 2040, with the increase concentrated in Asia, and in particular China (34% of the total).

Aerial view of Georges Besse II (GBII) enrichment plant. Orano Tricastin site. - Copyright : Orano, CRESPEAU CYRIL





MORTEN HELVEG PETERSEN

*MEP (Renew Europe Group),
Vice-Chair of the ITRE Committee*

Climate change calls for us to create a vastly different energy system, and the journey has already started. Two of the biggest challenges in achieving this are long-distance transport and renewable energy storage. The solution to both may very well be sector coupling.

In Brussels, sector coupling has already become a buzzword. Sector coupling is of utmost importance if we are to integrate renewable energy to the extent that we want – and have – to.

The expansion of wind and solar energy creates a need to utilise green energy in new ways. A prospective option could be sector coupling plants where green electricity is electrolysed to hydrogen or refined to other fuels. Another important aspect of sector coupling is district heating and cooling. District heating and cooling are technologies that increase the overall energy system efficiency by recycling energy or fuels otherwise lost and, at the same time, providing flexibility to the heating and cooling markets as well as the energy system in general. This is done by aggregating heat demands in buildings and industries through thermal networks and covering demands with a portfolio of supply options. By integrating district heating and cooling networks with other energy sectors, in particular electricity, their ability to thermally store energy can be utilised to enhance both efficiency and flexibility of these other sectors.

A large CO₂ reduction

The so-called Power-to-X (PtX) can also go a long way and become a crucial technology if we are to reach our goal of net-zero CO₂ emissions in the EU by 2050. In order to achieve the set goals, a quick transition to a future green and sustainable energy system is needed. PtX can help us to that

No green transformation without sector coupling

extent. According to a new analysis from The Technical University of Denmark, PtX can for example save Denmark 22 million tonnes of CO₂ over the next 0-10 or 0-25 years. In other words: The potential is huge.

PtX makes it possible to intelligently integrate and connect the different sectors of the energy system. The various energy carriers in the energy system 1) the electricity grid, 2) the gas grid, 3) the district heating grid and 4) the district cooling grid have traditionally been viewed separately. But with PtX, the different energy carriers can be converted to each other so that the energy system becomes more coherent. The four energy carriers should therefore no longer be regarded as four isolated silos. Instead, one can link the different sectors and leverage their respective strengths to provide the flexibility needed in an energy system where the share of green energy becomes greater.

Flying CO₂ free

The conversion of green power to hydrogen or on to other products such as gas, methanol and ammonia has a number of advantages. The technology can help reduce CO₂ emissions from sectors such as heavy transport and industry. It is cheaper to store and transport the green energy when it is converted from electrons to molecules. As the conversion process can run very flexibly, it also helps to

increase the value of wind and solar at times when there is plenty of it.

In the future, we must ensure that all our future energy is green and circular, and that the renewable energy is utilised throughout the community. It is crucial that we avoid wastage and can create value based on profits in production. For example, bio-waste from agriculture, industry and households can help produce green biogas, which can be used in the existing gas infrastructure.

The cost of PtX is constantly dropping, which makes it a viable alternative to fossil fuels in the future. The most costly part of the process is the electrolysis, which is constantly being streamlined because a number of large European energy companies are currently investing in very large green hydrogen plants. With a strong dedication to this technology, we may one day all be flying on holidays with aircraft fueled by CO₂-free, liquid aircraft fuel.

2020 will bring the European Commission's strategy for smart sector integration, and I look forward to dealing with this important matter in the Parliament. We urgently need a more systemic and horizontal approach to sector coupling to really push the green transformation forward.



**KARIMA DELLI**

MEP (The Greens/EFA) Chair of the TRAN Committee

Expanding the EU Emissions Trading Scheme

At the beginning of the year, the European Commission launched the Green New Deal, which aims to put the fight against climate change at the centre of European policymaking. To ensure that this initiative does not remain a mere declaration of good intentions, placing the transport sector at the heart of this strategy is key. The sector accounts for 30% of total CO₂ emissions in the European Union and it is the only one whose emissions continue to increase (+26% compared to 1990 levels). While representing a relatively small share of EU transport (3%), international aviation has recorded the largest percentage increase (compared to 1990 levels) (+114%) and air traffic figures are forecast to skyrocket, followed by international shipping (+33%) and land transport (+22%). We are far from meeting the Paris agreements targets. It is high time that the transport sector contributed fully to the fight against climate change.

Much has been done in the last mandate on road transport: CO₂ performance standards have been set for cars and lorries for 2025 and 2030, respectively, and targets have

been set for clean vehicles for public procurement. We must continue with our efforts to decarbonise road transport, but this new mandate should also see major steps taken towards decarbonising air and maritime transport. It is high time that the aviation and maritime sectors paid in full their impact on the climate.

As such, the EU Emissions Trading Scheme is a key instrument in the fight against climate change. It is the world's first major carbon market and it caps emissions from industry and aviation by issuing a number of emission allowances that market players can then trade with one another. However, aviation is currently the only sector subject to the European carbon market (EU ETS) whose emissions continue to increase. In 2018, aviation emissions subject to the EU ETS increased by 4% compared to 2017, reaching 67 million tons of CO₂.

The Green Deal allows for the revision of the EU ETS in 2021: we need to seize this opportunity to fully include the aviation sector! It is imperative that the emissions cap allocated to airlines be reduced and that the "Stop the clock" mechanism adopted in 2012 under pressure from airlines and countries such as China and the United States to exclude international flights from the EU ETS be terminated. The Commission's 2012 initial proposal included aviation as a whole in the

EU ETS. "Stop the clock" has been renewed several times since then pending a comprehensive solution taken by the International Civil Aviation Organisation (ICAO). As is well known, progress at the ICAO level is stagnating, or at least moving far too slowly. We should therefore consider coming back to the original scope of the EU ETS for aviation, i.e. covering the aviation sector as a whole, including international flights.

It is my hope that the European Commission will deliver on Mrs Von der Leyen's promise to include the maritime sector in the EU ETS. The stakes are high. If international shipping were a country, it would rank as the world's 6th-largest CO₂ emitter, placing it ahead of individual EU Member States. Due to the expected increase in world trade, emissions generated by international shipping will rise by 50-250% by 2050 compared to 2012 levels.

Although the EU Emissions Trading Scheme is key to reducing the environmental impact of aviation and shipping, we should not solely rely on it. In addition to revising the EU ETS, we need to tackle the remaining tax exemptions on kerosene and marine fuel and the development of low to zero-carbon vessels. Finally, introducing an EU legislation for zero-emission ports would have considerable benefits for the health of European citizens and the climate.



**MAURO PETRICCIONE**

*Director General - DG Climate Action,
European Commission*

Climate neutrality for growth and jobs

The European Green Deal is, at its core, a growth strategy that will transform the EU's economy and society in a way that sets us on a sustainable and climate-neutral path. It will provide us with a modern, efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from consumption of natural resources. To this end, on 4 March the European Commission adopted the EU Climate Law, initiating the process of establishing this 2050 goal in legislation and thereby sending a clear signal to economic operators that Europe is committed to the transition to climate neutrality.

Analyses carried out as part of the Commission's long-term strategy *A Clean Planet for All* indicate that, overall, the economic impacts of such a deep transition will be positive despite the upfront investments required in all economic sectors. So long as it is carried out in a just and socially fair manner, this investment is therefore a vital opportunity for sustainable and inclusive EU growth. The European Green Deal will provide the toolkit with which we will accelerate and underpin the transition needed in all sectors of the economy and society.

