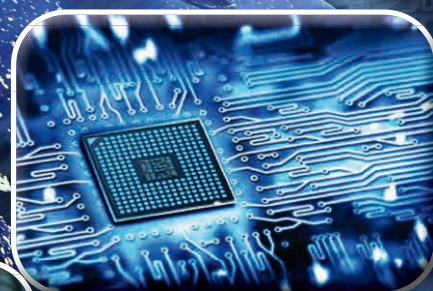
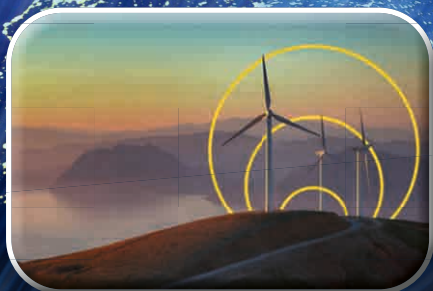




THE EUROPEAN FILES

April/May 2024 - n°77

PRIORITIES FOR THE NEXT COMMISSION: STRENGTHENING EUROPEAN SOVEREIGNTY AND STRATEGIC AUTONOMY



Online

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It's becoming a tradition that important decisions for Polish digitization are announced during CYBER24 DAY, as well as strategic digital projects are discussed from the perspective of the state, and the direction of public debate is shaped.

October 1, 2024
Warsaw



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I EDITORIAL

PRIORITIES FOR THE NEXT COMMISSION: STRENGTHENING EUROPEAN SOVEREIGNTY AND STRATEGIC AUTONOMY

In the face of current geopolitical context, Europe finds itself at a crucial crossroads where political and industrial decisions become essential levers to consolidate the European Union (EU). Recent elections offer the opportunity to reassess our institutional orientation, in a context where each choice seems dictated by a historic urgency.

A decade ago, the process of selecting the next European Commission was described as a "last chance." Today, it is perceived as a decisive encounter with history. Recent events and crises have highlighted the limits of EU mobilization and its ability to assert itself on the international stage. The efforts deployed to support Ukraine, while juggling with an energy crisis and increasing inflation, call for a strategic reassessment of our policies.

The EU has entered a new era of geopolitical tension. Have our leaders grasped the stakes and current threats? Today, verbal semantics are no longer sufficient; our alliances will not be enough to ward off threats. Globalization has shown its limitations. There is a paradigm shift taking place!

The main priority of the next commission will be to promote strategic autonomy, both in terms of security and defense, energy and industry, health and agriculture. This orientation stems from the need to strengthen our defense and security capabilities in Europe, given the proliferation of conflicts and threats and their geographical proximity. The weakness of the continent would be synonymous with inevitable conflict.

On the industrial front, the focus will be on ensuring European sovereignty in securing supply chains and in the continent's reindustrialization process.

Europe faces the looming threat of a structural decline in its commercial influence. This underscores the urgency to address sovereignty concerns swiftly, lest the EU finds itself with diminished commercial power and restricted strategic options.

We are increasingly dependent on non-European technologies, particularly in the areas of clean technologies and digital infrastructure. This growing dependence is not just an economic issue; it is a strategic vulnerability that affects our autonomy.

Europe has entered a global race for green technologies, competing with China's production power and unprecedented investments from the United States.

Decarbonization, digitalization, and innovation will play a central role in the strategy aimed at transforming the European economy in the coming years.

Editor-in-Chief
LAURENT ULMANN

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MAROŠ ŠEFČOVIČ

European Commission Executive Vice-President for the European Green Deal for Interinstitutional Relations and Foresight.

Make the green transition a European success story

Let me inform you about our **Communication, taking stock of a series of nine clean transition dialogues** we held between October and April.

European **industry has a vital role to play** in the green transition because **the European Green Deal is – and remains – our growth strategy**.

Moreover, **the current geopolitical context has strengthened the case** to maintain and boost Europe's global position in strategic zero and low carbon energy technologies.

I therefore want to begin by **appreciating that industry and social partners are committed to our collective climate goals**.

They are also committed **to stay and prosper in Europe – and to keep engaging with shaping and implementing the European Green Deal**.

I also appreciate **their positive feedback on the Commission's work to put in place a regulatory framework** that brings stability and predictability.

My main takeaway is that **Europe's decarbonisation must be increasingly driven by market forces**, in addition to targets and regulation. We need to keep **strengthening the business case for the clean tech sector** and for

the decarbonisation of our **energy intensive industry**.

This is particularly important as we are **in the implementation phase** of the Green Deal, which – **from the industrial perspective – means the phase of scaling-up manufacturing capacities**.

With this in mind, President **von der Leyen** launched last year **a series of Clean Transition Dialogues to support key sectors in building their business model for decarbonisation**.

The dialogues that I have chaired so far have been varied, addressing **a wide range of industries**. And this is how we need to keep working. Because **no two industries face identical challenges**.

However, there are **a few common themes** that keep coming up.

Our Communication today identifies **five building blocks for a reinforced industrial approach** to delivering the Green Deal.

These are **requests that are shared by most, if not all**, of our industries.

- › **First, an effective and simplified regulatory framework:**
- › Stakeholders are **broadly happy with the rules** we have put in place, and they

now **know the direction** that has been set. But they **also seek our support** to help them comply and deliver.

- › The Commission will further focus on burden reduction and its ongoing actions, such as **reducing burden from reporting requirements by 25%** without undermining its policy objectives.

› **Second, stable energy prices:**

- › We need to keep addressing uncompetitive energy costs, **hampering investments** in the clean tech sector and our energy intensive industries.

- › We have **a good regulatory framework**, such as the Electricity Market Design, the revised Renewable Energy Directive and the Net Zero Industry Directive, accompanied by the Wind Action Plan, Grids Action Plan and other tools.

- › However, we may need to **debate additional targeted and temporary measures**. This is a call that we have heard from industry, and which we are attentive to.

- › After all, our industry employs **some 35 million people** in Europe.



› **Third, modern infrastructure:**

- › The underdeveloped energy infrastructure, especially at the distribution level, **can create bottlenecks** in the green transition and electrification of our economy.
- › We **need to accelerate the roll out** of energy and transport infrastructure.

› **Fourth, easier access to finance:**

- › The **private sector will have a key role to play** in deploying investment in the clean transition. But we must **also provide greater public support** to those clean tech sectors where market failures exist.
- › Some sectors are not yet commercially viable, and we need to **stimulate investment and help to build future markets**.
- › Like we are doing **for example with the European Hydrogen Bank**.
- › Achieving a **deep and integrated Capital Markets Union** is another urgent priority to inject new funds into Europe's green economy.

› **Fifth, a stronger single market:**

- › We must strengthen our actions towards creating a **single market for clean tech** in Europe and start **rewarding companies investing in innovative and sustainable technologies** as well as **manufacturing with the lowest sustainability footprint**.
- › In practice, it includes **boosting demand and off-take** for these products to scale up manufacturing of clean

products in Europe, **improve the business case** and **consequently reduce the need for public support**.

› **Lastly, our single market must be part of a global level playing field for European businesses:**

- › We should **address the increasingly distorted global trade**.
- › We need to **more efficiently and flexibly use our trade defence measures** to address dumping of subsidised and unsustainably produced goods on the EU and global market.
- › And we also need to urgently address **the global carbon pricing**, which remains essential not only for achieving our climate ambitions but also for preventing carbon leakage.

To conclude, the Clean Transition Dialogues we have held so far have been **a valuable and enriching exercise** – and I am sure not only for me but for all sides.

This is the Commission's **contribution to the upcoming European Council**.

But **we will not stop here**. A continuation of these Clean Transition Dialogues is part of our commitment to our stakeholders.

The Commission is therefore **committed to working with Member States, the European Parliament, social partners, and other stakeholders** to create a reinforced industrial approach in Europe and make the green transition a European success story.





JEAN-NOËL BARROT

French Minister Delegate for Europe, attached to the Minister for Europe and Foreign Affairs

A few weeks ahead of the **European elections**, as the **European institutional cycle** comes to a close, it is time to both take stock and look to the future

Looking back five years, it is plain to see that the today's European Union has little in common with that of 2019. Europe has had to transform fundamentally at pace in the face of a fast-changing geopolitical landscape. The return of war to the European continent, the acceleration of China-US rivalry, the aggressive postures of certain regional powers and the weaponization of interdependences during the public health crisis required Europe to rethink its role in light of the new challenges of a more brutal and uncertain world.

In response to this new context, Europe's Heads of State and Government adopted a genuine roadmap in March 2022, at France's instigation: the "Versailles Agenda". It charts a clear and ambitious course for the European Union to strengthen our defence capabilities, build a solid economic base and reduce our strategic dependencies. This roadmap needs to be deployed and its implementation needs to be both accelerated and expanded. That should be the goal of the new strategic agenda for 2024-2029.

With this in mind, I believe the strategic priorities of the next European Commission should be built around three pillars: (i) a more sovereign Europe guaranteeing the continent's security; (ii) a more competitive and resilient Europe; (iii) a democratic Europe that defends its value model.

A geographical power Europe guaranteeing the continent's security

In a particularly unstable geopolitical context, as theatres of conflict multiply, including on the European continent, security must be a key aspect of the future strategic agenda to address the world's brutalization.

Our top priority must be to provide our full civilian and military support to Ukraine as long and as intensively as it takes, so that Russia cannot win. We need to do more, and better. That is an imperative both moral and geostrategic.

At the same time, we need to continue building a genuine Defence Europe. That requires us to swiftly strengthen our European defence capabilities by boosting the production capacity of the European industrial and technological base and developing appropriate financial mechanisms. In particular, we need to shift from an approach of transferring our stocks to one of producing and acquiring equipment. That will need both public and private finance. The recently decided evolution of the European Investment Bank's investment mandate is an important first step, but we must go further.

We also need to find a global response to the challenge of migration, which requires progress on its external dimension with enhanced dialogue with countries of origin and transit and on European readmission mechanisms. This is an essential corollary of the Pact on Migration and Asylum, which was a major victory for the defenders of a mature Europe in the form of a recent historic agreement.

While adopting the European Green Deal gave us the means to make Europe the global leader in the ecological transition, we need to work to better preserve the right of future generations to live in a healthy environment, making Europe the first "electric" and "decarbonized" continent and making the health of Europeans a top priority. The new strategic agenda will also need to enable us to better prepare for greater numbers of natural



disasters by bolstering our civil protection capabilities and cooperation.

A competitive and resilient Europe

The European Union is a great power that is open to exchanges and has exceptional economic potential. As the world's largest economy and leading trading bloc, with one of the highest GDPs per capita in the world, its normative power today means that the rules it sets will lead the rest of the world in its wake.

Since the adoption of the Versailles Agenda in 2022, we have conducted a powerful industrial policy in the strategic sectors where we were most dependent, in order to provide a European production capacity while diversifying our suppliers. This momentum needs to be continued and stepped up, with an expansion of the agenda in areas where there has not been sufficient progress, such as defence, as well as food security and healthcare. We also need to strengthen our economic security, protecting our most critical assets and fighting the protectionist and distorting practices of our competitors while promoting effective fair competition.

If we are to amplify this resilience agenda, we need to invest in the most innovative sectors where we cannot afford to fall behind our partners and competitors. This means targeting key fields for the European Union's future, like artificial intelligence, biotech and quantum computing. While the Versailles Agenda stressed critical sectors where we are in a position of dependency or vulnerability, this new agenda should focus on high-tech-nology sectors.

We also need to once again make use of the lever of joint borrowing, as we did in 2021 in the fight against COVID-19. When it comes to the risk of falling behind the United States, we should remember that by 2027, the consolidated debt of the Member States of the European Union will be no more than 80% of GDP, compared to the federal debt of the United States at 135% of GDP. The United States have decided to run a deficit in order to invest in strategic sectors and the green transition. We need to adopt an ambitious investment, simplification and competitiveness agenda to head off the risk of decline for good.

That is where the challenge of the next five years lies: fighting the risk of being left behind by China and the United States and enabling ourselves to resume global leadership in key sectors. The upcoming Draghi report will seek to inform us on means of achieving



that. Lastly, to enhance the European Union's competitiveness, it is essential to unleash the power of our internal market of 440 million consumers. Internally, I see three priorities for action: capital, through the capital markets union; skills, through education and training; and the regulatory environment and simplification. Externally, we need to draw more on Europe's normative capacity to protect common goods and make foreign businesses that wish to export to the European Union respect our standards, including social and health standards.

A democratic Europe that protects its freedoms and values

As we increasingly face attempts to destabilize our democracies, it is essential to give the European Union the means to better protect our freedoms and fundamental values and to export this model in a world that is increasingly challenging them.

That means firstly reaffirming the principle of a Union founded on values, by defending and promoting the rule of law which is, it should be recalled, a strict condition of EU membership itself. I have in mind greater use of mechanisms to prevent or address attacks on the rule of law, as well as ambitious action to advance gender equality.

At the same time, we need to bring to fruition a genuine European democratic space, protected from foreign interference and based on healthy public debate. Protecting our democratic systems will require us to fight more actively against misinformation, interference in our electoral processes, and cyber threats. The Defence of Democracy package currently being discussed in Brussels should enable us

to strengthen European coordination in this area, where I would like to see swift progress.

Strengthening the democratic functioning of the European Union is all the more necessary as we must prepare for the prospect of an enlargement. This shift is both existential and essential for the European project that is taking shape. The strategic agenda will have to prepare us for this, helping us to determine the appropriate institutional reforms: those that will guarantee efficient and democratic functioning of institutions suited to an enlarged Union.

In the last five years, we have collectively broken taboos and moved forward in building a sovereign Europe. Today, we are on the right track but we have not yet arrived. For the next institutional cycle, we need to continue this sovereignty agenda with ambition and level-headedness, in order to continue forging a European Union that is ready for the many challenges that lie ahead.



THIERRY BRETON

Commissioner for Internal Market

The European defense is underway

“ The European Defense is in progress. In the geopolitical context that we all know, Europe must take control of its own security, which cannot depend on the outcomes of elections among our allies every 4 years. By building a true European defense with greater capability to face high-intensity conflict – a defense readiness. We must invest more, better, and together, as Europeans. And with the return of high-intensity conflict, we must produce more, faster, and together. This is the essence of the defense industrial strategy that we are presenting today. It is about shifting from a period marked by the dividends of peace to a mode of ‘war economy’ for this industry. We are not starting from a blank slate. Since 2017, we have begun to mobilize the European budget to support Research and Development (through the European Defense Fund). And to respond to the urgency of the war in Ukraine, we have supported, thanks to the Union’s budget, first the joint acquisition with EDIRPA and then the industrial production capabilities in ammunition with ASAP.”

