

GUARDING ENERGY SECURITY: WINTER 2023 AND BEYOND

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The 8th edition of the Clean Energy Summit took place at Egmont Palace on the 30th of March 2023 where prominent speakers discussed the next step towards a sustainable energy future.

This year's edition, titled "Maintaining Europe's Green Momentum", was structured around 4 main themes: energy security, decarbonisation, sustainable supply chains and industrial competitiveness.

This year's summit came at a crucial time for energy and climate policy in the EU, as long-term sustainable solutions are needed for the continent to overcome the challenges of the current energy crisis and to reach its ambitious climate targets.

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The start of the war in Ukraine can be comparable to the fall of the Berlin Wall in terms of its impact on Europe and Europeans' way of life, to the point that the renewable energy targets that were deemed unrealistic for 2030 are now being upped by 12 to 15 points. Of course, there is also a risk that the current situation would slow down the transition because of the insecurity it creates. But the context will not change next winter, so there is a consensus that this is the new reality to contend with. The drop in gas prices since the summer is fragile; while the continent managed to get through winter 2022, many further measures will need to be taken for the future. Ensuring resilience and independence as well as guaranteeing available and affordable energy in Europe, through adequate infrastructure and diversification will be key both for consumers and for industry, as energy impacts the whole economy. Another crucial way to act until next winter is reducing energy consumption, notably through improving the energy efficiency of buildings. About 40% more energy is estimated to be saved. Indeed, there are still about 32.5 billion cubic metres of Russian gas that will no longer be part of Europe's energy supply in the future. Preparing for next winter is also of course very important for competitiveness, and will shape the future of Europe's industry. Indeed, the European industry wants to lead in the green sector, and in the development of green technologies. While not every company is tempted to leave Europe for the US to benefit from the subsidies of the IRA and overall lower energy bills, many have their eyes turned towards the United States. However, the amount of money the EU puts on the table, and the incentives coming from carbon pricing cannot be underestimated. Moreover, trade agreements are also a powerful tool to avoid subsidy races or heavy dependencies on certain regions. Whether nuclear energy can play a role in decarbonising the economy and ensuring energy security is heavily debated; LNG floating vessels are being rolled out across Europe. Concretely, a lot of solutions are coming together, but the prices will depend on the conditions of the summer, and how energy production will perform throughout the year, as well as storage capacities. Next winter could still be difficult, and the EU should not be complacent.

THE RENEWABLE REVOLUTION: CHALLENGES AND OPPORTUNITIES

The world is not on track towards the 1.5°C emissions target of the Paris Agreement and investment in clean energy technologies must increase significantly, especially in emerging economies. As we move towards COP28, a fundamental course correction is needed, encompassing bold and transformative measures that reflect the urgency of the climate crisis. This should include increasing renewable energy capacity by 1000 megawatts every year from now until 2030. The more we delay, the more we will have to raise the bar. Renewables are cheaper and more cost-efficient than ever but we still need a 5.2 trillion per year investment in the energy transition. This should include physical infrastructure, legal and policy, infrastructure, institutional capacity and professional skills. Europe can play a significant role in facilitating this transition in emerging economies, especially because it has a special role in Africa. In essence, to achieve our global goals, we will need to rewrite the way international cooperation works.

NEW ENERGY SCENARIOS

2022 was an earthquake of a year for energy - with ripples in geopolitics, energy supply and demand, security, and financing climate action. Today, there are many possible futures, which can be mapped out to help navigate uncertainties. Three main elements are reshaping the future of energy systems today: geopolitical and economic volatility, especially since the war; the fact that CO2 emissions keep increasing; and the fact that the energy sector, after four decades of stability, is entering a period of strong innovation and technical changes, notably funded by venture capital. There is an overarching desire for security, but there are different scenarios depending on what this security means. It could be importing fossil fuels from geopolitical friends. But the use of fossil fuels themselves is more often than not seen as a security risk: countries overall increase their clean technologies investments irrespective of the political fabric of the government. In Europe, the past decades were shaped by the structural dependency on energy imports from Russia, but today there is a strong willingness to move forward, and even rethinking the continent's lifestyle and level of consumption. The observed behavioural change was stronger than anyone anticipated, which for instance is far from being the case in the United States. China on the other hand used technologies devised in the US and scaled-up its industry and infrastructure very effectively. But when looking at global energy scenarios, the rest of the developing world is often forgotten, even though the world's energy and climate future depends on the capacities of bringing clean technologies to developing countries as well. Now, uncertainty remains on certain points, such as whether the behavioural changes observed were just temporary. Most importantly, the geopolitical relation with China will affect whether the transition is successful or not: there is a strong willingness to accelerate the deployment of clean technologies, while decoupling from China - but both issues are strongly related. It is near impossible to envisage the transition on a large scale without the manufacturing capacities of China.