As with any system change, the transition to a climate-neutral society requires significant investment. This will have to be sustainable in more ways than one; not only must it be objectively and undeniably 'green', but also maintained and increased over time. In fact, up to an additional €260 billion of annual investment is required to achieve the current 2030 climate and energy targets alone. Public and private investment must therefore be mobilised on a large scale to achieve and sustain the goal of climate neutrality by 2050.

The **European Green Deal Investment Plan** will be a key facilitator of public

investment, combining dedicated financing with an optimal enabling framework to achieve at least €1 trillion of investment. A crucial element will be the **Just Transition Mechanism**, focused on those EU regions and sectors at most risk from the transition because they are economically dependent on fossil fuel or carbon-intensive processes. The Mechanism will support regions to diversify and modernise their economies, as well as citizens via public and private resources, for example re-skilling programmes, jobs in new economic sectors and energy-efficient housing. It will make investments more attractive, with an overall financial package worth at least €100 billion.

'Green jobs' already represent 4 million livelihoods in the EU. Further investment into industrial modernisation, energy transformation, the circular economy, clean mobility, green infrastructure and the bio-economy will create new, local, high quality employment opportunities. Actions and policies to implement the EU's 2020 climate and energy targets have already increased the EU labour force by 1% to 1.5% and this trend is projected to continue.

The private sector will also be key to financing the green transition and the Commission will present a **Renewed Sustainable Finance Strategy** later this year. It will strengthen the foundations of green investment, aiming to embed these principles deeper into corporate governance frameworks. Companies will disclose more climate and environmental data so that investors are fully informed of their decisions. Moreover, it will aim to simplify identification of sustainable investment opportunities via labelling or an EU green bond standard.

The EU already has a global competitive edge in clean innovation and technologies. In order to maintain these first-mover advantages in this key economic sector as the transition to climate neutrality progresses, the EU will significantly increase large-scale deployment of new technologies across sectors and the Single Market, constructing new value chains as it goes. The full range of

instruments available under Horizon Europe will be made available to leverage national public and private investments in this sense, with at least 35% of the Horizon budget dedicated to climate-focused solutions.

30% of the InvestEU Fund will contribute to climate objectives and support the European Green Deal Investment Plan by de-risking private funds. Moreover, the role of the Innovation and Modernisation Funds, currently financed by auction revenues from the EU Emissions Trading System, will also support investments in the transition. The EU's long-term budget will play a key role and discussions on increasing climate mainstreaming in the next multiannual financial framework are ongoing.

Further decarbonisation of the energy system will be undertaken in a manner that involves and benefits consumers. Maximising the efficiency of our energy production and use, which currently accounts for over 75% of the EU's greenhouse gas emissions, is imperative to achieving the climate neutrality objective. A renewables-based power sector must complement a rapid coal phase-out and decrease the use of fossil gas, whilst ensuring security of supply and affordability for consumers, taking the issue of energy poverty into account. EU-level support for smart integration of renewables, energy efficiency and other sustainable solutions will help achieve decarbonisation at the lowest possible cost while opening up new job sectors. In fact, the rapid decrease in the cost of renewables combined with improved support policy is already having a positive impact on household energy bills.

The Commission will continue to make consistent use of all policy levers at its disposal to ensure that the European Green Deal delivers fair and sustainable economic growth. We are already witnessing the benefits of the clean energy transition; extending this to the entire economy will not only reap significant economic and social benefits, but also underline the EU's status as a global leader in climate action and sustainable economic growth.



DIEGO PAVIA
CEO of InnoEnergy

A European Innovation policy shaped to deliver the European Green Deal

A clear destination imposing to amplify our effort with no delay

Since July 2019, the ambition of President von der Leyen is crystal clear: **making Europe the first climate-neutral continent by 2050**. This echoes a rising movement led by civil society to push global leaders to listen to the scientific community alerting us about the threat that climate change represents for our civilisation, now considered by the European Commission as "this generation's defining task".

While 2050 could seem far-away, the risk of reaching tipping points combined with the system inertia and the lifetime of investments, imposes to **accelerate and amplify the effort with no delay**. All sectors of the economy will have to adapt to climate-neutrality, or will eventually have to be substituted or to disappear. This indeed implies simultaneous socio-technico-economic changes at all levels of the system. We can think of electromobility requiring the deployment of charging stations in locations adapted to the drivers' needs and behaviours, the corresponding grid reinforcement and the impact of tariff schemes, together with the development of battery technologies. That **will leave no economic activity unaffected**. Furthermore, dealing with a transition to mitigate climate change and adapt society to its impacts implies **taking decisions in a context of very high uncertainty**.

A new set of policies to rewire the entire economy

For the concrete delivery of this ambition, the Union must aim **at deeply and irreversibly impacting the structure of the economy**, by encouraging resources to move into some specific sectors aligned with climate-neutrality by 2050. This requires to set up the appropriate **enabling framework** for the structural changes to unfold **in all economic activities**.

This should notably be based on **sunrise policies**, such as subsidies for innovative technologies, rising economic incentives to better reflect carbon price, incentives to upskill and reskill the entire workforce and to facilitate its geographical mobility, in particular in carbon-intensive regions. In addition, mitigating the very high level of uncertainty **imposes to set long-term targets and to define pathways in order** to maintain this perceived uncertainty and the related investment risk as low as possible.

Some initiatives already delivered, such as the taxonomy on sustainable finance, or announced in the European Green Deal, **will undeniably contribute to create this favourable context**. We can notably mention the initiatives on the EU ETS, on the Energy Taxation directive, on the Energy Efficiency Directive, on the Renewable Energy Directive, on the CO₂ standards for vehicles, or the proposal for a Just Transition Fund. On top of that, **the European Climate Law** proposed by the European Commission in March 2020 is decisive to anchor climate neutrality as the clear destination and will play a critical role in mitigating the perceived uncertainty in the eyes of investors, by locking policies in, protected from future political turbulences.

The EU Innovation policy: the beating heart of our industrial strategy

Beyond that, this climate-neutrality endeavour also **advocates to rethink the Union's innovation policy**. Innovation and entrepreneurship are an imperative for any organisation to develop a competitive advantage, from SMEs to multinationals. That's why, as proposed by the Commission in the New Industrial Strategy for Europe published in March 2020, **the Union's innovation policy should be at the heart of the industrial strategy, which will be the engine driving towards a climate-neutral future**.

The **European way of fostering Innovation is unique**. The European innovation system is co-created by the public and private sectors, and involves national and European levels. Along the innovation value chain from laboratories to markets, the EU **plays a lead**

role, via collaborative initiatives to **facilitate a European approach: at operational** (e.g. with the competitive calls of the Framework Programme and the co-programmed partnerships), **strategic** (e.g. SET Plan and the ETIPs) and **political** (e.g. the upcoming co-funded partnerships) **levels**. It also acts **as a financier and investor**, through the InnovFin programme of the EIB or the European Innovation Council (EIC) Accelerator programme, which will **offer equity investments**. This approach of **innovation based on multi-stakeholder ecosystems** is a genuine strength and a way to provide agility and resilience to the economic fabric.