What we have demonstrated with ammunition is that with collective ambition and means at the European level, we are capable of rapidly developing our productive industrial base. In less than 10 months, we have increased our artillery ammunition production capacity to 1 million rounds per year. And we will increase it to 2 million by 2025. There is no inevitability! And that is precisely the work of the Commissioner for Defense who is before you: mapping capacities, resolving bottlenecks, and supporting ramp-up efforts. We are doing this in artillery ammunition, and now we must do it for all the equipment necessary for our security. Therefore, we must sustain the emergency efforts beyond 2025 and bridge the gap until the next financial framework in 2027, and extend them beyond ammunition to all defense equipment. Because the availability

of European defense equipment has now become a competitiveness and security issue. This also means that the European defense industry must take more risks, and we will support them to provide them with more visibility. I would like to address two important points in this new initiative here:

First, the new defense industrial program. It ensures the continuity of actions planned in EDIRPA and ASAP. But it goes beyond that. We fully integrate the defense industrial base of Ukraine into the European base. Ukrainian industries will be eligible for the same activities as European industry, and we will be able to support cooperation between Ukraine and the Union. This is a very strong signal. Additionally, we are testing new forms of support: · Financing of industrial sites kept ready for use (ever warm) to shorten ramp-up times. · Establishment of a European mechanism for military sales largely inspired by the US Foreign Military Sales mechanism, which will finance European strategic reserves managed by Member States. The aim here is to increase the availability of European defense equipment and thus restore fair competition, especially in government contracts. · Creation of a Guarantee Fund for subsidized loans made available to active defense SMEs throughout the industrial chains.

We propose the implementation of ambitious objectives for 2030: Together acquire 40% of military equipment, with at least 35% being cross-border and 50% within the Union (60% by 2035).

For a credible European defense, we must also have adequate budgetary ambition.

The program we are proposing today is endowed with €1.5 billion, to be mobilized for support to the European defense industry from mid-2025 to the end of 2027.

For support to the Ukrainian defense industry, a top-up is being considered using

a portion of the interest generated by frozen Russian assets. This discussion is ongoing, and unanimous agreement of the Member States will be required. However, I am confident that we will find solutions to anchor the Ukrainian defense industrial base to our internal market.

Furthermore, as we know, the current European budget is constrained, and future funding perspectives (post-2027) are too distant.

Yet the urgency is present.

For my part, as I have stated before, I believe that we should – as we managed to do during the COVID period facing an existential threat – consider a joint ad-hoc investment for the defense industry. To make progress on this point, we need to assess the needs – both in terms of nature and costs – and present financing options. This is the debate we are initiating today. Following the support from several European leaders (Macron, Kallas, De Croo) on this rising issue, the Commission could not remain silent. Furthermore, beyond public investment, we must mobilize private investment. The defense industry should be able to access financing. In this regard, we insistently ask the EIB to modify its policy to allow support for defense industries – beyond dual use – to accompany the increase in production pace. Everyone must adapt to the new realities. The time for procrastination is over; it’s time for action. The European defense is underway. And it’s an opportunity. For the competitiveness of our industry. For the credibility of the European pillar within NATO. For the security of our citizens.



MICHAEL GAHLER

MEP (EPP Group – Germany)

Defending Europe: the time of the **Peace Dividend** is finally over

It has been just over two years since German Chancellor Olaf Scholz' 'Zeitenwende' speech, a declaration made in the wake of Russia's full-scale aggression against Ukraine. What was anticipated to mark the onset of a new era for Germany's and European defence did so far not live up to the expectations. Franco-German relations are at a low ebb, ammunition production capacities still fall short of what is needed for supplying Ukraine and replenishing our own stocks, and the lack of political will to finally and substantially deepen European defence cooperation reduced the 'Zeitenwende' to a political catch phrase.

For the past three decades, Europe has fully enjoyed the 'peace dividend', cutting defence spending in order to use it for other "nice to have" purposes. In Germany, for instance, defence spending as a share of total government expenditure more than halved from 3.9 % in 1991 to 1.5 % in 2022. While other sectors flourished in the common European market, the defence industry, which is mostly still a national industry, dwindled. Accordingly, neither European governments and armed forces nor the industry have been capable to react swiftly to the new reality we have been exposed to at the latest since February 24th 2022.

The EU has reacted with measures to bolster the European Defence Technological and Industrial Base (EDTIB). Key initiatives, such as the European Defence Industry Reinforcement Through Common Procurement Act (EDIRPA) and the Act in Support of Ammunition Production (ASAP) have been devised as short-term instruments to enhance both Ukraine's and Member States' defence capabilities. EDIRPA aims at consolidating demand of EU Member States by encouraging joint procurement with the EU covering the administrative costs. Meanwhile, ASAP complements EDIRPA by financially supporting the industry to ramp up production capacities. Given the rather limited budget of both instruments with

a total of 800 million EUR, the need for long-term mechanisms to ensure a lasting defence readiness persists.

On March 5th 2024, the EU-Commission presented the European Defence Industrial Strategy (EDIS) and the European Defence Industrial Programme (EDIP). EDIS defines a comprehensive set of measures to improve the Union's defence readiness through better coordination of joint defence efforts, strengthening of the EDTIB, ensuring security of supply as well as connecting the Ukrainian industry to EDTIB. The EDIP translates the ambitions of EDIS into concrete actions. Its objective is to bridge the gap between ASAP and EDIRPA until the end of the current Multiannual Financial Framework.

The initial Commission proposal, foresees a budget of 1.5 billion EUR for EDIP. Although this amount will already provide for a relevant impact due to its leveraging effect, it is insufficient to compensate for three decades of underinvestment. However, a decisive element within EDIP are the regulatory measures such as the Priority Rated Orders which intend to reallocate existing orders with the EDTIB to give priority to Member States. This mechanism was initially included in ASAP but was rejected by Member States as it was perceived as a "power grab" by the Commission despite the checks and balances that had been included. This reflex neglected the potential of the regulatory elements for fulfilling the EU's failed promise to deliver 1 million pieces of ammunition by March 2024 to Ukraine, especially considering that the funds for ramping-up production are only starting to be disbursed.

Given that Member States already raised concerns of a "power grab" with regard to EDIS and EDIP in November last year, it seems that the seriousness of the threat is not yet recognised by all. That hampers our ability to take the necessary steps to significantly deepen our cooperation in order to ensure that our armed forces are in possession of the capabilities needed to protect European citizens

and interests and deter possible aggressors. By pooling resources, planning and procuring together, we would not only amplify our collective impact and make best use of European taxpayers' money by achieving economies of scale but also ensure a higher degree of interoperability between European armed forces.

EDIP as a starting point provides tools to that end. However, the decisive factor remains the political will of Member States for taking European defence cooperation to the next level. To effect real change, we need a new mind-set that recognizes the undeniable necessity for collective action in the face of a common threat. That requires us to move beyond mere national approaches towards defence that are often driven by consideration of national industrial policy interests instead of the overarching common goal. For instance, we can no longer afford to undermine the development of the internal market for defence by invoking unjustifiable national exceptions.

Spending more and together is an important step forward but it also needs to be done in a coordinated manner while also making full use of the EU's existing toolbox and the room to manoeuvre in the treaties. Therefore, we do not only need a Defence Industry Commissioner but a Defence Union Commissioner (DUC) that coordinates all elements of EU actions such as the European Defence Fund, the internal market for defence and military mobility. At the same time, the DUC needs to bridge the gap to Member States' efforts, most notably PESCO and the projects co-financed from the EDF, in order to prioritize and focus our efforts. It is time for the Member States to finally think defence European, especially given the amount of investments needed in an increasingly volatile geopolitical environment. This is particularly relevant facing the risk that we might not be able to count any longer on our most potent strategic partner, the United States. The 'Zeitenwende' must arrive in the European capitals. Change only works together.



BAES EICKHOUT

MEP (Group of the Greens – Netherlands)

We need to build a European Green Industrial Deal

In February, industrialists gathered in Antwerp to present a ten-point plan for a so-called 'Industrial Deal', which should complement the Green Deal and strengthen the competitiveness of European industry. I believe that these are two sides of the same coin. The green transformation of our industrial base provides an opportunity to strengthen European autonomy, reverse de-industrialisation, bring more jobs and help us meet our climate and environmental targets. I think there is only one way for Europe to move forward and we have to be unequivocally clear about it: we have to build on, reinforce and strengthen the Green Deal and use the new legislative term to build a European Green Industrial Deal.

We have to realize that the future of our economy is green. Europe has entered a global race for green technologies, competing with production power in China and investments, of a scale we have never seen before, in the US. In this race, there is no such thing as a 'pause button', as we have seen with the race for electric cars. Europe has to gear up, or lose its climate pole position, and with it, our industrial prosperity and strategic autonomy. Our transition should not be entirely made in China.

This won't be easy. Europe's electricity production will need to multiply, and European climate investments will need to increase by threefold. We will have to modernize energy intensive sectors like cement, steel and chemicals, build up new green manufacturing industries like wind, heat pumps, electrolyzers and coordinate the scale down of industrial activities which have little to no future in a fossil free society, such as chemical fertilizers and refinery capacity.

Until now, Europe has mainly trusted the (carbon)market to do the job. Unfortunately

and despite recent improvements, we can now conclude this approach is not working. The price incentive is uncertain and still too low, partly due to free allowances. But more importantly, industry is facing limited demand for climate friendly alternatives, insufficient infrastructure and renewables and high electricity prices. National governments trying to mitigate these issues are caught in a subsidy race that is pitting countries against each other. Not only is this causing unfair competition on the single market, keeping every national industry afloat is also keeping major inefficiencies in the system, while keeping out clean-tech innovation.

Europe, therefore, needs industrial policy to support this transition. Industry needs certainty, stability and predictability to make the right investments and the support to deal with geopolitical risks and environmental costs. Both the European Commission and industry have realized this and are calling for action. The upcoming reports of Letta and Draghi will further underline the need for action, making it one of the top issues for the European elections and new Commission.

In the current political environment, there is however a huge risk of taking the wrong route: easing environmental targets and giving more room for national state aid. Let's be crystal clear: this is not industrial policy, but a free pass for industrial laggards. Just leaving the industrial transformation to the market and member states will not solve our challenges nor put Europe in the global front seat of this transition.

Instead, we need more coordination of European industrial decarbonisation and clean tech investments and strengthen joint planning procedures for energy infrastructure. We also need more regulation: to set up lead markets and create demand for

clean and circular materials and products. For instance by requiring green steel in cars, reduced clinker in cement or recycled plastics in products. Green leadership should be rewarded, including by strengthening the price signal of ETS and CBAM, but also by shifting energy taxation from electricity to fossils.

We also have to address the elephant in the room: we need to close the climate investment gap in industry. Not only do we need to spend much more on infrastructure, renewables and electrification to get to the climate targets, we also need to close the gap with the US and China, who massively outperform the EU in clean tech investments. With the Recovery and Resilience Facility cliff edge in 2027, we need a discussion on a new investment vehicle. Part of this money should be used for direct and easily accessible support for the transformation of industry and scale up of clean-technologies. However, with money comes responsibility: we should only support companies with a clear transition plan and on the basis of strong social conditionality, to make workers benefit from the modernization of our industrial base.

This is not a simple agenda, fitted for easy one-liners and the rhetoric of blame. It needs politicians willing to cross party lines, to cooperate and set aside self-interest. But by merging our climate and economic interests into one comprehensive strategy, it has the potential to be one of the strong underlying stories of the next mandate. It is high time for a European Green Industrial Deal, let's build it together.



SUZANA CARP

*Dep. Executive Directive,
CleanTech For Europe*

Creating opportunities for European industry and citizens to thrive through the new global cleantech transformation: the role of the EU ETS

The 2020s have been off to an incredibly tumultuous start for the European Union and its citizens, with events affecting our overall security landscape, the predictability of our supply-chains and casting more than just a shadow over the idea that a stable and predictable future was guaranteed for European citizens. As risk analysis moved from the sidelines of an optional measurement to center stage decision-making, including through every day risk management, policies aimed at navigating risk, such as the EU ETS, have proven to be able to deliver more than previously expected while others turned out to be superfluous. Further stabilizing policies aimed at de-risking adaptation to the challenges of the 21st century while fostering competitiveness globally in the new cleantech era will need to form the core of the future European Commission's mandate from 2024-2029.

Brexit, the COVID19 pandemic, the return of war on the European continent and last but not least, yearly deadly weather related events (floods, wild fires, etc.) could have made Europe seem like a difficult place to invest in. And yet, we see that when it comes to the net-zero transformation, cleantech investment in Europe did not suffer the same headwinds, reflecting confidence in the resilience of the EU's commitment to this goal and overall economic stability¹. The key reason behind this was that in the midst of overlapping existential crises, the EU's own Emissions Trading System re-emerged as the key economic instrument to advance technological transformation and provide climate mitigation, evolving into a high-value long-term asset market attracting to it many actors who had long left it and providing generous revenues to the Member States of the EU. As a consequence of this, the EU Green Deal upheld political pressures against it, which had

begun as early as March 2020. The economic argument for the net-zero transformation as the only remaining certainty over our future was starting to be made in Europe.

To best navigate the massive transformations bound to dominate the rest of the 2020s, it will be important to introduce necessary safety-nets in our European policies, whether that refers to carbon pricing, securing supply-chains, economic measures or market signaling policies ought to take center stage. This requires investing more to de-risk European indigenous cleantech on their scaling up journey. We know that the higher the carbon price is, the more new technology is needed to reduce emissions; the more we need this technology the more affordable it has to be and the more we deploy cleantech, the more then the carbon price drops eventually, over some years - but this journey has too many unpredictabilities in the short to medium terms and bears in itself high risk. Without a carbon floor price, it remains impossible for Member States to know exactly what level of revenues they can expect from the ETS back up to 2030, let alone to borrow money against the future revenues. Same for the EU, borrowing against future revenues from carbon pricing instruments (CBAM included) will be needed, should the EU wish to invest in a newly developing technological landscape on a scale comparable to other global players aiming to secure competitiveness in the cleantech race.

A carbon price floor will be needed for stability of revenues for ETS governments, and to accelerate and fund the technological transformation of the EU industrial landscape. With the help of a carbon floor price, two separate pools of ETS revenues can be created. On one hand, there is a secure pool of revenues that MS can count on up to 2030 which allows them in turn to make investment decisions across the economy to fund the climate transition (revenues guaranteed by the existence of a floor); a second pool of revenues is then created from the revenues collected when

the price is above the floor price - this stream could be placed in a fund dedicated to de-risking investments for new technology in the EU and for creating opportunities for European industry to thrive in the global cleantech competition.