INGRAINING SUSTAINABILITY IN EUROPE'S FOOD SYSTEMS

Europe's agricultural sector and food system is facing unprecedented challenges which were amplified by the war in Ukraine, including climate change, biodiversity loss, soil loss, droughts and floods. Therefore, sustainability will be key to the sector's long-term success. Locally sourced agricultural inputs for the food and beverage industry are vital. Along with sustainable and regenerative agriculture, industry is focusing on innovation by investing to scale up new technologies that enable production with lower footprints. Upcycling solutions and circularity are being incorporated into business models, such as repurposing outputs to create new products. Efforts to increase soil health and reduce agricultural inputs such as pesticides, energy and water are also being undertaken, along with embedding biomethane and solar strategies on farms. However, the pace of this shift must increase. On the policy side, while the CAP offers EU member states the flexibility to adapt the interventions for the farmers to the needs of each region, they have not done so to the degree that is actually necessary. The Commission has also included sustainability incentives in direct payments; such as for those who implement precision farming and animal welfare schemes, but these are not mandatory for farmers. Farmer cooperation, knowledge sharing and upskilling in technologies will increase resilience and lower the risk of a solely industrialised farming model. While the Commission has promoted mixed farms with a circular approach, combining animal and plant production with practices such as using manure for carbon storage, and using locally locally grown feeds, these types of farms are disappearing fastest. Therefore, supporting the competitiveness of all farm sizes will have benefits across the entire food value chain and for the environment.

CLEAN ENERGY SUMMIT 2023 TAKEAWAYS

FUEL OF THE FUTURE: CAN HYDROGEN BE THE KEY TO DECARBONISATION?

Hydrogen will be key for heavy industry and transport to stay competitive in Europe's low carbon future. Therefore, it is essential to make the hydrogen transition happen at scale. The European Investment Bank is ready to take on more risk. The main challenge for current renewable hydrogen projects is that only 10% of hydrogen projects have return on investment decisions. The EIB is involved within and outside the EU, providing technical assistance and advisory services for hydrogen projects. In this sense, EU financial institutions will also have to respond to the IRA. While many insist that the EU Hydrogen Bank is a step in the right direction, concerns remain about the EU Innovation Fund because the gap between projects and investment decisions is simply too big. In technical terms, ammonia, as a hydrogen derivative, could be the easiest and most efficient way to produce and transport hydrogen as a clean fuel. Certain infrastructure projects to secure energy supplies were completed in record time in Europe during the crisis, and show the capability of industry to deliver at pace for hydrogen. The hydrogen value chain should stay in Europe as much as possible. Companies are willing to invest but policymakers need to match this with coherent regulation. Renewable power will be essential to power electrolyzers which produce hydrogen, this is because 14% of our electricity will go into hydrogen production in 2030. The EU is leading in some areas for hydrogen but much will be needed to maintain this momentum, as the US, China and other players seek to increase their hydrogen production. Europe needs to be careful when regulating certain elements of the value chain and many insist that global standards are needed. While green and blue hydrogen currently differ in their market readiness and profitability, industry leaders believe that markets should decide which type of hydrogen is produced but measures to reduce CO2 emissions must exist for both. This means that no one element of the hydrogen production rollout will be a silver bullet, and the entire ecosystem must work together.

THE ROAD TO SUSTAINABLE TRANSPORT IN EUROPE

There are different challenges regarding the development of sustainable transport in Europe. All transport modes should be made more sustainable, sustainable transport options should be widely available in a multi-modal system, the right incentives to drive the transition to sustainable mobility should be put in place and finally the mobility system should be more efficient. To make a difference in terms of transport emissions, concrete actions must be taken. To do so, all options for decarbonisation must be considered based on their efficiency and the decarbonisation must be organised with short-term, mid-term and long-term objectives. In the short term, the vectors that allow the transport of freight with existing infrastructure should be stimulated and in the meantime, other technologies like hydrogen can be developed. There is a need for investments, and private sector and government intervention are also equally important. On its side, the European Commission is proposing several legislations to tackle sustainability in transport such as the Green Freight Package. Railways have a major importance in the transition and 80% of the financing of the Trans-European Transport Network (T-ENT) goes to rail. Some of its investment can be used to build new tracks but because it can be quite difficult and expensive, the utilisation of the existing infrastructure has to be optimised as well. Hydrogen can be a solution for railways and is really useful because it is transportable. It could as well be combined with renewables which are currently neither predictable nor continuous.