The Union can count on various instruments and programmes supporting the emergence of innovation from labs to markets (see figure 1) within these innovation ecosystems. **EIT InnoEnergy already seeks to make the best use of the European Union's instruments** to support its portfolio of assets at each step of their journey: by organizing regular interactions with public financiers like the European Investment Bank with potential future candidates, by contributing to source large-scale demonstration projects qualifying for financial support for Innovation Fund, or via **a pilot action with the EIC Accelerator to provide Business Acceleration Services** to energy-related SMEs, in preparation of a future more **structural collaboration**. It is now critical to make sure that **these synergetic and complementary stakeholders work all hand-in-hand to offer a seamless and entrepreneur-centric experience, to exploit most of their collective potential**, and to ensure that **industry starts thinking at the scale of the continent**.

An ambitious European Industrial Strategy to increase the pulse

We should go further: the Union should facilitate the coordination of large investments in cutting edge solutions offered by a highly skilled industrial fabric made of SMEs, and foster the deployment of key enabling technologies. This **proactive coordinating approach** at the interface of policy, finance, and industry could be achieved via the **European Alliances** to be founded along

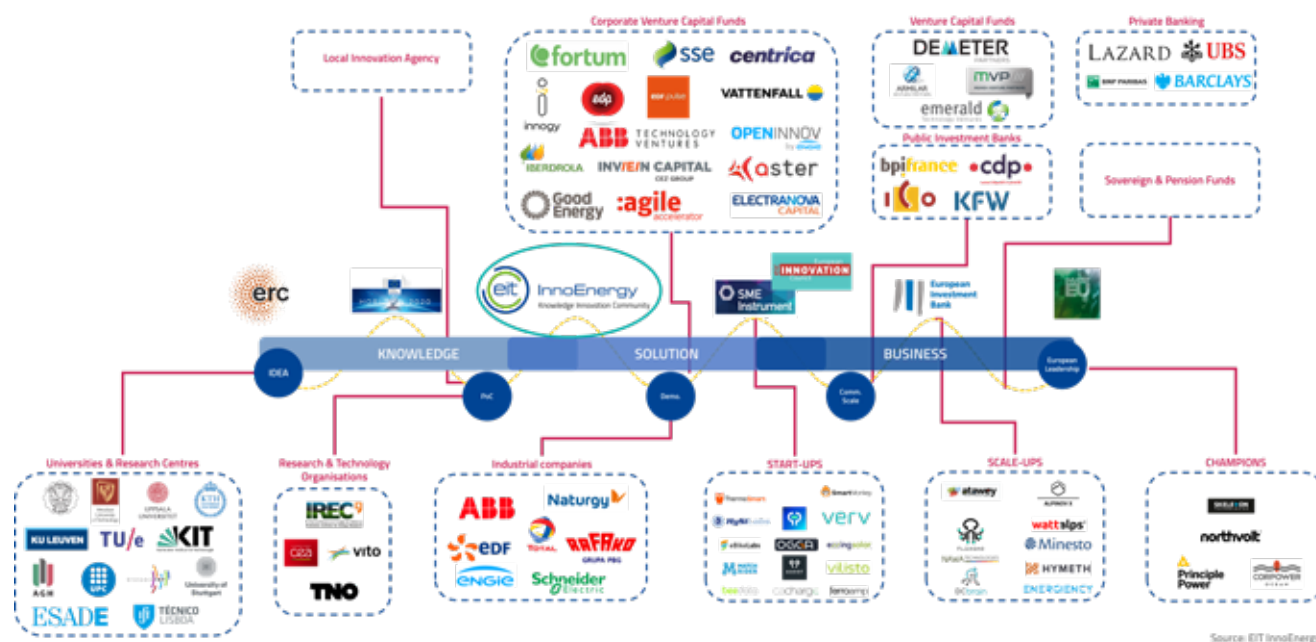


Figure 1 – From Idea to European leadership - snapshot of the European innovation ecosystem of energy transition

some strategic value chains, as announced in the **new EU Industrial Strategy**. This approach has indeed demonstrated its merit notably on Batteries, with the **European Battery Alliance** championed by Vice-President Maroš Šefčovič.

As the European Public-Private Partnership accelerating and de-risking the market uptake of innovations in sustainable energy, **EIT InnoEnergy** was entrusted to mobilise and steer the industry across the battery value chain. The aim was to foster a vivid **pan-European ecosystem** made of SMEs, large corporates, RTOs, financiers, and policymakers, driven by the shared ambition to deliver technological leadership and competitive products and services for Europe (such as Northvolt which became the first European unicorn in this field), to eventually catch up with Asian players and protect our sovereignty. The feedback collected along this process should be used to mobilise industry around the future strategic value chains which will have to play a key role towards climate-neutrality of the continent such as **Clean Hydrogen** and **Low-Carbon Industries**.

In addition, the Strategy pledges to develop **a more entrepreneurial mindset to become more "failure-tolerant"**. In this direction, the upcoming Communication on the Future of Research and Innovation will be the suitable opportunity to **align the European Innovation policy with the industrial strategy and primarily with the climate-neutrality objective, as well as to ground it on the concept of "Think big, move fast"**, notably by ensuring the seamless and entrepreneur-centric

experience from idea to European leadership mentioned earlier.

All in all, a full-fledged industrial strategy aligned with the European Green Deal should deliver EU prosperity and competitiveness, prepare our businesses and citizens to the uncharted waters of a world impacted by climate changes, and secure **Union's future relevance, at home and abroad**. The next five years will be decisive for the achievement

of climate-neutrality by mid-century while leaving no one behind. In this endeavour, by propelling promising European innovative start-ups and SMEs bringing the European Green Deal and industrial policy to life (see figure 2), and by leveraging its expertise to mobilise strategic value chains and eventually serve the Union, **EIT InnoEnergy is committed to keep acting as a catalyst of low carbon solutions' leadership for Europe**.



Figure 2 – Some European companies powered by EIT InnoEnergy contributing to make Europe the first climate-neutral continent



VILLE NIINISTÖ

MEP (Greens/ALE),
Member of the ITRE Committee

Greening industry for good

The green deal has been a hot topic of the Brussels bubble for almost a year now. The expectations are high. There is also strong citizen support for strong take on climate as 93% of EU citizens see climate change as a serious problem.

The green deal is so far an action plan, and everyone is much in the waiting mood for concrete legislation. That will define if the green deal is ambitious enough. The climate law was the first concrete piece of legislation under the green deal, and it falls a lot short on urgency.

What we need now more than ever is a holistic approach to a green way of doing things in all sectors, including transforming the economy to fit a climate neutral European Union. We need to stop thinking about green industries, brown industries and grey industries. We cannot afford to take this approach, where we allow some industries or sectors to remain in the "business as usual" mode. We need an economy wide shift to green everything we do - this should be the goal of the green deal.

The big question isn't the lack of knowledge or tools. We know what we need to do and we largely have the required technology. What must be done is to implement it and start using the cleaner technologies economy wide. We need action now not only in terms of the climate urgency, but also because the industrial sector's investment cycles take time: making the wrong investments now will tie our hands to unsustainable solutions for a long time.. We need to ensure that the initiatives are fit for a Paris compliant world. As policy makers our job is to make the framework possible for a full greening of the economy - business as usual will not do the job.

Carbon neutral steel has become a talking point commonly used in the EP, with references across parties. It is an example that shows that there is willingness, but things don't happen overnight. SSAB will aim at bringing carbon neutral steel to the market by 2026, which is a mere 6 years from now. They have teamed up with Vattenfall to ensure the renewable electricity and renewable hydrogen supply. They will essentially shift from fossils to renewables. This is one company and one initiative, but we need all companies to be like this, the steel sector is a large emission source accounting for 7% of global emissions. We need to also acknowledge that there is no one-size-fits-all solution to decarbonisation, but many different technologies will be needed, but what is clear is that we need to invest now into bright green technologies, as the next investment is usually 30 years away, and for us to cut our emissions at the needed pace, we cannot afford interim solutions, but should rather go for end-game solutions directly.