The discussion of a carbon floor price invites the question of where the floor should be set, in such a way that it is at a level which maximises the benefits of increased stability while retaining benefits from market price discovery. Based merely on developments of the 2020-2024 period, we could envision a 80-100 Euros/tCO₂eq. The floor could be designed as an escalating price with periodic inflation indexation. The Carbon Border Adjustment Mechanism would also benefit from this policy as it would also become a more predictable policy for those around the world and give a more predictable signal for the partners around the world.

The EU ETS started as a signal to businesses, mostly envisioned to drive fuel-switch, but it is now a signal to policy-makers and to investors. As we advance closer and closer to the more difficult emissions reductions, it is clear that complementary policies, such as those that seek to grow indigenous production of net-zero technologies as well as pursue grid expansion will become vital - yet, these policies have to be built around a pillar of stability around guaranteed economic revenues and taking into account the particular needs of the future technologies that will dominate the net-zero economy. Stability throughout deep transformation will be needed and the ETS can provide this, provided it acquires a carbon floor price to guarantee future revenues, a policy innovation useful for governments and EU institutions, easily understandable for global investors, much needed by European citizens, and last but certainly not least, useful for climate mitigation and for those enabling the net-zero transition, the cleantech innovators.

¹ <https://www.cleantechforeurope.com/publications/cleantech-q2-briefing-2023>



Interview of
EMMANUEL LEMPERT

Vice President, Head of Government Affairs for Middle East, Africa, and France at SAP

Why is it so important for the EU to adopt a sovereignty perspective, particularly in the field of technology?

The EU is based on a predominantly commercial expression of power, which explains its difficulty in really getting to grips with issues of sovereignty, such as defense or foreign policy.

However, its commercial power runs the risk of structural decline over time. It is therefore a matter of winning a race against time: to seize the issues of sovereignty before the loss of commercial power deprives the EU of additional strategic room for maneuver.

To meet this challenge, we need to change the current European software code. Many public decision-makers are not ready for this and continue to believe that we do not have the resources to put Europe in a position of sovereignty.

Do you understand this resistance?

On the paper, they're not wrong: the EU is a political and economic union based on a set of principles and rules that is unique in the world. It is the only political-economic entity that has renounced basic instruments of power for internal reasons.

On November 11, the Council and the European Parliament reached an agreement on the EU's annual budget for 2024. Total commitments are set at €189.39 billion. Total payments amount to €142.63 billion. For example, the two or three hundred billion euros that would be needed to make Europe self-sufficient in the crucial field of semiconductors seems very substantial in this context (the Chips Act of 2023 is for €43 billion at best).

In addition to this extremely reduced budget, the European budget is constrained by a multiannual financial framework that limits its budget on a seven-year basis.

In theory, the European Central Bank is not authorized to finance budget deficits. In fact, it

Can Europe be a powerhouse in technology and the digital economy?

could not finance a budget deficit because the EU does not have its own budget in the sovereign sense: it receives compulsory contributions from the member states and spends these funds on its operations and activities. It cannot borrow directly on the capital markets, even at negative interest rates, nor can it run a deficit.

The EU is therefore not a political entity on a par with other powerful states, although it is increasingly seen as the right level for dealing with sovereignty issues.

So why are sovereignty issues back on the agenda?

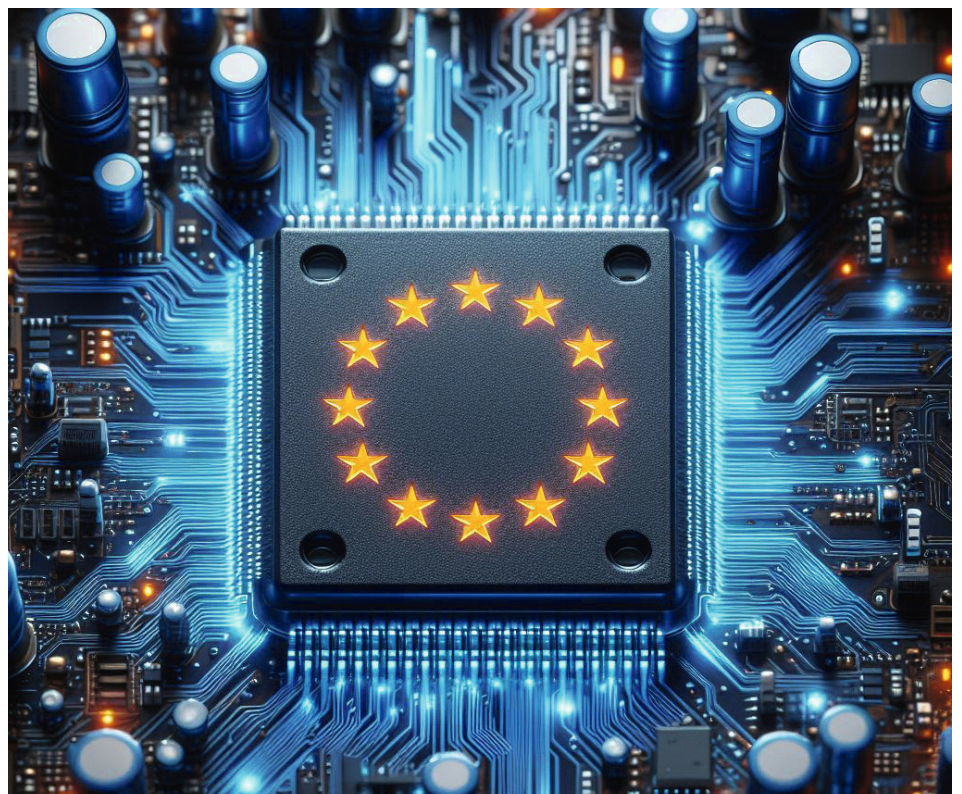
Because the decision-makers I've just mentioned are fundamentally wrong: sovereignty is never optional, and it cannot be decreed. It is

recognized by others and maintained through the possession of the appropriate means.

The increasing number of crises and geopolitical tensions is a constant reminder of this. A recurring question for the EU and its member states is how much strategic room for maneuver they have. It is up to Europe to reform itself and to put itself "in a position of sovereignty".

On a per capita basis, the EU is richer than China. In other words, its population produces more per capita than China's. In 2022, GDP per capita was €11,965.62 in China and €30,919.80 in the EU.

Moreover, the EU's share of global wealth production is equal to that of China. In 2022, the EU was the world's third largest economy. With €15,837 billion, it accounted for 16.5% of



global GDP, just behind second-ranked China with 17.8% of global GDP.

However, since 2012, EU has invested slightly less in terms of GDP and significantly less in terms of value. In 2022, the EU and its member states spent €352 billion on R&D, or 2.22% of European GDP. As a share of GDP, this was slightly lower than in 2021 and still far from the target of 3% of GDP. China, on the other hand, spent more than \$442 billion on R&D in 2022, or 2.55% of its GDP, a figure that has been rising steadily in recent years.

The gap is widening. Let's not forget that China started from practically zero in terms of technological development, while Europe had a considerable lead in terms of research, industrial and scientific culture, administration, education, etc.

If we can't explain Europe's structural backwardness in strategic areas such as semiconductors or supercomputers in terms of natural economies of scale or raw capacity, then we must look for these weaknesses in its political and organizational architecture, as well as in its industrial strategies and policies.

How can we protect ourselves against extraterritorial legislation? Is encrypted data a sufficient response?

Extraterritorial legislation is a performance "in law" of a well-established sovereignty "in fact". In other words, it is the exact opposite of the European approach, which often aims to produce "in law" sovereignty to try to strengthen its "in fact" sovereignty.

To guard against such legislation, we must define and implement an effective data

protection strategy. Such a policy systematically rests on two pillars: a technological one and a legal one. One cannot exist without the other.

Therefore, encryption (including quantum-resistant encryption) is a mandatory tool, but it is not the only one. It must be accompanied by some form of legal protection. For example, the capital structure of suppliers is now becoming a point of attention: that's why we are now seeing the creation of new legal entities using technologies from outside Europe, within a legal framework that does not allow the suppliers of these technologies access to the data produced and processed.

This strategy is interesting because it aims to reduce the exposure of non-European technology providers themselves to laws with extraterritorial reach.

However, it is not easy to implement this strategy on a systematic basis. Mostly because its application must be based on a well-founded economic rationale for the industry, including for the European industry.

For this reason, I am afraid that regulation will, once again, take the place of the main and primary strategy, whereas it should be one dimension among others, to compensate for European weaknesses in holding the technological means of production of sovereignty, especially in the digital field.

How do you approach this question of concrete means?

The technological means of producing digital sovereignty form a kind of technology stack, but not in the most common sense of

the term. In fact, the logic of the technology stack as applied to digital sovereignty is both intuitive and counterintuitive.

On the intuitive side, we can see that a low level of mastery at one level has consequences for the next. What's counterintuitive is that this logic requires a certain amount of back and forth between the infrastructure, hardware, and application layers.

For my part, I believe it's possible to think of this technology stack in the following way: first semiconductors, which are the foundation of the digital sovereignty technology stack, then supercomputing, quantum computing, cybersecurity and cryptography, telecom networks (Low-Earth orbit conquest), and submarine cables.

As far as Europe is concerned, delays are accumulating and feeding each other on many levels of this stack. Efforts should focus on encouraging alliances between European technology suppliers to capture international market share, not just on creating domestic niche markets for local companies.

The issues of standards, intellectual property and research are also crucial. In these areas, Europe is still lagging behind. For instance, it's true that European research has held up well and even excelled, even with lower budgets. Nevertheless, the trend is less and less in favor of the EU. Around 2017, China overtook the EU in the top 10 most quoted publications. Let me give you another example: while the EU produced around 21% of the world's scientific publications in 2018, compared to 17% for the US, if we look at the share of publications quoted in the top 10 most influential, the US share rises to 31% compared to 21% for the EU.

A major problem in the EU is the fragmentation of R&D expenditure and R&D centres. In addition, the preferred form of transition from research, often publicly funded, to industry today is the "research start-up", which operates without revenue, from capital increase to capital increase. This often forces researchers to become financiers, which is not optimal in terms of skills and time lost outside the laboratory. It also introduces the risk that the research product, once developed into an industrial product, will be taken over by a State third party.





CHRISTOPHE GRUDLER

MEP (Renew Europe – France)

Against unfair competition, time has come for a Buy European Act

As Europe stands at a crossroads in its industrial policy, reflecting on our position reveals a stark reality: we are increasingly dependent on non-European technologies, especially in clean technologies and digital infrastructure. This growing dependency is not just an economic issue—it's a strategic vulnerability that affects our autonomy and our capacity to take control of our destiny.

European Union's Increasing Dependency

The surge in reliance on external sources for crucial technologies has positioned Europe at a disadvantage. This trend is particularly noticeable in sectors that are vital for the future, such as clean energy and digital services. The technologies that drive these sectors are predominantly sourced from outside Europe, leading to a significant transfer of economic benefits and job opportunities out of the continent. This shift not only undermines Europe's industrial base but also its ability to innovate and compete on a global scale.

The New Economic Landscape We Face

The current global market dynamics complicate Europe's position further. We face aggressive competition from countries like China, which has captured large swathes of the market with its low-cost solar panels, batteries and now EV vehicles. A startling 95% of solar panels utilized within the EU are imported from China, placing the EU at a significant strategic disadvantage in the burgeoning clean energy sector. This dependence extends beyond just finite products; China also controls a dominant 96% of the global solar wafer production, with EU companies barely making up 1% of the market. This vast disparity not only underscores the EU's vulnerability but also the urgency to act.

Similarly, the United States policies effectively prioritize domestic products. The Buy American Act specifically prioritizes domestic products in government procurement, and

the Inflation Reduction Act (IRA) earmarks an unprecedented \$369 billion in subsidies to bolster clean technologies, showcasing a robust commitment to both national industry and environmental sustainability.

Europe stands at a critical juncture, facing intensifying competition not from the inherent competitiveness of other economies but from their unfair trade practices and substantial state support.

Europe's Response to Unfair Competition

Regarding unfair competition, recent moves by the European Commission to investigate foreign subsidies on products like solar panels and wind turbines imported from China are indicative of a less naive European stance. However, these investigations, while necessary, are limited in scope and slow to produce changes. More importantly, these measures are reactive. Often, our European industries have already suffered or disappeared by the time investigations yield results and corrective actions are implemented. They highlight the need for more systemic solutions to enhance Europe's economic sovereignty and reduce reliance on critical technologies from geopolitical rivals.

Towards a Buy European Act

This backdrop sets the stage for proposing a transformative policy: the "Buy European Act" (BEA). This initiative would be about pragmatism—ensuring that when European alternatives are available, they are preferred in public procurement processes. This approach would not only bolster European industries but also support the shift towards cleaner and more sustainable technologies. It's about making strategic choices that secure long-term economic and environmental benefits for Europe. It is not protectionism, but solely having a level playing field for our European economy, using a tool that we are the only one not using.

Implementing such an act would have several benefits:

- **Economic Security:** Reducing dependency on critical imports enhances Europe's autonomy and resilience in global supply chains.
- **Job Creation:** Supporting local industries directly contributes to job preservation and creation within the EU.
- **Environmental Impact:** Promoting the adoption of European-made green technology aids in achieving the EU's ambitious climate targets.

A gradual implementation

The road to implementing a Buy European Act would involve some challenges. It involves balancing market openness with strategic autonomy, ensuring European industries remain competitive without being isolated from global competition. Additionally, the act would need to be carefully phased to allow industries and procurement processes to adapt without disruption.

Nevertheless, the Buy European Act would represent a critical step toward reasserting Europe's economic leadership and securing its technological future. It is a call to strengthen our internal market while affirming our commitment to sustainable development and strategic autonomy. As Europe debates its next steps, this act could serve as a cornerstone of a more resilient and competitive European economy.

As we continue to discuss and refine this proposal, it is crucial for all stakeholders—policymakers, industry leaders, and citizens—to engage actively in shaping a policy framework that supports Europe's economic sovereignty and sustainable growth.

It is only at the European level that we can implement an industrial and economic policy that truly protects our citizens.



HOUMAN ASHRAFIAN

*Executive Vice President Global
Head of R&D Sanofi*

Making Europe a Leader of the Next Biopharma Revolution

In 2019, during discussions for the last Commission mandate, the world had never heard of COVID-19. Both Europe and the rest of the globe were wholly unprepared for the upheaval that was to grip our societies in the years to come.

Since the end of the pandemic, issues of sovereignty, security of supply and cost cutting have come to dominate the EU health policy debate. While enormously important, if these issues are the focus of the next mandate Europe will be preparing for the last, rather than the next, crisis. Because we cannot solve the most fundamental challenges confronting our societies and health systems without bolstering our capabilities to do cutting edge scientific research in the EU and to discover new medical innovations.