CLEAN ENERGY SUMMIT 2023 TAKEAWAYS

POWERING UP CLEAN TECHNOLOGIES IN EUROPE

The clean tech market is expected to double by 2030. Investment, skills and public financing all represent a hurdle for clean tech. Global coordination is needed to derive benefits for people and the climate and to provide certainty for industry. The energy crisis has taught us that diversity in energy supply is key. We no longer see energy as a trade off between sustainability, affordability and security due to the rollout of renewable energy. Europe's solar power market is rapidly growing, increasing by 100% in the last two years. Much innovation has happened and continues to happen but solar power should be well integrated. Hydrogen offers opportunities to decarbonise modes where electrification is not feasible but we need to ensure that the market will be big enough and that the transport and storage infrastructure is in place, with strategically located zones for hydrogen. More importantly, Europe needs to be a producer of hydrogen and not just a consumer. Technologies such as carbon capture and storage (CCS) will be needed even in the longer term because by 2050 there will still be emissions we cannot abate. This should be led by the robust carbon pricing system in Europe. A clear and stable regulatory framework is needed for this rollout, along with faster permitting. The scope of the Commission's forthcoming CCS proposal will be important. It will address questions such as how to define 'removal', maintain environmental integrity and avoid greenwashing. As this technology is expensive, the EU needs to address the whole value chain as infrastructure is often not the most expensive part. Storage is still an issue, so incentives for companies will be needed, along with defining the pricing of this technology. In response to the IRA, the EU clearly needs more climate funding but it should also work with the US (on issues such as standards) as this will create the best outcomes for all stakeholders.

LIGHTS OUT? CAN THE EU'S ENERGY AND INDUSTRIAL POLICY SAVE THE CONTINENT'S COMPETITIVENESS?

The EU's competitiveness against the IRA can be seen as a challenge. The Green Deal Industrial Plan (GDIP) and the latest proposals are just one piece of a strong and robust framework. There is a need for a focus on industrial policies and skills, CCS capacities and Europe's reliance on critical raw materials in China. The IRA can be seen as a positive because for the first time the US is on track to its Paris Agreement commitments. Both the GDIP and the IRA are good developments and the GDIP should not be seen as just a reaction to the IRA. It goes well beyond that since its essence is to promote a competitive industrial base for Net-Zero technologies in the EU. The Covid pandemic and the war in Ukraine have revealed Europe's vulnerabilities and strategic dependencies which it should address in order not to put the green transition at risk. However, subsidies will never provide a lasting solution to ensure competitiveness. They are useful in some cases, but should be used in a very targeted way, in the context of a temporary crisis. There is a risk of inequalities in terms of fundings between the different member states as well, which could fragment the single market. The subsidies are therefore limited to strategic sectors in view of the Green Deal objectives. The President of the European Commission has also announced that to address more adequately possible problems relating to cohesion, the EU will come forward with a proposal for a sovereign fund by June 2023, which will complement existing funds that address those budgetary imbalances. Another risk of subsidies is that they could lead to a situation of green protectionism, which could change how the EU is engaging with the rest of the world. In that regard, the sectors benefiting from subsidies are carefully selected based on their vulnerabilities in the EU's industrial value chain, and on the consideration that private investments would not be enough to ensure the protection of these value chains, and the elimination of these vulnerabilities. Respecting these criteria is important, as the EU will keep needing imports and wanting to create export opportunities for its industry.

CLEAN ENERGY SUMMIT 2023 TAKEAWAYS

ELECTRICITY MARKET REFORM: TOWARDS FAIRLY PRICED AND RENEWABLE ENERGY?

While there are different views on how to shape the EU's electricity market, climate neutrality while ensuring competitiveness is a shared objective. Emergency measures allowed Europe to mitigate the crisis by bringing the prices down and turning away from Russian gas, but they do not suppress the need for structural reform. The goal of the electricity market design reform proposal is to lower the weight of short-term market price to improve liquidity, integration of the market and avoid price volatility, so that consumers can benefit from more choice and protection. It creates a new model for energy sharing, and it notably makes Power Purchase Agreements (PPAs - long term contracts) more accessible. By 2030, Europe will need more electricity, and it should be 69 % renewable: investments at lower costs in renewables, storage capacities and new technologies will be incentivized. The electricity market design is an important puzzle piece for competitiveness as well. It is a targeted reform, which will bring investment certainty, as well as necessary protection for both producers and consumers in order to decarbonise the economy. The reactions from energy actors, including industry, have been positive. 85% who replied to the public consultation are happy about the proposal, which acts through market rules, and not direct intervention, such as price caps, which can lead to blackouts or deficits. However, industry tends to call for more flexibility between users and producers. It is one aspect where some judge the European market to be late. Increased flexibility would mean the ability to increase decentralised generation, to exchange energy and provide storage at the local level, while still providing interconnection and common goals at the EU level. Big energy players also pointed out the need for further reform in the longer term, and to clarify some details of the proposition. Besides, the redistribution of excessive profits from Contracts for Difference (CfDs) to consumers has proven controversial. Some argue that their use for investments would be more efficient. While consumer protection is important, the companies investing are the ones who can deliver on the climate targets. Despite the proposed reform, and the Renewable Energy Directive update, some fears remain that permitting will still not be fast enough. Today, a large renewable project takes 20 months to build, but 6 years to be approved. Member states will have until July 2024 to implement the new rules to accelerate permitting for renewable projects. Similarly, there might be a need for an extension of the grid because of maxed out capacities, and problems in connecting new projects to the grid. In terms of timing, the European Commission is confident that it is possible to reach a provisional agreement before the EU elections, but then the member states would still have 18 months to transpose the text to national law.