The transformation of our economy will require lots of renewable electricity as most of the decarbonisation solutions are reliant on clean energy. 76% of our emissions come from energy. So we need a vast shift in our energy system. We need to seriously upscale renewables and we need an energy infrastructure fit for purpose. Upscaling renewables brings jobs, as renewables generally create more jobs than fossil fuels. Cutting subsidies from fossil fuels and from funding new fossil infrastructure should be the obvious choices right now.

We need an industrial strategy with renewables as its spearhead goals, the enabler of decarbonisation. Our energy system will be more based on variable renewables, and to ensure energy security we need better interconnectors so we don't lose the created power, and help each other out if a region is not producing as much as consumed. Storage will be a contributor, but the main security comes from better connections ensuring electrons flow freely producers to consumers. We need to also remember that the less we consume energy, the less we have

to decarbonise, so every action in energy efficiency is needed to make the transformation possible.

The young climate activists are the front-runners of the fight against climate change but there is also broad willingness to act among European people. The latest Eurobarometer shows that 93% of citizens have acted to cut their own emissions. This shows that there is demand and willingness in people to make the more sustainable choices, we just need to lower emission products available and make sure that the transition to a fossil-free world leaves nobody behind.

In the car industry the registrations of EVs doubled from December last year to January this year, when the manufacturers actually started seriously to provide EVs as this year the manufacturers are going to need to meet the CO₂ standard of 95 g CO₂/km on average, and last year there was no obligation. I suspect they were holding back sales to get as many clean cars sold this year. But this is an example of people willing to buy environmentally friendly goods. We need also have very clear marking and rules to avoid greenwashing.

These are exciting times in the Parliament, with a busy mandate ahead, as we together with the commission and member states lay the track for the EU to become a climate leader, not just in words, but also in ambitious actions.



PILAR DEL CASTILLO

*MEP (EPP Group),
Member of the ITRE Committee*

Digital transformation cornerstone of a resource efficient and climate neutral transition

In her political guidelines, Commission President von der Leyen called for Europe "to lead the transition to a healthy planet and a new digital world", another way of stating that the Green Deal and the Digital Transformation will be the foundations of her mandate. Today "digital" is responsible for the greatest growths of productivity, permeates all sectors of the economy and has become an essential enabler of our climate goals.

For example, in the energy sector the potential of the digital transformation regarding energy efficiency at the source (in primary energy production) is well known. In addition, the benefits it offers, during transport through the grids, can be of such a volume that it should be considered a priority.

Likewise, in the energy field, digital developments can also play a major role in promoting responsible energy consumption in households, transport and manufacturing. Smart meters, efficient lighting, cloud computing and distributed software have the potential to transform energy use patterns.

These are just examples of how the digital transformation can be instrumental in the climate neutral transition in one sector. However, Digital technologies, especially with the exponential development of Artificial Intelligence (AI), Big Data and 5G are having a profound impact in other key areas, such as transport, industry and agriculture.

On the 19th of February the European Commission presented in Parliament's Industry, Research and Energy Committee two of the three main pillars of its digitalisation policy: the White Book on AI, and Europe's Data Strategy. The third pillar, Europe's New Industrial Strategy is expected for the 9th of March, and at the time of writing this article, it has yet not been published. The three

proposals will have to twin the Green Deal and consequently the search for resource efficiency and climate neutrality must be an integral part of their policy actions.

It can be no other way, and while I cannot yet comment on the specifics of the new Industrial Strategy for Europe, the AI White Book, and specially the Data Strategy do provide concrete actions on energy efficiency. At the end of the day, data-driven innovation will bring enormous benefits through its contribution to the European Green Deal.

How? While its potential is yet mostly unknown it can already produce better predictions of extreme weather events such as hurricanes, it can increase monitoring, measuring and accountability of pollutants (AI is being used to automatically analyse data from IoT sensors and remote sensing data to identify pollutants such as ground-level ozone, particle pollution, carbon monoxide, sulphur dioxide and nitrogen dioxide). In the same token it can optimise traffic flows, improve efficiency of logistics and supply chain, improve agricultural yields (for example by helping farmers diagnose and treat agricultural crops), to improving manufacturing by reducing errors and energy wastage on the production line, and improving production efficiency with advanced robotics.

In this regard, making more data available and improving the way in which data is used will be essential for tackling climate and environment-related challenges, consequently being successful in our data strategy will be paramount. Surely as a general approach, we will need to implement norms and guarantee the interoperability so that that data generated by the public sector should be available by ensuring that this data is used by researchers, other public institutions, SMEs or start-ups.

The Commission's approach to promote the development of common European data

spaces in strategic economic sectors and domains of public interest, such as climate change, will also be beneficial as a first step as long as the potential cross-sector use of data between sectors is fully taken into account.

With this background one can only but support the creation of the proposed Common European Green Deal data space, to use the major potential of data in support of the Green Deal priority actions on climate change, circular economy, zeropollution, biodiversity, deforestation and compliance assurance.

Likewise the "GreenData4All" (that will modernise INSPIRE and the Access to Environment Information Directive), as well as the ground breaking initiative 'Destination Earth' (that will offer, through a Digital Twin, a modelling platform to visualize, monitor and forecast natural and human activity on the planet) are concrete actions that will surely render to be important tools in the fight against climate change.

However, in order to seize all the resource efficient potential the ICT sector needs to look at itself. According to the European Commission, the environmental footprint of the sector is estimated at 5-9% of the world's total electricity use and more than 2% of all emissions. Consequently, efforts will have to be allocated to make ICT equipment designed to last longer and become more recyclable while at the same time data centres more energy efficient.

In this context the release of the Science-Based Target (SBT) to reduce Greenhouse Gas emissions across the telecoms sector, presented on the 28th of February and supported by twenty-nine operators, is undoubtedly a welcomed step.

Lastly, the environmental potential of ICTs requires a full development of the Digital Single Market, the appropriate digital and physical infrastructures, and the necessary human capabilities.



STÉPHANE RICHARD

*Chairman of the GSMA and
CEO of ORANGE*

The European Green Deal: a digital perspective

A welcome strong EU ambition

With its ambition to make Europe the world's first climate neutral continent by 2050, the European Commission sent out a strong signal to EU citizens, public authorities, and all industry players that the time for climate action is now.

The Green Deal Communication, adopted by the European Commission at the end of 2019, acknowledged that a swift transition that leaves no one behind towards both a greener and a more digitalised society, while crucial, won't be easy. While this carries significant challenges, it is now a matter for all of us to contribute to the Green Deal objectives.

The dual challenge of the digital sector

For the digital sector, the challenge is twofold: how can we help other sectors adopt low-carbon digital solutions, while answering to the global growing demand of almost 8 billion people for better services and at the same time reducing our own environmental footprint?

In this sense, the first issue for our industry is diminishing our carbon footprint. According to a 2018 study published in [Sustainability Journal](#), the digital sector accounted for 3.5% of global CO₂ emissions. Even though this is a small share, compared with some other sectors, it should not be underestimated.