Over the past twenty years, Europe has experienced an erosion of its innovation

edge losing a quarter of its share of global R&D investment since 2001¹ and significantly trailing the US as well as emerging competitors as a location for new product development and biotech startups².

To tackle the multiplicity of issues that threaten to overwhelm the continent's healthcare systems, undermine our economies or indeed, be the agents of the next pandemic, Europe needs to regain its edge in innovation.

1 Charles River Associates (2022) [Factors affecting the Location of Biopharmaceutical Investments and Implications for European Policy Priorities, Study for EFPIA](#)

2 See, for instance, Deu, L.F. and Santos da Silva, J. (2019) [Biotech in Europe: A strong foundation for growth and innovation](#), McKinsey Report

Harnessing the AI revolution in science and medicine

If harnessed responsibly and at scale, AI can be a critical tool to solving the most pertinent and costly problems facing Europe's healthcare systems.

Within Immunology – a field I am most familiar with and in which Europe has an opportunity to become a scientific leader – AI promises to make the process of discovering and developing new medicines and vaccines better and faster.

In interaction with our new scientific understanding of the immune system, AI is already leaving an indelible mark, leading to the development of more first-in-class compounds and ultimately better, more effective medical products to treat and prevent severe (and costly) life-long illnesses.

As EU leaders set their priorities for the next mandate, ensuring European universities, research institutes and companies can be at the forefront of this AI revolution in medicine – and able to deliver breakthrough science that will shape healthcare for decades to come – should be central to the discussion.

Scientific Innovation needs to be the central focus

The Commission proposals on biotech and biomanufacturing³ are a good place to start for the next mandate. They are an opportunity to build on Europe's scientific excellence in areas such as immuno-science – and to consider how we can multiply existing capabilities and accelerate the speed of research by deeply embedding AI in our scientific eco-systems.

The increasing incidence of immune-related diseases is an enormous challenge



3 European Commission (2024) [Building the Future with Nature: Boosting Biotechnology and Biomanufacturing in the EU](#).

confronting health system and affecting ever more people⁴. Immune-mediated inflammatory diseases (IMIDs) encompass a heterogeneous group of disorders including more than 100 lifelong and costly illnesses – such as type 1 diabetes, asthma, inflammatory bowel diseases (IBD), rheumatoid arthritis, chronic obstructive pulmonary disease (COPD) and multiple sclerosis – projected to skyrocket in the coming decades.

In recent years, the science of immunology has transformed our understanding of these illnesses. Due to our deeper insights into shared pathogenesis, a diverse set of diseases once thought completely unconnected are now known to share a similar molecular basis and pathology. As a tool, AI is interacting with our new scientific models of immunology to dramatically accelerate scientific discovery, for example helping unlock fundamental genetic mechanisms that underpin immune related diseases and make some people susceptible but others not. AI is also transforming our ability to research complex therapeutics for immune disorders, such as protein and gene-based therapies, accelerating drug discovery across new platforms including monoclonal, bispecific and multi-specific antibodies and mRNA-based vaccines and therapeutics⁵. **This is dramatically expanding the potential to delay, treat, cure or prevent many of the life-long chronic diseases for which few options are currently available and which place such a high burden on patients and healthcare systems across Europe.**

Europe Can Become a Hub of AI Driven Immuno-Science

Europe is becoming a hub of this new emerging immuno-science, particularly in early-stage R&D. Interest and investment in clusters such as the Marseille Immunology Biocluster, the Caixa Research Immunology Institute in Barcelona or BioRN in Heidelberg are recognition of the excellence in immunology research in the EU and the dynamism of the biotech sector. As one of Europe's largest pharma companies, Sanofi is becoming the world's leading immunology company, partnering for cutting edge research with Immunology Centres of Excellence across Europe.

However, Europe can be at the forefront of the new AI driven science of immunology only

if the next Commission mandate and national governments address critical conditions. First and foremost, the next Commission must develop a comprehensive strategy for the Biopharma sector, paralleling what we see with the Chips Act or the Critical Raw Materials, combining industrial, innovation and investment strategies to reinforce both Europe's cutting-edge science as well as the security and resilience of our healthcare systems. Below are considerations for Europe's next mandate and biotech plan.

1. Accelerate Innovation by unlocking health data and AI for research and manufacturing

AI is nothing without high-quality data. The European Health Data Space (EHDS) has the potential to unleash the power of AI for Health in Europe.

Data sharing will be key – but it's essential the right structures are in place. Over the years Sanofi has been a leader in our willingness to share data with other researchers and – once there are appropriate protections built in to protect confidential information – sharing research data is something we wholeheartedly support. However, the EHDS carries significant risks and may have unintended consequences for data sharing in Europe. As the next Commission begins to implement the EHDS, it must engage the expertise of researchers, companies, and patient organizations to solve fundamental issues and ensure it serves its purpose of creating a rich health data ecosystem to drive research, with patient trust and accountability being front of mind.

Several other policy considerations in the next Commission will be critical for AI in health.

In terms of hardware, the deployment of the European quantum computing infrastructure will be an essential enabler of AI in drug discovery.

Skills will be essential. The EU has some of the best universities in the world and some of the best mathematicians, biologists, chemists, engineers, and data scientists. All together this means the EU has the raw materials to be at the forefront of health AI. Strategically, the EU needs to focus on creating centres of excellence to harness and direct this talent.

Finally, responsible AI is innovative AI. The implementation of the new EU AI Act will be essential to ensure Europeans can trust what AI has to offer. Sanofi is fully aligned with the risk-based approach of the new act. This approach, following strict moral, ethical, and environmental standard has been embedded

since the beginning into our development and use of AI through our RAISE initiative⁶.

2. Future Proof IP and Regulatory Frameworks for complex therapeutics and vaccines

The revision of the general pharma legislation, which will continue into the next mandate, is a once-in-a-generation opportunity for future proofing the regulatory and incentives landscape to encourage the development of more complex medicines and vaccines with the assistance of AI in Europe – particularly for patients with unmet needs or those with rare conditions. Reducing incentives for innovation will not help European competitiveness, but more importantly is not in the best interests of patients. The next Commission must also future proof related healthcare regulations. With an eye to improving the attractiveness of Europe as a location for clinical trials, the next Commission should review and simplify the Clinical Trials Regulation.

3. Securing biotech supply chains and enabling diversification

The Commission must be given a mandate to secure a diversity of technology platforms in Europe, as well as facilitating partnerships and international cooperation on biomanufacturing platforms. For instance, consortiums for raw materials and components exchange would be valuable for the European region as part of our preparedness for major disruptions, as would EU level planning for alternative and new critical raw materials essential for the biomanufacturing of future products in Europe.

4. Foster innovation clusters in leading fields

Fostering innovation clusters in areas such as immunology, where Europe is already a leader and has the critical mass and proximity between research, care, and companies should be central to the next mandate plans. HERA could play a more important role in building a strong ecosystem for late-stage development in the EU. Collaborative planning should identify gaps and opportunities, decrease fragmentation, encourage specialization in specific areas and most importantly, plan with a European mindset rather than a national one.

4 p. 4, GBD 2019 IMID Collaborators. (2023) [Global, regional, and national incidence of six major immune-mediated inflammatory diseases: findings from the global burden of disease study 2019](#). Lancet (Vol. 64, Oct. 2023)

5 For recent advances in AI driven drug discovery see Arnold, C. (2023) [Inside the Nascent Industry of AI Designed Drugs](#). Nature, (Vol.29, June)

6 For further information on Responsible AI Act at Sanofi see '[Artificial Intelligence across Sanofi](#)'



NICOLÁS GONZÁLEZ CASARES

MEP (S&D Group - Spain)

Enhancing the strategic framework of pharmaceutical industries to bolster European autonomy

The legislative term is now coming to an end. Five years that were deeply impacted by an unprecedented health crisis. Little did we know that just a few months after we arrived in the Parliament we were going to be forced to focus all our efforts in the urgent management of a pandemic. However, we decided that this situation should make us learn some valuable lessons, not only to prevent future emergencies, but also to unwrap all the capacity of European health policies to coordinate all Member States in protecting the health of all Europeans. In the last years, we have strengthened the existing legislation and adopted new texts to prevent diseases, facilitate the authorization of safe and effective treatments and improve the access to medicines for all patients.

However, we still have many pending issues for the coming years and one of the most urgent ones is to manage the shortage of medicines that year after year threaten patients' wellbeing. Shortage of supply of essential medicines and pharmaceutical active ingredients in the EU has been increasing in recent years, with a 60% increase in shortage notifications between 2017 and 2019 and a worsening of the situation in 2022. As stressed in European Commission official studies and Parliamentary reports, the causes of this problem are multiple and complex, including both internal factors of the pharmaceutical industry and external factors, and cause serious supply disruptions that negatively affect patients.

The EU faces a growing dependence on a small group of manufacturers and regions, especially China and India, for the supply of medicines and pharmaceutical active ingredients, evidencing a critical concentration of production at a global level. The COVID-19 pandemic and the Russian military aggression against Ukraine exposed Europe's supply chains dependencies and the risk that economic dependency could be weaponised. As the High Representative Josep Borrell pointed out during those months in which securing essential medicines and medical equipment was the most urgent priority, "not a single gram of paracetamol was produced in Europe" when the pandemic started.





This strong dependency is especially notable for generic medicines, which are the 70% of medicines dispensed in Europe. The EU has focused its pharmaceutical production on more complex products, which require high-tech infrastructure, a skilled workforce and sophisticated processes, becoming a global leader in research and development of innovative medicines. However, regrettably, the EU is also facing a continuous loss of competitiveness and innovation capacity towards other countries, such as US and China.

During this term, we reinforced the mandate of the European Medicines Agency (EMA) in order to strengthen and coordinate the management of critical shortages at EU level; the Commission's Health Emergency Preparedness and Response Authority (HERA) is supporting with foresight and emergency preparedness to ensure the availability of medical countermeasures; and the recently voted position of the Parliament for the revision of the general pharmaceutical legislation of the EU welcomes and reinforces the measures described in the Commission proposal regarding the monitoring of shortages.

Thus, we are taking the right steps towards ensuring the availability of essential medicines in the EU, but now is time to address the root causes of the shortages and our strong dependence. In the 2021-updated industrial strategy, the Commission had already identified six key areas of dependency: raw materials, batteries, active pharmaceutical

ingredients, clean hydrogen, semiconductors, and cloud and edge technologies. Over the past two years, the EU has proposed a support policy for each of these sectors, with the exception of drug production.

Just a few months ago, I initiated an oral question to the Commission, together with other two Spanish MEPs, that in the end was presented with more than 80 co-signatures from different political groups, requesting to explore the implementation of initiatives and tools that, similarly to the Critical Raw Materials Act and the Chips Act, and with appropriate financing mechanisms, aim to increase the European market share in the production of essential medicines, APIs, intermediate ingredients, and innovative medicines, such as new antimicrobials or advanced therapy medicinal products (ATMPs), for which the EU is either completely dependent or lagging behind third countries.

In October last year, the Commission adopted its Communication on addressing medicine shortages in the EU, in which they propose the creation of a new Critical Medicines Alliance that would help exploring how to diversify global supply chains for critical medicines, enhance security of supply through public procurement and boost Europe's capacity to produce and innovate in the manufacturing of critical medicines and ingredients in coordinated and competitive way.

This is, of course, a first step in the right direction towards a future Medicines Act and we will work together in the coming years to define a strategy that works for the EU. Maintaining and increasing both innovation and the internal production capacity will not only strengthen our resilience in the face of possible health crises but will also accelerate access to treatments for patients, make healthcare systems sustainable and provide significant economic benefits, boosting the European pharmaceutical industrial ecosystem and fostering employment.



HILDEGARD BENTELE
MEP (EPP Group - Germany)

Improving responsible sourcing to ensure stable supply chains for **strategic raw materials**, while preserving competitiveness and **employment in Europe**

The European Union's Critical Raw Materials Act (CRMA) represents a significant step forward towards securing a sustainable and resilient supply of critical raw materials essential for the EU's industrial and technological sectors. The use of these materials in everything from solar panels, batteries, fuel cells and wind turbines to computer chips, electronic devices, robotics and data transmission networks makes them crucial to the ecological and digital transition, which in turn will determine our future on this planet. In my role as negotiator on behalf of the EPP group, I am proud of the result we delivered. The broad political majority carrying the trilogue agreement through the Parliament and the Council is proof of that. Democratic

parties, NGOs and industry were aligned to meet one of the greatest strategic challenges of the twin transition: How to ensure access to the minerals and metals in need.