As Chairman of the GSM Association (GSMA), representing mobile operators that connect 7.8 billion mobile connections worldwide, I strongly support the [industry commitment](#) for more transparency taken during the last UN General Assembly in September 2019. 50 operators, together accounting for more than 5 billion mobile connections, are now publishing their energy, climate and CO₂ emissions impact, based on the Carbon Disclosure Project's international standards.

The GSMA has also been contributing, with the ITU and GeSI to set ambitious targets aligned with the science-based target initiative (SBTi) and the Paris Agreement. The ICT industry has released the first ever [science-based pathway](#) to reduce greenhouse gas emissions across the telecoms sector.

But as important is the contribution of our industry to the other sectors to provide services with less CO₂ emissions. There won't be a global solution for climate transition without the digitalisation of our economy including health, education or financial services.

The digital sector is already enabling the reduction of CO₂ across other industries:

- A [recent report](#) produced by the GSMA and the Carbon Trust calculated that, in 2018, mobile technology enabled a cut in CO₂ emissions almost 10 times greater than the global carbon footprint of the mobile industry itself.
- Smart sensors and mobile connectivity are allowing better management of energy consumption for end users or water savings for farmers by optimising irrigation systems.
- The mobile technology will do much more in the future through the Internet of Things, Artificial Intelligence and 5G. It is [estimated](#) that by 2030 digital solutions could help reduce CO₂ emissions by 20%.

While enabling others, our sector has to ensure that the expected growth in data generation will go hand in hand with lower CO₂ emissions. In other words our industry has to do more with less.

ORANGE's pathway to net-zero emissions

At ORANGE, we have been reducing our environmental footprint for the past 10 years. Following COP 21 in 2015, we set and achieved two targets: embedding the principles of the circular economy in our processes and reducing our CO₂ emissions by 50% per customer use in 2020, compared to 2006. We also curbed our total emissions by 3%

between 2016 and 2018, despite increases in digital usages and our customer base.

More needs to be done and quicker. With a long-term perspective in mind, we set new ambitious targets to **achieve net-zero carbon emissions by 2040** through our strategic plan "[Engage 2025](#)". This will be done by drastically cutting our current emissions and relying on carbon sequestration only for the remaining unavoidable part. Our environmental policy is based on three pillars: reducing our CO₂ emissions, limiting our impact on natural resources, and driving environmentally friendly innovation.

In the shorter term, ORANGE is committed to achieving the following milestones **by 2025**:

- **Reducing our CO₂ emissions by 30% compared to 2015.** As infrastructure represents a great part of our CO₂ emissions, investing in more efficient networks and data centers is a way to contribute to such a goal.
- **Sourcing more than 50% of our electricity from renewables** (vs. 26% end 2019).
- **Ensuring that 100% of ORANGE-branded products follow an eco-design approach.**

Recycling is another important aspect. In the past 10 years we have managed to recycle 15 million devices, but more has to be done notably to incentivize consumers. In France alone, as many as [100 million devices](#) are unused at home!

Finally, cutting emissions is also a matter of lower digital consumption. Whether we are citizens, public authorities or industries, all of us need to become more savvy and reasonable users.

The urgent need to transition to a low-carbon economy means that everyone will have a role to play, given the societal and cross-sectoral nature of the challenge. The telecoms sector fully shares the European Commission's view regarding the key enabling role of digitalisation, and we stand ready to contribute to the European Green Deal's objectives.

A Sustainable Industrial Policy Innovation and **green technologies** for sustainable and competitive mobility



İSMAIL ERTUG

MEP (S&D Group), Member of the TRAN Committee, S&D-Vice-President for transformation, innovation and a strong digital Europe

The European industry is in the midst of an historic transformation. Two main challenges that are also opportunities drive this transformation: Decarbonisation and Digitalisation. 36 million jobs are directly linked to the European industry – jobs that generate wages above the average level and thus with an important contribution to the financial stability of our social security systems. It is therefore of paramount importance to develop a forward-looking strategy to enlarge our industrial base and create an environment in which it can thrive.

In this short article, I want to focus mainly on mobility and transport. Although we saw in 2018, the first time since 2013, a minor reduction of greenhouse gas emissions, the transport sector is still playing a most significant role when it comes to its contribution to climate change. 27 % of all emissions are originating from transport. A lot has been achieved the past years but the focus still lies on road transport, as it is with 71.7 % by far the biggest emitter of all modes of transport. There is virtually no alternative, in order to combat climate change and remain below the 1.5-degree goal. We have to decarbonise transport and we have to be faster than we have been in the past. This means that the internal combustion engine (ICE) -powertrain will gradually phase out, although it would be counterproductive to set a fixed deadline for this. Nevertheless, the European automotive industry will only remain competitive, vis-à-vis China and the United States, if it leads the way for alternative powertrains.

Therefore, it is positive that the European Battery Alliance is gaining track and it looks like Europe is indeed on the way to create a competitive battery-cell industry. For other modes of transport, we need a European green hydrogen strategy – it is vital that we coordinate this on a European level in order

to avoid redundancies and to maximise the use of our resources. Of course, this has to be accompanied by ambitious but achievable CO₂ targets for cars, vans and trucks that accelerate the uptake of zero-emission-mobility while giving the industry enough flexibility to transform successfully.

Secondly, digitalisation will change our mobility in a radical way. Autonomous vehicles will change the way people get from A to B. It will also make the whole transport system more efficient, it will enable new business models and it harbours the potential to enable older people and people in rural areas to have better and easier access to public transport systems. We will have less people driving by themselves; this is in particular a turning point for the logistic sector and the people that work in it, but also for passenger transport.

At the same time, the automotive industry itself will transform from an industry mainly coined by manufacturing, towards an industry that generates and relies more and more on data. In addition, digitalisation will accelerate, a trend that is as old as the industrial revolution: automation. As shown in a study by the *Fraunhofer-Institut* the negative effects on the volume of work triggered by automation could be significantly higher than the effects that can be attributed to the gradual shift from internal combustion engines towards electric powertrains. In light of an ever-higher productivity, we need to start a discussion on how to distribute future productivity gains in order to let the vast majority of our citizen profit from it.

Overall Europe's industry is prepared for this transition. It is innovative, it is competitive and it has a strong base and profits from an interconnected and fitted educational system in many parts of the Union. However, more

needs to be done to ensure the ongoing success of our core industrial base. In a more and more unpredictable international environment, Europe needs to ensure stability for its industrial heavyweights encourage innovation and create conditions in which new industries will settle and grow. A carbon border-tax could help Europe's industry to be ambitious when combating climate change without this being a competitive disadvantage. Where necessary it will be also appropriate to reform the state aid rules in order to balance out similar measures by other economic power houses. The most important task albeit will be the competition of the common market and the improvement of the access to finance through a better Capital Markets Union.

The most important take away is that we should set ourselves brave and ambitious goals. We need to embrace the ongoing transformation in order to make it a success story.

**BRUNO CASSETTE***Director General, Lille Metropole (MEL)***CATHERINE GUIEU***Deputy Director General,***ERWAN LEMARCHAND***Director for Transitions,
Energy and Climate*

If France has succeeded in reducing its Greenhouse Gas Emissions (GGE) by 19% between 1990 and 2018, much remains to be done for it to reach the carbon neutrality objective by 2050 and reduce its CO₂ by 50 to 55% by 2030 as the new "Green Deal" recommends. The commitment against global warming directly concerns local authorities, which influence more than half of national GGE through their undertakings. Local authorities and in particular Metropolises also have a major role to play in reaching these objectives and more widely in terms of adapting our territories to climate change and improving population's living conditions.

In this context, the energy transition law for green growth voted in France in 2015 has reinforced the role of inter-municipal cooperations by positioning them as coordinators of energy transition at local level around a new strategic framework, the Territorial Energy, Air, Climate Plan (PCAET). This has been developed with regional stakeholders, businesses, non-profit associations, the academic world and citizens, which carry both strategy and action plans in terms of sustainable ecological transition.

The time has come for Regions to undertake **ecological** transition and adapt to **climate change**. The example of Lille Metropole (MEL) and its **climate budget**

For local authorities and urban ones in particular like the Metropolises, there are many challenges:

- Contribute to international and national efforts to reduce greenhouse gas emissions and therefore energy consumption, in order to limit global warming, a general phenomenon that affects all regions.
- Prepare and protect the population from the inevitable consequences of warming of which the effects can already be seen: more intense and regular heatwaves, extreme meteorological events, decrease in the quality and quantity of water resources, loss of agricultural production, biodiversity degradation...
- Sustainably improve air quality, mainly deteriorated by heating methods and transport, which have a major impact on inhabitants' health and quality of life. A new European directive on the subject will be published at the end of 2020.

- Energy transition should lead the region to be carbon neutral by 2050;
- A balanced and supportive transition of the region, based on stakeholders' mobilisation and participation and paying attention to reducing social inequalities;
- A transition resulting in a more resilient region faced with the various impacts of climate change, enabling inhabitants' quality of life to be preserved and improved. Specific attention is given to environmental health determining factors in particular.

This ambition is based on a unique and original approach in France and gives Lille Metropole a climate budget. The aim of this climate budget is to enrich the financial elements relating to public policies and projects presented in the budget by a section allowing their climate impacts to be understood. As such, each party can measure how spending and in particular investments meet objectives set by the PCAET. It's a tool to help decision-making but also a model change we propose to undertake in the region. This first stage is intended to be extended to other challenges. From now on, Lille Metropole is evaluating the impact of its public policies with regard to the 17 sustainable development objectives of the United Nations.

At the instigation of its President, Damien Castelain, and the Vice-president of sustainable development, Christiane Bouchart, and on the basis of a sound regional diagnosis of our region's assets and weaknesses, Lille Metropole voted its PCAET on 13 December 2019 by adopting a bold strategy based on three major pillars in terms of climate-air-energy policy:



Circular economy, sobriety and solidarity

In conformity with the European Green Deal that intends to make the EU the first continent to be carbon neutral by 2050, Lille Metropole has set energy restraint as an objective for itself in view of moving towards being carbon neutral by 2050. It must make energetic efficiency and decarbonisation efforts upstream for the energetic mix. It's in particular through its AMELIO renovation programme supporting home owners and occupants in **their renovations by bringing them technical and financial solutions, that Lille Metropole has given itself the objective of going from 4,000 housing units renovated in the Metropolis to more than 8,000 per year. In addition, Europe and the European Commission are going to support larger scale and longer term energy renovation projects.**

Carbon neutrality implies drastic reduction of greenhouse gas emissions and requires acting on the sectors of activity that consume the most energy and emit the most greenhouse gases, like heating residential and tertiary buildings, transport and industrial activities. The time for Metropolises to make energy choices has therefore come.

To answer this, Lille Metropole has, for example, started constructing a "heat highway" that enables the energy produced by the "Centre de Valorisation Énergétique de déchets" (CVE) (waste treatment centre) located in the city of Halluin to be fed into the cities of Lille and Roubaix urban heating networks. This 20-km heat transport network, which crosses the entire Metropolis urban area, will allow heat to be supplied to a dozen new towns to heat communal and industrial buildings that need heating and collective residential areas. The objective is to recycle between 255 and 350 GWh of energy per year in the form of heat and cover 65% of the current heating and hot water needs of 50,000 housing units, and more than 80,000 housing units in the longer term.

Wood, gas or coal are currently used to fuel heat networks. With this €75-million+ investment, the heat produced by the CVE will enable the share of renewable energy in Lille Metropole heating networks to be considerably increased and use of fossil fuels decreased. This energy will allow CO₂ emissions to be reduced by 50,000 tonnes per year and air quality therefore improved by considerably reducing fine particle emissions linked to coal combustion. Lille Metropole will save €5 million in gas purchasing and enable Metropolis inhabitants to benefit from clean and local energy, at controlled rates thanks to reduced taxes and de-indexing of energy market prices.

This ambition also relates to mobility with Lille Metropole wanting to build the necessary

infrastructures to change behaviours that will enable reduction of our polluting emissions. Whether it's the bicycle plan, attributed more than 10 million euros per year, or a 2 billion euro transport infrastructure master plan over 15 years to develop public transport throughout the Metropolis, Lille Metropole is laying down the conditions for habit change by offering a high-performance service for the whole of its region.

Lille Metropole is also supporting the evolution of vehicle engine types by promoting the construction of charging infrastructures all over its region. With 600 public charging points available in 90 towns both in the public space but also car parks, with 4 Heavy Goods Vehicle fuelling stations in vNG/OrganicvNG being built, distributed along the region's major trunk roads, Lille Metropole wants to equip itself with infrastructures that will allow businesses and citizens to switch to vehicles that emit less.

Positive health and better quality of life

Implementation of an environmental health metropolitan policy relates to sanitary stakes linked to air pollution, social stakes with more than 200,000 inhabitants in city policy priority neighbourhoods exposed to environment pollution, economic stakes linked to health costs incurred and attractiveness stakes for our region.

This is the context in which Lille Metropole adopted an ambitious action plan in terms of environmental health in June 2019. "Positive" health is the guiding line of this action plan: if Lille Metropole takes on reducing nuisances and pollution, it is also committed to promoting its environmental amenities such as natural spaces, water courses or calm areas.

The metropolitan environmental health policy proposes a 3-year action plan built with our partners around 4 ambitions:

- create and lead shared governance and become an exemplary institution,
- reinforce knowledge at metropolitan level by creating in particular a metropolitan environmental health observatory but also by supporting research measures characterising environmental health fields and health inequalities of an environmental nature,
- inform, create awareness among and bring together metropolis inhabitants by making data produced accessible to the public for example,
- launch at all levels of the region actions that aim to develop a living environment that's favourable to health which allows reduction of pollution and health social and environmental inequalities.

All these examples translate a change of paradigm for regions' benefit through the action of local public players. In this field, if the geography of solutions does not necessarily cover the geography of problems, local mobilisations exist and interpret another means of commitment, in proximity.

Lille Metropole is designated as World Design Capital for 2020. As innovation is key to address major issues raised by the Green Deal, we are convinced that the proofs of concept proposed in the framework of this specific event will help and guide further developments to be shared at European level.



Using European “Horizon Europe” research funds to accelerate the ecological transition



MARIAN-JEAN MARINESCU

MEP (EPP Group), Member of
the TRAN Committee

From December 2019, the Green Deal is the new flagship policy of EU. Our commitment to tackling climate change involves crucial transformations in the environment, society and the economy and these calls for a radical shifting in setting the framework of EU funds, policies and programs.

Decarbonizing a whole continent is a world premiere and there is no previous model that would teach us the way forward or would help us learn from other's mistakes or success stories. Therefore, climate neutrality for a continent like Europe involves unprecedented social, economic and technical challenges. We have to reach the climate objectives by 2050 and at the same time, our economy remains in strong competition with the US, China and emerging Asian states.