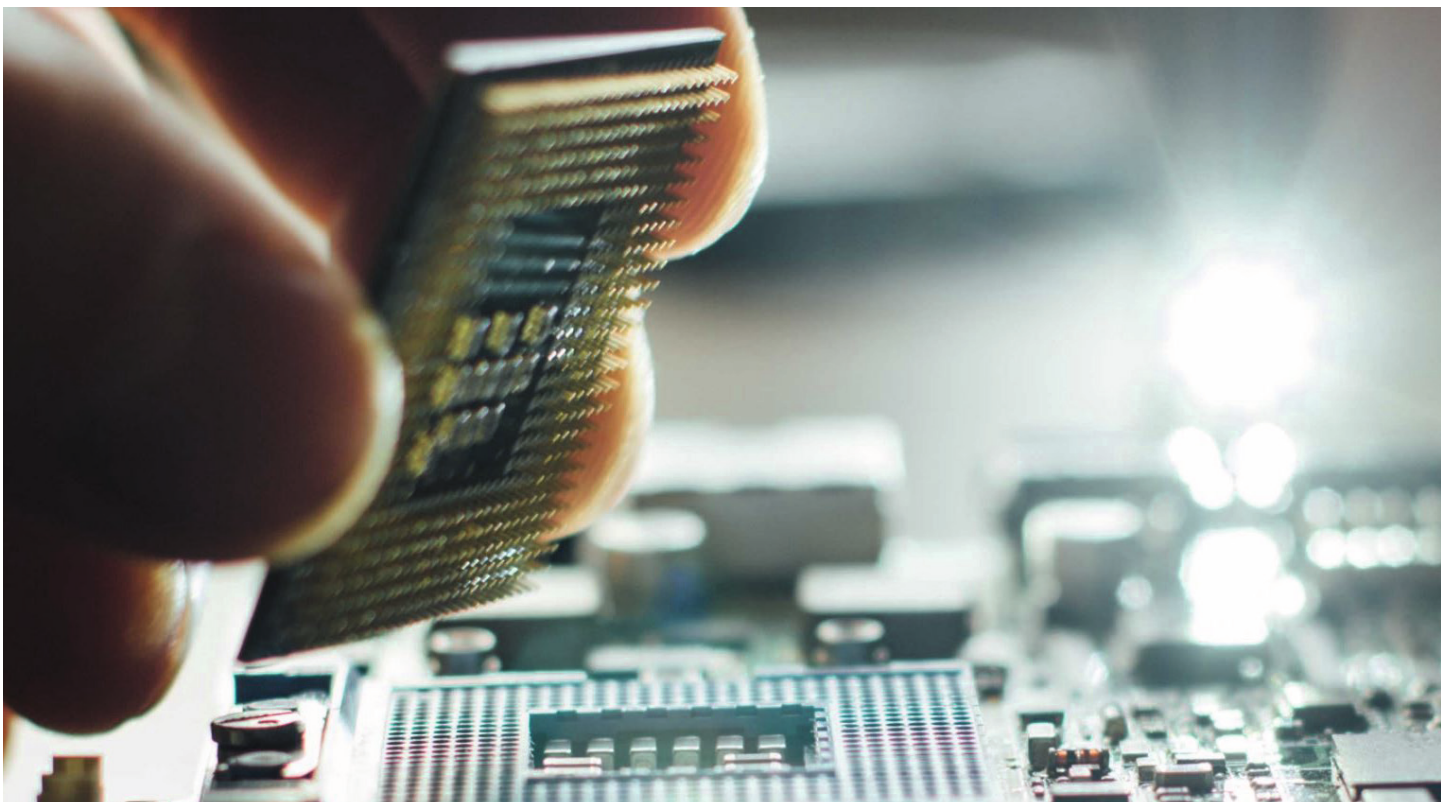
The CRMA is designed to address the challenges of sourcing, processing and recycling these strategic raw materials that the whole world is trying to ensure access to: In its 2023 critical mineral market review, the International Energy Agency¹ concludes that in the net zero emissions by 2050 scenario, the demand

for critical minerals grows by three-and-a-half times to 2030. The EU's Joint Research Centre foresight study² provides more details on specific material demands, in example an expected rise in the lithium demand for batteries in the EU to grow 12 times as large in 2030 compared to 2020, and 21 times as large in 2050.

In the light of the huge challenges ahead of us, we will have to ensure that efficiency

¹ <https://www.iea.org/reports/critical-minerals-market-review-2023/implications>

² <https://op.europa.eu/en/publication-detail/-/publication/9e17a3c2-c48f-11ed-a05c-01aa75ed71a1/language-en>



and circularity will realise their full potential to mitigate the dramatic rise in demands. However, recycling will not be providing sufficient material in the short- to mid-term to supply emerging applications that are needed for the twin transition. Even in the long-term, the supply of primary materials will remain crucial. Therefore, responsible mining needs to be promoted, also in Europe, while we will continue to rely largely on imports but according to the goals set by the CRMA from more diversified and more reliable partners than now. Ignoring domestic capacities and sources would nevertheless be a big mistake in the context of a challenging geopolitical landscape and fierce global competition. But more importantly, it's ultimately an issue of credibility: Given our centuries-old mining expertise and our technological innovation, we have to lead by example and set an end to "not in my backyard" arguments. A 10% benchmark for domestic mining is far away from ploughing up Europe for critical raw materials. As regards projects in protected areas, I am pleased to see that the debate has shifted towards an approach that recognizes the immobility of mineral deposits and the need to define what we consider responsible mining instead of simply banning it - and continue to import it from countries with lower standards, both environmentally and socially.

I have always been of the opinion that responsible mining should diligently balance both the EU's increased need for responsibly sourced materials and the need to protect

nature and biodiversity. Responsible domestic sourcing is hence an opportunity for the exploration and extraction in Europe - for benchmarks in social acceptance and in technical excellence. Tailor-made technologies and innovation help to minimise the environmental impact, concepts for a social license to operate, including meaningful consultation of affected indigenous people, help to build transparency, trust and ultimately social acceptance. Access to critical raw materials is a core pillar of European industrial competitiveness, which itself has far too long only lurked in the shadow of climate ambitions.

The so-called green deal needs to be a deal that embraces and strengthens European industrial competitiveness at a global scale. The CRMA and the Net-Zero-Industry-Act are both important pieces of the puzzle. The one delivers on the materials, the other on the technologies. However, lots will depend on the Member States, especially with regard to permitting and financing. While funding seems to be our Achilles' heel, especially in times of historic public spending towards reducing carbon spending in the US, I strongly believe that significantly shortening the permitting procedures and improving project management along with technical and human resources at the national permitting authorities will be a decisive factor. An average of 15 years for a mining permitting process in Europe is simply not acceptable. In the (preliminary) absence of sufficient EU funding, we need to make better use of existing instruments, overcome the

risk-aversion of EU financial institutions in the field of mining and, as soon as possible, install a European funding instrument targeted at secure and environmentally sound critical raw materials value chains.

Now it is on us to make the CRMA work: delegated acts need to be drafted and the Board has to be created in order to define application deadlines and start screening projects. I therefore urge the Commission and the Member States to move on quickly and encourage companies, financial institutions and investors to embrace the possibilities of the CRMA in Europe. We have a plan, but it will only come to life if we now work hand in hand for implementation, just as we did during the parliamentary process.





SIRPA PIETIKAINEN

MEP (EPP Group – Finland)

The pace of **decarbonization** will depend on the availability of **technologies** and the efficient use of resources in a **circular economy**

It is clear that energy efficiency and the transition to renewable energy sources are vital for combatting climate change. Nevertheless, the energy transition is not the sole answer if we ever want to reach net zero, as it can only address up to 55 percent of greenhouse gas emissions.

By moving towards a closed-loop circular economy, we can cut CO₂ emissions by 39%. This is because, currently, up to 70 percent of the global greenhouse gas emissions are caused by material extraction and use. By moving towards more circular, efficient, and sustainable production with a ten-fold resource efficiency, we are able to not only limit the environmental degradation caused by the extraction of raw materials but also notably cut down on product life-cycle emissions.

Up to 80 percent of the environmental impacts of products are defined during the design phase, which is why the early stages of the product design play a crucial part in combatting the products' full life-cycle environmental impacts. We need to maximize the product lifecycle and make products reusable, upgradable, modular, and, in the end, completely recyclable. This needs efforts from industry but also from societies, as we need to maximize our recycling capacity and ensure the needed skills and services to scale up the circular economy ecosystems.

Circular practices are needed in all industries, but there is more urgency to decarbonize some sectors than others. In fact, 40 percent of global greenhouse gas emissions can be cut by applying circular practices to four key materials. These materials are cement, aluminium, steel, and plastics.

The construction sector is the biggest user of cement and steel while also being one of the biggest users of plastics and aluminium. Therefore, it is no surprise that sustainable buildings and construction are a necessity in order to reach the EU's environmental and

climate targets. The building and construction sector currently accounts for more than a third of the total greenhouse gas emissions, 40 percent of the energy consumption, and around half of the material consumption in the EU.

In order to decarbonize construction, we need alternative and more sustainable materials and technologies to cut down on the emissions of construction products. We also need to make the building blocks modular so that they are easier to reuse in other projects. The task for us policymakers is to create markets for these more sustainable products and technologies. In addition, we need to renovate our existing building stock to upgrade them with energy efficiency solutions and to install solar panels to create passive buildings. In that way, our biggest users of energy would become energy-neutral, or, in the best case, energy producers.

Scaling back to a larger perspective, in order to decarbonize our industries and minimise the environmental impacts of products, we need to have a clear and shared understanding of what we are actually measuring. Therefore, we need to develop an LCA that is based on transparent and harmonised indicators for products from cradle to grave rather than each company using different life-cycle methods that are usually not comparable with one another. The current system makes it impossible for consumers to fully differentiate between the most sustainable options and those that are less sustainable.

The one crucial mistake that policymakers keep repeating is the inability to set the bar right at once. The climate neutrality target should be set much earlier than we are doing now if we want to listen to the guidance of climate scientists warning us that it is too late. Therefore, we should also avoid taking sidetracks, as they only waste our critical time and money on halfway solutions that do not even fix the problem. Frankly, when

it comes to climate change and biodiversity loss, time is the scarcest resource we have. These sidetracks hindering our efforts are, for instance, biodiesel, plastics to fuel recycling, waste to energy, blue hydrogen, and natural gas dependency.

We need more technologies that are making our industries and production genuinely more sustainable, rather than relying on technologies that are developed to justify the extended use of fossil fuels with CCS. The problem is that these solutions do not actually solve the cause of the issue, leading us into a loop where one end keeps spitting greenhouse gases into the atmosphere while the other tries to remove them. In any case, they would not solve other environmental issues such as biodiversity loss, which would lead to an inhabitable planet anyway. In addition, climate manipulation would lead us to the era of "unknown unknowns". What happens if the technology fails and we just keep burning more and more fossil fuels?

We should be more future-smart with our investments. For example, instead of putting all our money into opening new lithium mines, we should increase our investments in R&D to develop more sustainable alternatives such as sodium-ion batteries, which would make our lithium mines not only environmentally harmful but also just bad investments. This would also help the EU avoid making the same mistake of relying on third countries, such as China, when it comes to critical technologies.

Let's remember that we do, in fact, have the money for the green transition, but our money is tied to unsustainable investments, such as fossil fuel subsidies. If the problem with solving the crisis is not the money, then what is it?



JEAN HORNAIN

CEO of CITEO

Driving circular economy: Europe's path to strategic autonomy in the wake of EU Elections

As the EU prepares for a new mandate, Citeo advocates 11 measures aimed at developing an environmental and sovereign economic model for Europe.

The forthcoming European elections, to be held between 6 and 9 June, will be a pivotal moment for Europe to reaffirm its influential role. This juncture underscores our collective commitment to fortify and advance towards shared objectives outlined in the European Treaties.

At Citeo, with over 30 years of experience as a leading Producer Responsibility Organisation overseeing Extended Producer Responsibility for household packaging and graphic paper, we recognize the Union's dedication to preserving, protecting, and enhancing the quality of the environment. Reflecting what has been undertaken since 2019, it's clear that

the Green Deal, spearheaded by the European Commission, stands as transformative action.

The Commission's ambitious agenda aims to:

- Reduce net greenhouse gas emissions by at least 55% by 2030 and achieve 90% reduction by 2040 compared to 1990 levels.
- Attain climate neutrality for the continent by 2050.

Acknowledging the pivotal role of the circular economy in accomplishing these goals, the Union has designated it as fundamental to both sustainable growth and climate neutrality. The Circular Economy Action Plan outlines our roadmap for fostering circularity across product life cycles, from inception to waste management.

Through legislative proposals such as the Taxonomy Regulation, the Ecodesign for Sustainable Products Regulation, the Packaging and Packaging Waste Regulation or the revision of the Waste Shipments Regulation, the Commission is reshaping the single market to reduce environmental impact and drive sustainable practices to: Reduce, Reuse and Recycle.

Aligned with the Granada Declaration of 6 October 2023 of the European Council, which underscores circular economy as fundamental to the sustainability of the European economic model, circularity remains an essential part of conserving resources and bolstering industry competitiveness.

Circularity isn't just a blueprint; it is also a prerequisite for sovereignty. As we look ahead, decisive actions are imperative to



meet climate targets in line with the Paris Agreement, this entails supporting Member States, businesses, and citizens in implementing existing legislation and advancing new initiatives.

At Citeo, we advocate for an environment and sovereign economic model, and we put forth eleven proposals to pave the way forward:

1. Developing an ambitious regulation on packaging and packaging waste

With a harmonised framework to improve packaging circularity through the following measures:

- Reducing packaging and plastic by avoiding unnecessary packaging.
- Reuse, as an effective and relevant means of reducing the environmental impact.
- Promoting high-quality recycling by harmonising the definition of recyclability, setting binding targets for recycled content and introducing a deposit return scheme.
- Consumer information on sorting rules, with harmonised marking of sorting rules and the flexibility and adaptability of the info-tri.

2. Giving consumers the means to promote the green transition by ensuring they have access to reliable information

By strengthening consumer empowerment and harmonizing initiatives within the EU regarding the scope of the directive, requirements for justification and communication, labelling, verification of provided information, support for micro, small, and medium-sized enterprises, and corporate responsibility.

3. Considering waste as new resources

By revising the waste framework directive to amend the definition of "waste", to set mandatory and ambitious reduction targets, and make reuse an essential pillar. This revision will make it possible to introduce harmonised minimum requirements for deciding on the selective collection model to be implemented, to step up separate collection by limiting possible exemptions, to prohibit landfill, to adapt the processing hierarchy for the outermost regions, and to roll out EPR.

4. Define a binding legislative framework for biobased and non-fossil raw materials

With a regulation on non-fossil-based raw materials as well as biobased raw materials. This framework should be applied to the entire life cycle, from production to end of life to ensure that the environmental impact is always positive.

5. Combining circular economy and health issues

With a support framework for developing reuse enabling health issues to be fully taken into account. This issue is currently left to industry stakeholders who need a more detailed framework which could be developed by the EFSA and CEN.

6. Extending the CBAM to support the use of European recycled materials

To address the practices of certain producers that outsource their activities to regions of the world with less stringent environmental rules. During the transition period, Citeo is calling on the European Commission to examine and adopt the option of extending the implementing scope of the CBAM to include other product categories such as polymers, glass, and paper.

7. Opening the EU emissions trading system to other sectors

By extending the scope to municipal waste incineration plants and landfill facilities, which would contribute to the circular economy by encouraging reuse and recycling, as well as the decarbonization of all the economy.

8. Making the circular economy a lever of the European strategic autonomy

The circular economy enables sustainable and effective resource management, a supply of raw materials closely matching requirements, more sustainable value chains, a lower carbon footprint, and support and development of the local economic fabric and jobs.

9. Including the circular economy in the trade agreements of the EU

By explicitly mentioning these topics when implementing existing trade agreements through the dedicated monitoring committee, and also when negotiating future trade agreements through negotiation directives and the trade and sustainable development chapter.

10. Ensuring more effective packaging waste management in Europe by developing digital tools

Particularly with the digital product passport to ensure traceability of sorted and recycled materials. The development of this tool is consistent with recent European legislative advancements, notably the CSRD directive and the Ecodesign regulation.

11. Developing innovative education programs on circular economy

By implementing an environmental diploma at the French level to certify students'

knowledge of the environment, which could be developed.

To find out more: Citeo's [detailed proposals](#) and the [summary](#).