In this context, Research and Innovation may be a key asset, and probably the only one, for EU both in reaching climate objectives and in preserving competitiveness and jobs. But, for R&I to be the changing supporting instrument, we must fulfil several key conditions: strong financing, synergies with other EU programmes and policies and reducing the gap between East and West.

Now, when I am writing this article, Horizon Europe - EU's main instrument for R&I - is in financial danger.

On February 14, European Council President Charles Michel made an unacceptable proposal for the next MFF. For Horizon Europe, President Michel proposes a budget of 80 billion, which is 10 billion less than the figures proposed by the Commission and 55 billion less than the proposal of the EP. This a budget that does not reflect the ambitions of the European Commission when it comes to the Green Deal, as the highest expectations for delivering green solutions concern research and innovation. We have all committed to climate objectives counting on

technologies that are to be developed in the future. We need new technologies for green energy storage or hydrogen production at affordable prices, just to name a few.

Horizon Europe is too important to fail. If Horizon Europe does not meet the climate objectives, neither will the Green Deal.

That is why we, in the European Parliament, will defend Horizon Europe and we will strive for a strong budget that allows R&I to develop new technologies.

Furthermore, inside Horizon Europe programme, the allocation of funds will have to be redistributed as the 35% proposed by the Commission to contribute to climate objectives is not well balanced. I have serious doubts whether that is enough since four out of the five agreed mission areas in Horizon Europe directly support the European Green Deal: Healthy oceans, seas, coastal and inland waters; Climate-neutral and smart cities; Soil health and food and Adaptation to climate change and societal transformation.

From another perspective, when we speak about financing research we have to take into account that Horizon Europe is not the only program funding R&I to meet climate objectives. The EU has other substantial financial resources spread across different funds, like Cohesion policy funds, Connecting Europe Facility or European Social Fund Plus. Besides that, the Emissions Trading System (ETS) with its Innovation and Modernisation Funds is another important financial tool dedicated to supporting the energy transition to climate neutrality.

Therefore, synergies between all EU programmes and policies, funds and projects is a primary condition for R&I to be efficient in reaching climate objectives. We need to design all R&I funds in a complementary

framework so that all stages of research and innovation are well-financed. Otherwise, the "burden" on Horizon European would be too heavy and it might end up in wasting resources and time, exactly when both resources and time are limited about reaching climate neutrality in 2050.

Synergies between different EU innovation funds is crucial not only for reaching climate objectives but also for reducing the gap between Eastern and Western member states.

As everybody is aware of, not all member states start the climate transition from the same point. There are Member States who will face more challenges and difficulties than others will. In addition to that, there is already a division between East and West countries regarding innovation and scientific research.

For example, Horizon 2020 research program did nothing else than to feed on this gap between EU states as only 5 countries from West Europe has more than 54% of the projects, as it results from EC study " Horizon 2020 in full swing - Three years on", published in 2018.

If we truly intend to "leave no one behind" we have to think Horizon Europe as an opportunity to reduce disparities between EU states and ensure that at the end of the program economic disparities are not reinforced.

An industrial strategy for sustainable growth

The industrial revolution stands among Europe's greatest contributions to the World. It fundamentally changed the way we live, taking countless millions out of poverty and paving the way for enormous gains in education, health, science, culture, welfare, mobility and quality of life in general.

Nowadays, apart from the living standards it provides to the population in general, European industry is still directly or indirectly responsible for over fifty million jobs. It stands, in many fields, as an example to the world in terms of quality, innovation and environmental concern. It remains the biggest employer and biggest contributor to the European Union's overall GDP.

However, it is also dealing with many challenges, both foreign and domestic. These include the need to adjust to digitalization - an "Industrial Revolution" by its own right - , ambitious climate targets set by the European Commission and a strong competition from other economies that, in some cases, are more closed and less committed to carbon reduction.

Europe needs an industrial strategy that assures sustainability in all these dimensions and between all these dimensions. Without compromising one goal to accomplish the other. The only way that I see that happen is with a firm investment in the Triangle of Knowledge: Education, Research, Innovation.

This strategy needs to be focused on skills and training. The industry has to adjust its workforce to different practices, namely those that will come with the green transition, and new challenges. Artificial Intelligence and Robotics are two examples of emerging technologies that will require much more qualified workers in the near future.

It need to focus on research and innovation, in order to protect and reinforce Europe's industrial leadership and to develop the technologies and practices that are going to allow us to have a much greener industry without compromising competitiveness.

Besides taking advantage of all the transformational power of knowledge, the European industry will also need policymakers to be pragmatic and efficient in the decisions they make.

Ambitious goals are only important if we are able to deliver on them. We must make sure that all our steps are clear and based on solid evaluation.

The most difficult challenge, above all others, is the need to address the climate crisis. The European Green Deal - Europe's "Man on the Moon", as President Von der Leyen put it - is an enormous enterprise that will require full commitment from the industry if we are to achieve our carbon neutrality goals.

This commitment is to be expected. There is no denying that, in the same manner that it influenced our lives in so many positive ways, the industry - not specifically the European but throughout the world - has played its role in the increase of emissions of CO₂ and other harmful substances.

Nevertheless, pointing fingers or expecting this sector to solve every problem by itself would be a sure recipe for achieving nothing and creating new problems, such as bankruptcies and unemployment. Policy makers need to work side by side with this sector to make sure they make the transition towards a greener economy in a just and effective manner.

That implies creating the right conditions for businesses to adjust, particularly energy intensive industries, such as steel and cement, just to name two examples. We need to help the industry develop the tools and technologies that will allow it not only to make this transition but also to survive while in the process.

This is achievable through adequate and stable funding to key programmes, both in the short term and the Multiannual Financial Framework (MFF), incentives to other sources of funding, both public and private,



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Long-term Investments and European
Industrial Competitiveness.*

and the adoption of legislation focused on simplifying procedures and creating a level playing field for the industry.

The European Green Deal is one of the greatest challenges this Union has ever faced but it is also one of its biggest opportunities to reclaim leadership in many sectors, namely the industrial. Our industry is already setting the standards for the rest of the world in terms of environmental awareness, ethics, social rights, consumer protection and energy efficiency, and it stands among the best in terms innovation and quality of product. These are all characteristics that not only lead us in the right direction but also appeal to consumers, much more conscious than in the past about the real cost of the products they consume.

In that sense, the transformations we are on the way to implement may result not only in the achievement of our immediate goals, namely our environmental goals, but also in positioning us ahead of the competition in the end.

However, we cannot meet our climate goals and remain competitive without the help of the many brilliant scientific minds we have in our continent. That is why it is critically important to have ambitious funding to Horizon Europe and other science connected programmes.

When you come to think of it, all great achievements, from the pyramids of Egypt to the Apollo missions, required the collective effort of the best.



A EUROPEAN INDUSTRIAL STRATEGY

A new Industrial Strategy for a globally competitive, green and digital Europe

March 2020

[#EUIndustrialStrategy](#)

Europe has always been the home of industry. Over time, industry has proven its ability to lead change. Now it must do the same as Europe embarks on its twin transition towards climate neutrality and digital leadership in an ever-changing world. With a **new Industrial Strategy**, the Commission is ready to do what it takes to make sure European businesses remain fit to achieve their ambitions and cope with increasing global competition.