SARA MATTHIEU

MEP (Group of the Greens – Belgium)

Fixing the blind spots of the EU's circular economy with a plan for just and sustainable resource management

It is hard to overstate how much the European Green Deal represents a major gamechanger compared with the decade before. The European continent suffered years of painful and pointless austerity policies, leading to severe underinvestment in essential infrastructure and stagnant living standards for low-income households. Equally importantly, the Green Deal and the Next Generation EU stimulus package also indicated a major departure from the fragmented and piecemeal attempts at addressing the triple planetary crises of climate change, biodiversity loss and pollution.

With this new agenda, the understanding finally gained ground that a transformation of Europe's economy and society on a sustainable path was not only the best remedy for the aforementioned polycrisis, but also a coherent strategy for improving the health, resilience and well-being of citizens while creating new economic opportunities for businesses and employment. The circular economy especially is the area where all of these objectives intersect and interact with each other.

Threats to environment, equity and economy

It is crystal clear that increasing resource use is the main driver of the triple planetary crisis: 90% of global biodiversity loss and water stress, 50% of global greenhouse gas emissions, and over 30% of air pollution health impacts are caused by resource extraction and processing. Despite making up an ever smaller part of world population, the EU is still one of the largest consumers of resources in the world. Europeans have a material footprint of 14,9 tonnes per person on average, which is twice the level considered sustainable by the UN International Resource Panel.

When people and countries in the global south blame western powers for their extractivism and overconsumption, they have a point. High-income nations are responsible for 74% of global excess material use, driven primarily by the US (27%), and the EU (25%). China is responsible for 15%, while low and middle-income countries are responsible for only 8%. Meanwhile, the major dependency on resource imports weakens the Union's resilience in geopolitically turbulent times. Countries may decide to emulate the way Russia weaponized the EU's fossil fuel dependence, for instance.

The EU shifts into a higher gear

The response of the European Commission to this cocktail of threats was brought together in the second EU circular economy action plan. This 2020 update sang a much more ambitious tune than its predecessor. Its fourfold objectives aim to (i) accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes; (ii) to keep its resource consumption within planetary boundaries; (iii) to strive to reduce the EU's consumption footprint; and (iv) to double its circular material use rate in the coming decade.

Some of the 35 key actions to achieve these objectives have landed relatively unscathed from the negotiations between Parliament and Council. One notable example is the ground-breaking ecodesign for sustainable products regulation, which will introduce product requirements for a wide range of products making them more durable, repairable, sustainable and much more. These interventions will potentially push businesses to radically overhaul their business model. Other laws, such as the packaging and packaging waste regulation, have been severely mutilated. Corporate interests managed to kill the proposals on

increasing reuse of packaging and much more, for instance.

Blind spots remain

Despite such setbacks, the past mandate has been a step change for a more circular economy. The right question to ask at this point is: will this be enough to sufficiently tackle the manifold challenges mentioned above? A report by the European Court of Auditors gives a sobering outlook, stating that "there is limited evidence that the circular economy action plans [...], were effective in influencing circular-economy activities in the member states." And although resource productivity has increased, even the Commission says "faster progress is needed to meet EU resource-efficiency targets, ensure sustainable use of materials and enhance strategic autonomy."

There is a fundamental flaw in the EU's approach. The key actions mainly look at improving resource efficiency, while overlooking the highest rung of the circularity ladder, which seeks to minimize product and



resource demand through more systemic interventions. The mobility sector is a case in point. While it is crucial that vehicles are electrified and that its batteries and components are designed for reuse and have longer lifetimes, we see an increasing trend towards car obesity and greater need for resources. The most cost and resource efficient strategy to provide high quality mobility options for all income levels consists of more and better public transport, bike infrastructure, and shared vehicles in urban areas.

An upgrade is necessary

As the example above shows, current policies are blind to rebound effects that effectively cancel efficiency gains. That is why the EU needs an upgrade from a circular economy action plan to a system for sustainable resource management. One that goes beyond efficiency measures at product level, and also incentivizes demand side solutions at the level of society at large. This requires at least three things.

The first one follows the example of the targets in EU climate law, which have been critical for awareness and investments into relevant sectors. Similarly, there is a need for a law with a clear and binding EU target for resource use for 2035 and 2050 at the least, complemented with differentiated targets for sectors and member states to take different contexts and starting points into account. They need to be equitable inside and outside the EU, and in line with planetary boundaries.

Second, again following the climate law example, an EU Scientific Advisory Board on Sustainable Resource Management should monitor progress and provide independent recommendations. Third, EU and member states should develop plans containing strategies to achieve the targets. These can be integrated with national climate and energy plans, as Flanders has done in the Belgian plan with its voluntary material footprint target of -30% by 2030, for instance.

Just transition: a win-win

Experience with targets in the Netherlands, Austria, Finland and Flanders confirm that only binding targets carry the political weight to direct system change. The European Parliament has asked for such a binding approach in an 2021 [own initiative report](#) on circular economy. In 2022, member states and Parliament have asked to bring material and consumption footprints in line with planetary boundaries as soon as possible in the [8th Environment Action Plan](#). And an early version of the 2020 circular economy action plan included a target to halve the EU's material use by 2030.

We should seize this occasion to finally take the next logical step when it comes to



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resource management in the EU. At the same time, we should ensure that people with low incomes also benefit from this redistribution in the use of resources. That means this policy programme is inevitably linked to an agenda that strengthens the pillar of social rights and provides far higher levels of increased social spending on essentials such as house renovation and public transport. This also leads to stronger local employment that cannot be outsourced and a far greater strategic autonomy. This win-win strategy is the only way to get everyone on board, which ultimately benefits everyone in society, regardless of income level, inside and outside the EU.



AXEL DARUT

Advisor at the International Council for Circular Economy

SEBASTIEN BOURDIN

Chairholder of the European Chair of Excellence on Circular Economy

From local to EU-wide: building a **strategic autonomy** with a **circular approach** for the next **EU mandate**

The European Union is currently facing a critical moment, as it grapples with a triple environmental crisis: climate change, biodiversity loss, and pollution. These crises, as highlighted by the Circular Gap Report, emphasize the urgent need for a shift towards more sustainable models of production and consumption. Our current reliance on a linear economic model of “take, make, throw” is pushing us further away from sustainability and exacerbating these crises, as evident from our unsustainable use of resources.

Simultaneously, Europe is confronted with unprecedented industrial challenges. The pandemic, economic disruptions, and the current unstable geopolitical landscape have exposed the weaknesses of our supply chains and revealed the vulnerabilities of our economic systems. These challenges underscore the importance of embracing the

circular economy, not only to address environmental challenges and industrial needs but also to ensure strategic autonomy in the face of global uncertainties.

The circular economy offers a viable alternative by envisioning a system where resources are optimally and sustainably utilised, minimising waste, and maximising added value at every stage of the product life cycle. This paradigm shift has become a crucial factor in securing Europe’s industrial competitiveness while also addressing the imperatives of the ecological transition.

The success of this transition relies on the active commitment of local players: businesses, citizens, and municipalities. The latter play a fundamental role in implementing circular practices on the ground, demonstrating that the necessary systemic change can and must emerge from the bottom up.

The EU policies on circular economy pave the way for a sustainable internal market

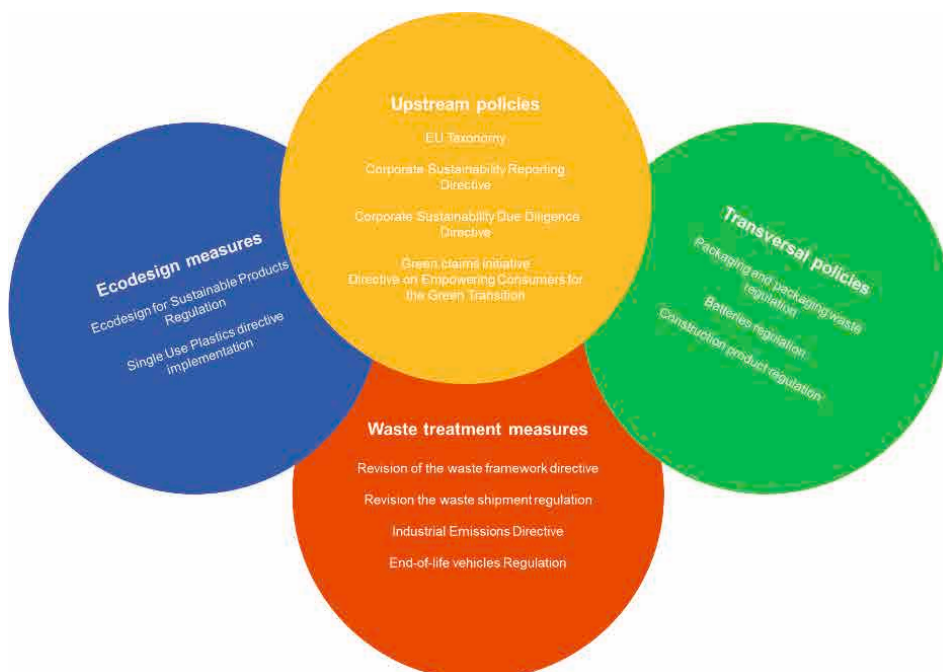
In 2020, the European Commission adopted an ambitious Circular Economy Action Plan to address this problem, highlighting four overarching objectives:

- to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes.
- to keep its resource consumption within planetary boundaries.
- to strive to reduce the EU’s consumption footprint; and
- to double its circular material, use rate in the coming decade.

The Circular Economy Action Plan has spurred a comprehensive framework of legislative and non-regulatory measures. This framework encompasses a spectrum of regulatory instruments, ranging from directives, mandating harmonised implementation across member states, to individual regulations targeting specific areas. The overarching objective is to foster stakeholder engagement, encompassing both businesses and consumers. These initiatives span the product life cycle, addressing upstream considerations such as eco-design principles, and extending to downstream aspects through sectoral policies that govern the operations of various industries. Collectively, this legislative momentum through the Green Deal is laying the foundation for a more sustainable internal market within the EU.

Closing the Gap: unlocking the full potential of the circular economy in the EU

Despite these and other important initiatives, what is missing in the EU’s approach to a circular economy transition is a direct focus on reducing material resource use through tackling consumption.



As underlined by Eurostat figures, in 2021, the European Union's material consumption amounted to 14.1 tonnes per capita, which is double the sustainable consumption level and has led the EU to exceed the planetary boundaries for five impacts - particulate matter, ecotoxicity in freshwater, climate change, use of fossil-fuel-based products, and use of mineral and metal resources. Furthermore, a July 2023 report from the European Court of Auditors found that the EU is making plodding progress with regards to the circular economy transition, concluding that it is currently looking very challenging to achieve the EU's ambition to double the circularity rate by 2030.

Current initiatives, while promoting a decrease in material resource utilisation, fall short of achieving sustainable consumption levels within the EU. Increased use of recycled materials in textile and apparel production, as envisioned by the Ecodesign for Sustainable Products Regulation, could be negated by rising consumption patterns. Similarly, waste reduction targets, while effective in managing waste relative to resource use, do not directly address overall consumption.

From this perspective, early intervention in reducing material consumption is critical. Within the framework of a carbon budget constrained by cumulative emissions, prompt action on material reduction lessens the overall scale of the decarbonisation challenge. Crucially, we must avoid depleting our carbon budget while striving for net zero emissions. This necessitates a swift transition from an inefficient, resource-intensive linear economy to a circular model by minimising raw material extraction, extending product and material lifespans, and preserving their value at end-of-life.

A robust regulatory framework is essential to unlock the full potential of a truly circular economy, which transcends mere responsible waste management. This necessitates a comprehensive European resources framework. Furthermore, it entails implementing policies to ensure the upkeep, management, and improvement of Europe's building stock, infrastructure, and access to materials and products. By adopting a circular economic model, alongside the enabling technologies, the bloc will bolster its material security and resilience against external disruptions. This transition holds significant promise for job creation, enhanced resource productivity, and reduced expenditure through extended product lifespans, minimised maintenance costs, and the mitigation of external costs associated with pollution.

Local solutions, global impact - the critical role of municipalities in this EU Circular Economy journey

Municipalities play a crucial role in the transition to a circular economy because they are close to citizens, have knowledge of the local economy, and can implement policies tailored to the local context. Their strategic position allows them to drive significant changes in how resources are consumed and managed locally. To strengthen this role, our recommendations focus on developing local policies that promote circular practices in key sectors such as waste management, urban planning, energy, and support for social and solidarity economy initiatives. These policies must be underpinned by clear and consistent implementation measures that define the specific roles and methodologies to be employed. Adequate funding from the European Union is also essential. This will enable municipalities

to establish the necessary infrastructure, promote innovation, and foster cooperation among local stakeholders. For example, EU funding could support the establishment of local reuse and repair centres, the development of sharing and rental systems to reduce the consumption of new products, and investment in clean technologies for municipal services.

Furthermore, close collaboration between municipalities and the EU is crucial for harmonising sustainable development goals and circular economy strategies at all levels of governance. This involves creating favourable regulatory frameworks, sharing best practices, and providing access to learning and experience-sharing platforms. To maximise the impact of EU funds, an integrated, multi-sectoral approach is recommended, ensuring that investments in the circular economy also contribute to other objectives such as combating climate change, promoting social inclusion, and strengthening local economic competitiveness. Ultimately, by placing municipalities at the core of their circular economy strategy, the EU can drive a sustainable transformation that benefits both the environment and society, while building resilient and innovative local economies.

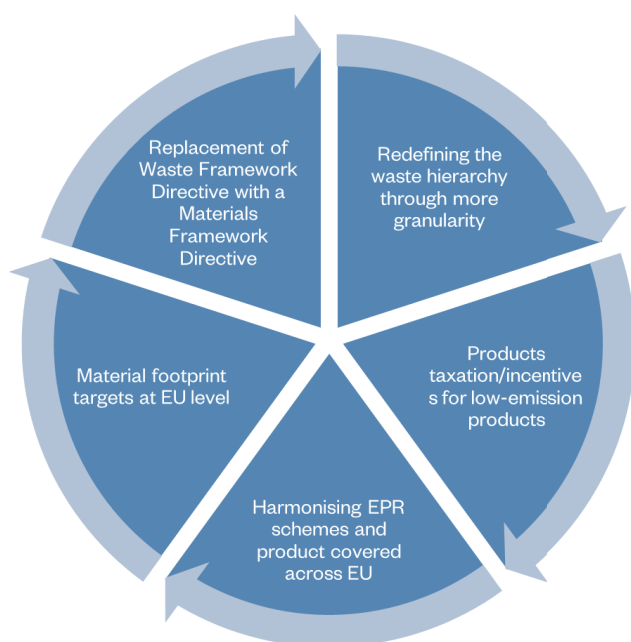
For a systemic approach to circular economy policy for the next EU mandate

A swift and comprehensive transition to a circular economy should be at the heart of a rational industrial and environmental strategy for the next EU mandate.

The upcoming European elections provide a unique opportunity to reaffirm the EU's commitment to implementing the circular economy on a large scale. This approach requires integrating the circular economy into strategies for biodiversity, climate, reindustrialization, and strategic autonomy.

The upcoming elections also represent a crucial moment to guide the Union towards policies that empower regional and local authorities to implement the Green Deal and the Circular Economy Action Plan. This entails strengthening dialogue and cooperation among all levels of government - European, national, and local - and actively involving businesses and citizens in transitioning to more sustainable practices.

By providing targeted funding, training initiatives, and exchanges of best practices, the EU can expedite the implementation of circular economy projects that cater to the specific needs of each region. This reconnection between European policies and local actions is vital for realising the vision of a sustainable Europe, where economic prosperity goes hand in hand with environmental preservation and social well-being.





NIELS FULGLSANG

MEP (S&D Group – Denmark)

Call to Address Europe's Energy Reliance and Embrace Sustainable Solutions

Europe stands at a pivotal moment in its journey towards a sustainable future. As we confront the stark realities of climate change and the urgent need for decarbonization, it becomes increasingly evident that our reliance on outdated technologies and fossil fuels is not only unsustainable, but also compromises European security.

The solution is for the European Union to maximize energy efficiency and rapidly transition to low-carbon renewable energy sources across all economic sectors.

For too long, Europe has been ensnared in a fossil fuel age, complacently assuming that market forces alone would guide us towards sustainability. This laissez-faire approach has failed to deliver the transformative change needed to avert climate catastrophe. It is imperative that we shift gears and proactively steer investments towards sustainable solutions.

Strong goals getting us ahead

Energy efficiency emerges as a linchpin in achieving our decarbonization goals. Without a concerted effort to reduce energy demand, our ambitions for a carbon-neutral EU by 2050 will remain elusive.

With the Green Deal, we managed to set a robust energy efficiency target alongside decarbonization objectives. As well, ambitious countries managed to shape the discussions at the latest Climate COP28 meeting and agree to double energy efficiency improvements by 2030.

Yet, realizing this vision requires more than just goals; it demands concrete action and substantial investments. We need EU-wide collaboration to spur innovation and avoid the pitfalls of inter-state competition. Streamlining permitting processes and

creating regulatory frameworks to facilitate experimentation with new technologies are essential steps towards fostering a culture of innovation.

Change is possible. Even fast change is possible. We saw this with the rapid decline in dependency from Russian gas from around 40 % to just around 8 % in 2023, according to numbers from the EU commission.

Europe has the power and determination to move quickly.

No time for new dependencies

However, amidst this imperative for change, Europe finds itself grappling with new challenges: its heavy reliance on US liquefied natural gas (LNG). This new reliance also poses risks to the EU's energy security as energy prices can yet again be a victim of geopolitical tumults or US internal affairs.

The EU's reliance on US LNG underscores not only the need for strategic diversification of energy sources, but also a strategic shift away from fossil fuels. Away from imports from foreign countries.

While LNG imports have provided a short-term solution to Europe's energy needs, they also pose geopolitical risks and undermine efforts to achieve energy independence. Europe needs to invest in domestic renewable energy sources and energy efficiency to bolster the EU's energy security and mitigate reliance on imports.

One solution across all sectors

Energy efficiency stands as a cornerstone of environmental stewardship, offering a pathway towards reducing energy consumption, lowering greenhouse gas emissions, and mitigating our overall environmental footprint. The benefits of promoting

energy efficiency extend far beyond environmental considerations, encompassing significant economic and societal advantages as well.

In the Energy Efficiency Directive the energy efficiency first principle was introduced in law for the first time. As Member States will now have to adopt the directive, this principle should be the leading principle across sectors.

By embracing energy-efficient technologies, practices, and policies, we can unlock a myriad of opportunities to enhance productivity, reduce operational costs, and drive innovation across diverse sectors of the economy.

From industrial manufacturing processes to transportation systems, agricultural practices, commercial buildings, and public infrastructure, the potential for energy efficiency improvements is vast and multifaceted.

A new opportunity for European economy

By equipping the workforce with the technical skills demanded by the green economy, we can ensure a just transition that benefits all. The Green Deal also needs to bridge skill gaps through education and training programs.

The Green Deal and the effort in living up to the EU Climate Law, to the energy efficiency target and the renewables target, we can create a strong and resilient European economy.



NELSON LAGE

*President of ADENE –
Portuguese Energy Agency*

Shaping the energy business strategy of the future: Two crucial changes for the next two decades

The global energy sector is going through significant and constant changes. The next two decades are expected to be critical, with undoubtable geopolitical shifts and complex challenges that will accelerate the reshaping of the sector. This new landscape demands contemporary stakeholders to look beyond traditional approaches.

It cannot be overstated that economic development depends on a growing energy supply. Sustainable development depends on whether it is renewable. This is a reminder of the critical significance that energy plays in everyday life and in achieving a sustainable future through flexibility and adaptation. Rising concerns over climate change, volatile commodity prices, global interdependence, and changing leadership dynamics across nations will require the energy sector, both public and private, to adapt, embracing innovative, collaborative strategies to tackle these multifaceted changes. Organizational management must be thought out anew.

A SHIFT IN CORPORATE GOVERNANCE STRATEGY

Political frameworks and sustainable policies have become increasingly determinant for businesses and non-profit organizations seeking effective impact, as well as a broader sense of mission. To manage the challenges of the next two decades¹, organizations must consider innovative approaches capable of redefining energy leadership as a catalyst for real impact.

Two types of executive functions must be combined in this approach, namely the position of Chief Political Risk Officer (CPRO), with a global affairs orientation, and the Chief Sustainability Officer (CSO), with a sustainability mission. These roles might already exist, but they demand levelling up the profiles, signalling the organizations' awareness of the critical nature they will assume in coming decades. The energy sector may turn challenges into opportunities by investing in such an innovative governance strategy, pioneering new benchmarks for responsible and forward-thinking approaches in other sectors.

But why a CPRO? A disruptive global affairs strategy can redefine action plans in line with global energy transition and sustainability goals, and the CPRO can play a crucial role in navigating the complexities of contemporary political landscapes. That is not to say that the CPRO should be a political actor with limited ties to the sector. They shouldn't. Instead, they should be, first and foremost, skilled and innovative executives, bridge-builders. Grasping the complexity of corporate governance and knowledgeable of the energy sector, they should be capable of ushering a new era of collaboration between the public and private camps that, in fact, frequently share significant common ground.

Why now? Lack of communication raises invisible walls between public and private spheres. Public opinion often creates a narrative around the incompatibility between the objectives of the corporate bottom line and the public sector's goals for common good, as if these were opposing perspectives. This can disable any inclination from the two sides to explore collaboration, when instead, smart business strategy looks beyond the immediate bottom line, towards long term business viability, which aligns with principles of global sustainability at environmental, social, and

economic levels, and therefore, with public sector goals.

The COVID 19 pandemic, the Russian aggression against Ukraine and the escalation of tensions in the Middle East following the war in Gaza, create both a complex atmosphere for global coordination and an increased need for such coordination, reducing the culture of antagonism that negatively impacts mutual goals. A more balanced and productive relationship between public and private sectors can be achieved by recognizing each other's strengths, discovering common ground, and encouraging cooperation.

Traditionally, energy businesses and public administration have prioritized security of supply, operational efficiency, technological improvements, and financial strength. A CPRO is an asset to understand geopolitical matters that create risks to energy markets², reducing potential losses and capitalizing on opportunities, while safeguarding institutional reputation. According to EY's Geostrategic Outlook for 2024³, the energy sector is contributing to the geopolitical multiverse, with more countries becoming energy producers. Business strategy must navigate the paradoxical effects of inflation in the slowing down of green policies¹, combined with a need to accelerate energy security and diversify sources and suppliers to avoid dependency on foreign adversaries. The CPRO can guarantee that a company's interests line up with national and international energy policy by building bridges and relationships with governments,

1 As highlighted by the World Economic Forum in the report The Global Risks Report 2023, "The next decade will be characterized by environmental and societal crises, driven by underlying geopolitical and economic trends." (p.7) https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf [Accessed January 28, 2024]

2 The Global Risks Report 2023, from World Economic Forum, underlines geopolitical matters as strategic and a "must consider" kind of risk.

3 McCaffrey, C.R., Jones, O., Krumbmüller, F. (2023), 2024 Geostrategic Outlook, EY Report, December 2023 https://www.ey.com/en_gl/geostrategy/2024-geostrategic-outlook [Accessed January 28, 2024]

legislators, and other stakeholders around the world. This must happen without fear of conflicting interests, but rather transparently aligning them, with the ultimate objective of assisting the implementation of green public policy and boosting economic development.

Companies and organizations that adopt this management strategy will not only ensure their resilience - by identifying untapped markets and expanding into emerging economies -, but they will also guarantee a positive impact on the world's sustainability path.

The CSO, on the other hand, is not a new position, but surely one with new challenges in a time when sustainability becomes synonymous with survival. One of the central findings of a 2021 global survey, conducted by the Institute of International Finance (IIF) and Deloitte⁴ in the financial services sector, is that appointing a CSO and giving them "strong executive support as well as a broad, strategic mandate", provides "benefits from having at the top of their organisations a "sense-maker in chief", elevating the role to a new status.

Why has this executive role been gaining new *momentum*? The CSO's main responsibility is to fully incorporate sustainability into the operations and culture of the company. The CSO takes on the crucial role of implementing a disruptive strategy for sustainable practices. This is especially true in times of urgent and broad accountability regarding sustainability reporting and performance tracking. By integrating sustainability into all management aspects - people, profit, and planet - the CSO departs from an auditing and recommendation role in conventional hierarchical structures to promote an innovative, fully integrated, and forward-looking culture with all activities of the company/institution.

A CSO and an elevated sustainability strategy reinforce and empower the work already done within sustainability departments, constantly questioning the accepted wisdom of the day and promoting cutting-edge solutions, technologies, and procedures. This will be a catalyst for change in the market, setting the organization apart by making a positive impact while driving wider prosperity. In turn, pioneering organizations will more likely attract and retain environmental and socially conscious talent, which no longer settles for traditional job benefits and requires a sense of purpose.

The significance of sustainability within global affairs has been advocated by several European and international leaders and opinion makers. The President of the European Commission, Ursula von der Leyen, stated multiple times that: "The private sector can be a powerful force for good when it comes to global affairs and sustainability. By adopting sustainable practices and investing in green technologies, companies can lead the way in creating a greener and more prosperous world". This outlook is further reinforced in the European case by EU Directive 2022/2464 on corporate sustainability reporting, requiring from this year on the disclosure of business strategy, business model resilience and sustainability risks strategy⁵.

The need for C-level executives, specifically a Political Risk Officer and a Sustainability Officer, becomes crucial to guarantee the private sector's contribution to accelerate the Fit for 55 Package with the enforcement of updated NECPs, without which the EU's 2030 climate target is at risk, as highlighted by the alert from the European Scientific Advisory Board on Climate Change this January⁶.

In both the public and private sectors, top level geopolitical and sustainability expertise is essential to overcome obstacles and ensure effective policies are in place. This includes a broad and global vision to tackle the socio-economic fallout from the energy transition. A progressive and just climate policy is a one-way road. Without it, we risk growing inequalities to trigger more social unrest, widen the presence of extremist ideologies in the political spectrum and lead to unforeseen effects in the overall economy, hindering its ability to bring about societal progress. Business strategies can contribute to either pour gas in this fire or literally bring the temperature down and be key players for a sustainable future. And this can only be a reality if both geopolitical and sustainability strategies are high on the agenda and sitting at the executive table.

AN AGILE AND INNOVATIVE PUBLIC-PRIVATE BRIDGE FOR THE ENERGY SECTOR

National Energy Agencies stand out as actors who can act as catalysts in policy implementation, creating synergies between public and private actors, and a better multilevel dialogue between national and local levels.

National Energy Agencies are at the centre of the energy and climate transition and have a privileged position to ensure coherence between the development of public policies and market instruments. They can engage with businesses and sectoral associations to ensure private sector commitments towards public policy goals. They engage in research and innovation with a variety of stakeholders, making for a more informed political decision. They are engaged in international networks, such as the European Energy Network (EnR) or the Mediterranean Association of National Agencies for Energy Management (MEDENER), allowing for a close international cooperation, aligned with similar challenges. They promote better multilevel governance, improving coordination between national and local actors, regarding climate action.

National Energy Agencies are therefore effective hubs for this public-private collaboration which is the only way to ensure a swift and effective transition to a sustainable energy future.

CONCLUSION

There's a lot of work to do, which requires greater commitment from all stakeholders. Regarding sustainable development in general, and the energy sector in particular, the road is, in the words of the Beatles, a "long and winding" one. Public and private organizations, working together, can realize common objectives and accelerate a just energy transition.

National Energy Agencies can mediate this public-private collaboration, assisting public policy development and implementation, while connecting to the private sector to foster strategies that positively contribute to it.

As organizations go through a transformational journey to maintain their future relevance, they must adopt new managerial approaches to address critical global issues. Having a CPRO that can navigate wild and uncharted geopolitical waters, while cooperating with a CSO that can leverage disruptive approaches to economic, social, and environmental affairs is no longer optional or just "nice to have". It's now a requirement, a "must have".

⁵ Either because they are already obliged according to the EU directive, or because they are part of the supply chain of other institutions where sustainability accountability is already a reality.

⁶ ESABCC (2024) *Towards EU climate neutrality Progress, policy gaps and opportunities - Assessment Report 2024*, Luxembourg, Publications Office of the European Union doi:10.2800/216446 https://climate-advisory-board.europa.eu/reports-and-publications/towards-eu-climate-neutrality-progress-policy-gaps-and-opportunities/esabcc_report_towards-eu-climate-neutrality.pdf [Accessed January 29, 2024]

⁴ IIF/Deloitte (2021) *The Future of the Chief Sustainability Officer*



SEAN KELLY

MEP (EPP Group - Ireland)

Empowering Europe's Tomorrow: Driving the Transition to a Green Hydrogen Economy

The European Union has set ambitious targets to combat climate change, aiming to drive an ambitious systemic change in how we produce, consume and store energy. It is clear that addressing sustainability challenges and climate change will be central to the future growth of our economy, as the cost of inaction now will be far exceeded by the costs involved with adaptation, never mind the social and political instability this would create.