EUROPEAN INDUSTRY



20%

of total EU value added



Industry accounts for

80%

of exports



35 million

Jobs



99%

of European firms are
small and medium
sized businesses

Europe needs industry to become **greener, more circular and more digital** while remaining competitive on the global stage. These three drivers will transform our industry, support our SMEs and keep Europe sustainable and competitive.



GREEN TRANSITION

The European Green Deal is Europe's new growth strategy.

At the heart of it is the goal of becoming the world's **first climate-neutral continent** by 2050.



GLOBAL COMPETITIVENESS

The right conditions are needed for entrepreneurs to turn their ideas into products and services and for companies of all sizes to thrive and grow.

The EU must leverage the impact, the size and the integration of its single market to make its voice count in the world and **set global standards**.



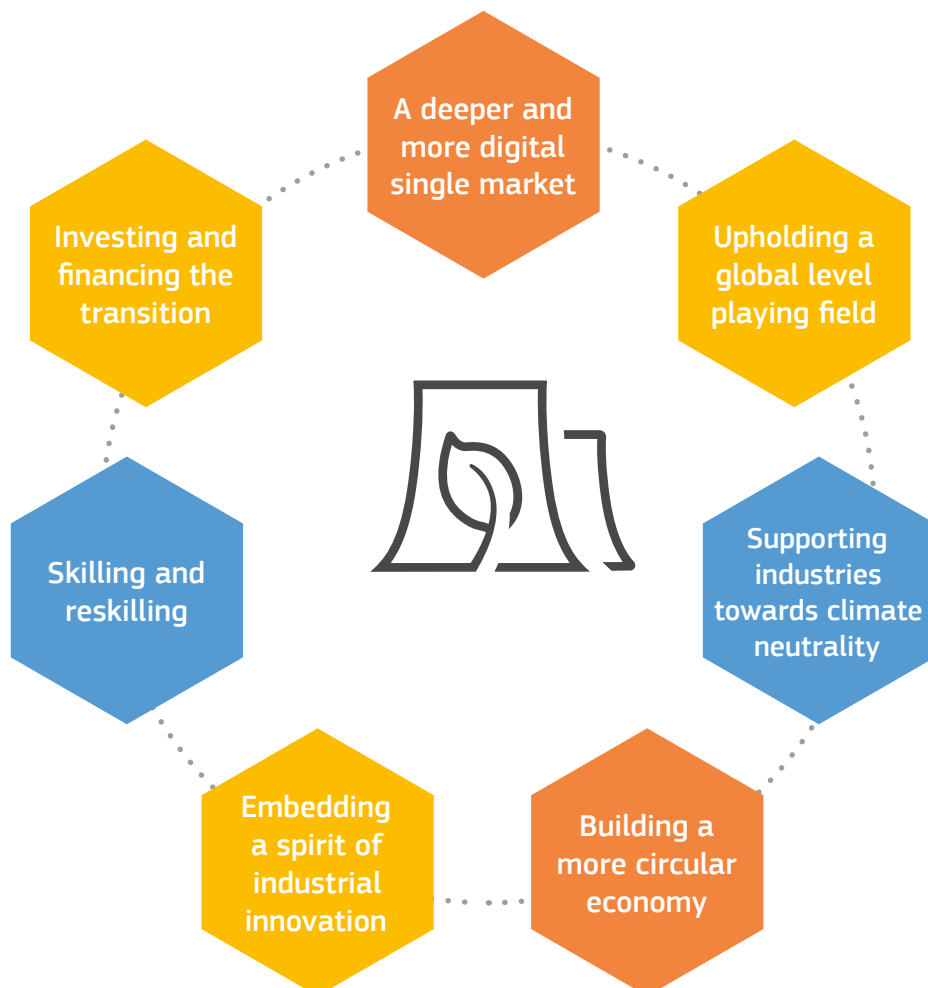
DIGITAL TRANSITION

Digital technologies are changing the face of industry and the way we do business.

They allow **economic players** to be more proactive, provide workers with new skills and support the decarbonisation of our economy.

Achieving industrial transformation

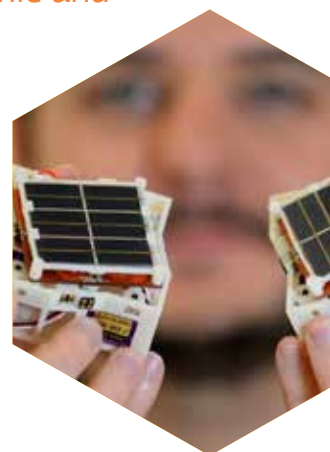
These are fundamental factors in making Europe's industrial twin transformation happen:



A new type of governance to achieve the twin transition towards climate neutrality and digital leadership

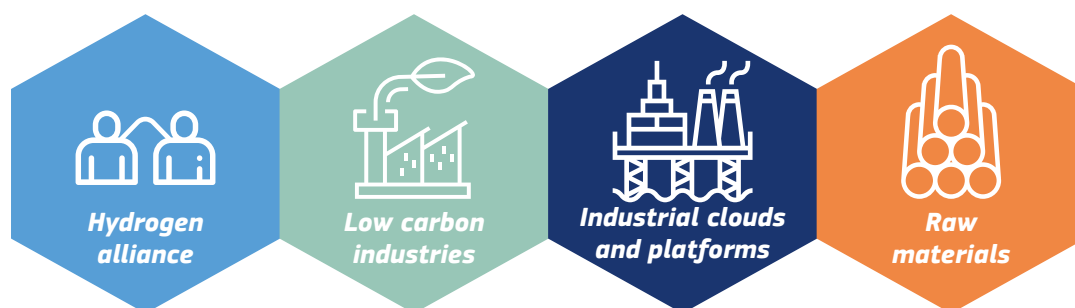
This strategy will work only if businesses within and between industrial sectors, Member States, regions and EU institutions join forces. European industry is diverse, with different sizes, risks and needs. It needs targeted solutions, not a one-size fits all approach.

European **Industrial Ecosystems** bring together crucial players: academic and research institutes, suppliers, SMEs and larger companies.



Initiatives known as industrial alliances have produced good results in batteries, plastics and microelectronics. Now it is time to extend this idea to other key technologies and business areas.

Building on the successful template of industrial alliances, a new European Clean Hydrogen Alliance will be launched. Alliances on Low Carbon Industries, Industrial clouds and Platforms, and Raw Materials should follow when ready.



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LILLE METROPOLE, FULLY COMMITTED TO THE GREEN DEAL

Where the circular economy thrives: biogas and heat produced from our waste, for example, provide energy to cover the needs of our territory.

Where environmental policies are health issues with air pollution, social issues with many areas of fragile populations exposed to nuisances and issues of attractiveness of our territory.

Where citizens take part in the design of public policies and services: World Design Capital 2020, more than 600 proofs of concept.

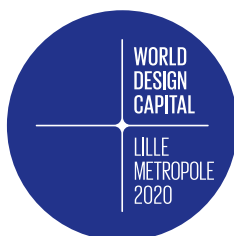
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The background is a solid light orange color. It is decorated with several stylized elements: green leaves and branches in various shades of green; three hands in a light pink color, each with a darker pink cuff, positioned as if reaching out; and several red circular icons containing white symbols: an upward-pointing arrow, a percentage sign (%), and a globe. There are also two red speech bubble shapes, one in the upper left and one in the middle right, each containing three white dots. The text is centered in a bold, white, sans-serif font.

**ENABLE
PEOPLE
TO SHAPE
A SAFER
FUTURE
BY CARING
FOR THEIR
LIVES AND
DREAMS.**