To achieve these goals, we need a transformation of the energy sector, an energy efficient building stock, more circular production and consumption as well as decarbonizing our industries.

Ireland has some of the best renewable resources in the world, but we have not yet realised our enormous potential. With the right European level strategy, Ireland can become a vital source of renewable electricity for the entire continent, ending Europe's dependency on Russia and driving down costs for businesses and citizens.

Irish wind, solar and green hydrogen, with the right plan, can decarbonise and power homes and businesses right across Europe. At the same time, this will drive enormous investment into Ireland's coastal and rural communities, creating tens of thousands of jobs as we construct and operate renewable

energy projects at a continental scale in Irish waters.

Hydrogen is enjoying a renewed and rapidly growing attention in Europe and around the world. However, hydrogen currently represents a modest fraction of the global and EU energy mix, and is still largely produced from fossil fuels, notably from natural gas or from coal.

Hydrogen can have an important role in our transition to a carbon-neutral European economy, playing a key role in decarbonising those sectors that are more challenging to electrify, such as certain heavy industries and aviation, and providing important long



Gigascap offshore wind-powered green hydrogen hub unveiled for Ireland

duration storage and flexibility services to a renewable-powered grid, enabling us to move to a truly zero-carbon electricity system. However, we must ensure that the hydrogen we use to decarbonise these sectors is green hydrogen – produced exclusively from our vast renewable resources.

In transport, for example, hydrogen fuel cells offer an efficient and emissions-free alternative to internal combustion engines of larger vehicles, with the added benefit of faster refuelling times and longer ranges.

In industry, green hydrogen can replace fossil fuels as a feedstock for processes such as steel and cement production, dramatically reducing carbon emissions.

The successful delivery of our 2050 goals hinges on the delivery of a fully decarbonised electricity system in the middle of the 2030s. To do this, we need to urgently and rapidly support the development long duration energy storage technologies and build on the successful integration of zero-carbon system services and shorter duration battery storage technologies we have seen in recent years.

Alongside other promising new technologies, Green Hydrogen can be an important part of this solution. It can enable us to bulk time-shift variable renewable energy production, helping us to match variable renewable generation with times of high demand, and providing a solution to the so-called *dunkelflaute* problem when we have long periods with low levels of wind and solar generation.

In my view, the key challenge for the EU's 2040 framework will be integrating vast quantities of long-duration storage technologies in a manner that is cost effective for citizens. This needs to be a priority for the incoming Energy Commissioner.

The economic opportunities presented by the development of a green hydrogen economy are equally compelling. By investing in the production, storage, and distribution infrastructure for green hydrogen, Europe can create high-quality jobs, stimulate innovation, and enhance its global competitiveness. Moreover, by reducing our dependence on imported fossil fuels and promoting energy independence, green

hydrogen can enhance Europe's geopolitical resilience and security.

There are a number of exciting new green hydrogen projects being developed across the island of Ireland, and industrious example of a small community seeking to produce hydrogen for their own use can be found on the beautiful Valentia island off the coast of County Kerry. I have taken great pleasure visiting this project and I hope to do the same for many more projects to come.

However, this is just a drop in the ocean, and if we are serious about any of this, we really need to get a move on. To help us achieve it, I am calling on the European Commission to take a number of steps.

Firstly, we need to set out a new spatial strategy, identifying the areas best suited to develop renewables and storage at scale. This strategy should prioritize regions with abundant renewable resources, so that wind, solar and long-duration storage technologies (including green hydrogen) can be developed economically.

Secondly, it is vital that we launch a new EU Renewable Energy Fund to support these projects from a central European support scheme. The purpose of this fund would be to provide CAPEX and OPEX support to key projects of common European interest, recognising that their crossborder nature and value to the EU as a whole means that the cost of supporting them should not fall solely on the citizens of any single Member State.

Finally, we must ensure accelerated planning permission for the renewable and grid projects that form part of this strategy. Delays in obtaining permits and approvals can significantly hinder the timely implementation of renewable energy projects, undermining our efforts to transition to a green hydrogen economy. There is no place more suited for this than Ireland, with its vast renewable energy potential and strategic geographic location. However, realizing this potential requires a clear strategy and political impetus to streamline regulatory processes and facilitate project development.

By implementing these measures, we can accelerate the transition to a green hydrogen economy and unlock the full potential of renewable energy resources across Europe. The time for bold and decisive action is now, and I urge the European Commission to seize this opportunity to lead the way towards a more sustainable future for all.





JORGO CHATZIMARKAKIS

CEO of Hydrogen Europe

Work needed to reach Europe's 2040 climate targets

The European Commission published its Communication in February setting EU targets for the reduction of greenhouse gases emissions by 2040. These new targets are to bridge the gap between the 2030 climate targets and the 2050 Net Zero target by defining the specific measures required to reach a net reduction of 90% of emissions – compared to 1990 levels – by 2040.

At Hydrogen Europe we were encouraged to see that, under the impact assessment, hydrogen will play a key role in the decarbonisation of hard to abate industry and transport, with production of 20 to 35 million tons (Mt) of renewable-based hydrogen expected by 2040, depending on the chosen scenario. This would represent up to 10% of the final energy demand, increasing to at least 16% by 2050 – a substantial and fundamental contribution to the decarbonisation puzzle.

It's clear from the Communication that hydrogen is a key building block in a Net Zero Europe. And policymakers demonstrably envision a future of renewable and low-carbon hydrogen powering our industry and mobility sectors. However, the assessment fails to consider other key roles for hydrogen, like long-term seasonal storage, power production and transmission, and commercial road transport. Hydrogen storage is crucial to manage the intermittency and curtailment factor in a renewables-dominant energy mix. Similarly, in the European context, it will be necessary to move electrons long distances in a common European power supply. In many scenarios, transporting power as a hydrogen molecule is more economical. Finally, while batteries will certainly be the preferred option in some transport segments, discounting hydrogen – and its overall system weight and longer-range potential, especially in transport – is an error.

In fact, these omissions demonstrate a larger, worrying disconnect in the modelling

between what is desired and what has been put in place thus far when it comes to attaining our expected hydrogen use. The model used in the Communication only accounts for 3Mt of clean hydrogen by 2030, far lower than the 10Mt objective presented in the 2020 Hydrogen strategy and below the combined targets presented in the draft National Energy and Climate Plans. Under the Fit for 55 legislation, which establishes binding targets for the use of clean hydrogen and low-carbon fuels in industry and transport, 2030 targets for hydrogen are more than double the 3Mt assumed in the modelling for the Communication.

With the lofty goals of 10Mt by 2030 set out in the 2020 hydrogen strategy, and the aspirations of 20Mt in the RePowerEU plan, we are certainly disappointed that legislators have not managed to marry ambition with action. The binding targets which have been put in place – including the 42.5% greenhouse gas reduction in industry – are of course welcome. But by the European Commission's own modelling, they fall well short of where we will need to be by 2030.

Meeting the Fit for 55 targets for 2030 will depend on the determination of European institutions and individual Member States to accelerate the creation of the clean hydrogen market. So far, it has not been enough.

Around the same time as the 2040 Communication, Hydrogen Europe published its own manifesto before the 2024 European Parliament elections. With the looming threat of climate change on all facets of our society, the manifesto emphasises the benefits of a healthy hydrogen sector – more jobs, global development, and more routes to decarbonisation. These priorities are encompassed in the three pillars of the manifesto:

1. An EU Industrial policy for a competitive, resilient, and sustainable Europe,
2. A thriving European Market for clean hydrogen,

3. A Pan-European infrastructure that provides resilience and flexibility to the energy system

Europe has incredible potential for hydrogen production, use, and innovation. It can be a technological leader, while leveraging this know-how to remain globally competitive and reach Net Zero in an efficient and sustainable way.

The acceleration of renewable energy deployment, the creation of an EU Clean Industrial Plan, as well as a Storage Strategy and Hydrogen Grid Strategy, are just some of the measures advocated by the organisation to help Europe reach its goals.

Implementing these measures will also help us truly bridge the gap between expectation and reality, between 2030 and 2040, and between words and action. When it comes to the climate crisis and the threat of lost global competitiveness, building on skilled workforce and scaling up our hydrogen targets is a win-win.



CYRILLE MAI THANH

*EU Affairs Director
Fusion Industry Association*

Bringing fusion energy to the grid: What is needed from the EU

Fusion is the process by which two light atoms collide and fuse together to form a single heavier one while releasing massive amounts of energy. The sun is powered by this fusion reaction. Since the 1950s, top scientists and engineers have attempted to harness the power of the sun on Earth to create unlimited, clean energy. In recent years, significant scientific breakthroughs in fusion have been achieved with experiments demonstrating net energy gain.

This new source of energy has many advantages: it is baseload, carbon-free, safe, scalable, and secure. With an extremely high energy density, fusion could generate nearly four million times more energy than burning oil or coal. 1 kilogram of fusion fuel is equivalent to 10 million kilograms of fossil fuels. This means fusion represents a great solution for decarbonising our economy while meeting growing energy demands.

Fusion power is not bound by geography and will eliminate dependence on energy sources from other countries which can be subject to political instability and supply disruptions. Recently, Europe has experienced first-hand how a single foreign country can

weaponize energy supplies and cause major disruptions in the energy markets. This means fusion energy could help reinforce the energy security and strategic autonomy of our continent. Fusion can be used as a strategic technology for Europe's independence.

Industry plays a critical role in turning fusion energy into reality

Fusion commercialisation is within reach. Many fusion companies are planning to build pilot plants in this coming decade. In fact, leading private fusion companies have aggressive timelines aiming to build their next fusion device in the next five years. We recently conducted a survey which highlights that 88% of fusion companies believe that the first fusion power plant will deliver electricity to the grid in the 2030s or before.

The private sector plays an important role in advancing fusion by directly contributing to its development and bringing in the know-how, expertise, and much-needed capital. Industry also contributes to tackling existing engineering challenges. Fusion power plants will not be built without the involvement of industry.

To date, the fusion industry has attracted over 6 billion dollars in investment globally. In recent years, there has been an exponential increase in the number of private fusion initiatives using various technological approaches launched throughout the world. Commercial fusion is a capital-intensive endeavour and securing funding is vital, so policy incentives are needed to encourage private and public investment flow towards the fusion industry. Establishing clear, fusion-specific regulatory frameworks also contributes to de-risking fusion and unlocking further private investment.

Fusion companies are pursuing commercialisation along technically diverse pathways, including variations in fuel type and device type. For the fusion industry, that diversity increases the chances of success by engaging in multiple pursuits simultaneously. Early movers will have a competitive advantage in a new emerging industry that is estimated to be worth trillions of euros. We are seeing growing momentum around fusion; Europe should seize the opportunity to be part of this revolution.



Strong political support is essential to accelerate the development of fusion

The successful deployment of fusion energy in Europe requires political impetus, regulatory certainty, sufficient public funding, and strong public-private partnerships. The EU should send a clear political signal to support commercial fusion and help its European startups scale up. Following the example of the United States, the United Kingdom, Japan, and Germany, the EU should have its own Fusion Strategy. It could also launch a European Alliance on Fusion like it has done with batteries and hydrogen, to help stimulate investments and foster a dialogue with the fusion industry.

An adequate fusion regulatory framework that is clearly distinct from nuclear fission is also needed in Europe. Fusion energy does not bear the same risks as nuclear fission; the two technologies are inherently different and should therefore not be regulated under the same regime. Instead, fusion devices should fall under a risk-appropriate regime, similar to particle accelerators.

While ensuring the health and safety of the public, regulatory certainty will also de-risk fusion and unlock further private investment. It is important to achieve this as companies are in the process of siting locations for their first plants. Even if the licensing of future fusion projects will happen at Member State level, the European Commission can still play a crucial role in ensuring harmonisation of licensing processes and avoiding cumbersome differences between countries.

The EU should learn from international approaches in fusion

The US and the UK have both adopted dedicated regulatory frameworks for fusion, and other countries are working to develop theirs. The EU needs to do the same. Future fusion devices in the US will be regulated under the same regime as particle accelerators, enabling faster permitting procedures and

less delay. The UK has gone even further to appropriately separate fusion from fission, advising that future fusion facilities will be regulated by the Environment Agency and the Health and Safety Executive, rather than the Office for Nuclear Regulation.

There is a geopolitical dimension to this issue as well. A global race toward commercial fusion energy is emerging. Out of 43 private fusion companies around the world, 25 are American. The first countries that can set up an appropriate regulatory regime for fusion will be the ones that attract the early pilot plants. Europe's leadership in fusion can only be sustained thanks to strong political support.

Furthermore, supply chains are likely to be established across the globe. For this reason, harmonisation of safety frameworks for fusion facilities could optimise resources for safety. The G7 and the International Energy Agency (IEA) are ideal fora to discuss such global harmonisation. The earlier such harmonisation efforts are made, the smoother cross-border projects will be.

Access to funding and public-private partnerships are essential

Access to funding is crucial to deploy commercial fusion. The EU could leverage many existing funding instruments in its toolbox, including the Euratom programme, InvestEU, Innovation Fund, Important Projects of Common European Interest (IPCEIs), and relaxed State Aid rules. Including fusion energy within the EU Taxonomy would also help encourage private investments.

Public fusion research must be aligned to the needs of commercialisation. The gaps in fusion science and technology are well-understood by both the public and private fusion sectors. To enable commercialisation in the near term, research must prioritise closing those gaps. Strong public-private partnerships (PPPs) are needed to advance fusion

energy. Indeed, a close collaboration between research institutes and private entrepreneurs will unlock a commercial fusion energy sector.

Europe could become a global leader in fusion energy

Europe must ramp up its efforts to support the deployment of clean tech. Europe is excellent when it comes to the discovery of new innovation and is doing quite well in the development phase, but it is clearly lagging behind in deployment. There is a global competition for technology supremacy. If Europe loses its leadership in technologies like fusion due to inaction, it would have no one to blame but itself.

Europe is home to top universities and research institutes, hosts ITER (the world's largest experimental fusion project), and trains highly qualified engineers and technicians. But the EU should outline a clear political vision for the deployment of commercial fusion in order not to lose its leadership in fusion.

The EU is well-positioned to be a global leader in developing commercial fusion. Europe already has a solid industrial ecosystem and extensive supply chain in place, along with a highly qualified workforce and research base. Europe should seize the opportunity to take fusion energy to commercial reality, providing European citizens with a new source of safe, abundant, carbon-free energy, and preserving its leadership in an emerging industry.

The Fusion Industry Association is the voice of the private sector of fusion energy, with 37 member companies developing fusion projects around the world and over 80 affiliate member companies operating in the fusion value chain, including large industrial players as well as investors. Our members have a shared vision to make commercial fusion energy a reality.





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