



The sustainable road ahead

Investing into the future of Central and Eastern Europe by supporting the circularity and sustainability of bioresources.

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The leading role of the European Union in initiating debate on bioeconomy¹ and circular economy² has a history of more than ten years. The EU member states gradually took up the fil rouge and started to develop policies at the national level, through intense political discussions on the proposed strategies, directives, policies and action plans. Today the European Commission furthered this process by proposing the European Green Deal. Currently some of the member states are in a difficult position, the trade-offs required to implement such an overarching strategy and to reach some emerging compromises that will in turn affect the political landscape. The proposed deal will also influence the new policy setting, going hand in hand with political decisions on the way forward, and is, moreover, expected to be supported by the societies.

It has been only a few years since the EU's Central and Eastern European (CEE) member states' policy formulation started to respond directly to the EU directive on circular economy, to a lesser extent to the EU bioeconomy strategy, and initiated discussions at the national level. These countries still lag behind in full deployment of the strategies as well as in understanding the differences and commonalities of these concepts. However, the correct imple-

mentation of these EU guidelines and the success of the new national policies proposed on this basis will depend on the exact understanding of the differences between these concepts. Thus, the public administrations preparing the policies and political decisions have a key role to play in the adequate interpretation of these general policy lines, in consulting with stakeholders and in ensuring their smooth deployment on the ground. Today it is clear that

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we are facing a sustainability transformation, which will happen with or without the active involvement of policy makers. The countries that are late stepping into this process will lose competitiveness and resilience.

Circular economy goes hand in hand with bioeconomy

Currently all the CEE member states have started their national level discussions on circular and bioeconomies. It remains to be seen whether the public administrations will be successful in proposing national action plans on sustainable

and circular bioeconomy. In addition, there is a new economy on the cusp of a breakthrough - the CO₂ economy³. In this vein, the bioeconomy, circular and CO₂ economy could realize the objective of a more sustainable and resource-efficient world with a low carbon footprint.

In addressing this challenge, it is important for these countries to internalise the underlying principle that the circular economy is not complete without the bioeconomy

and vice versa. This is difficult in their actual context of barely having started implementing measures in circular economy and still discussing the sustainable bioeconomy concept. Moreover, circular economy provides only a framework, a mere economic space, where the value of resources, materials and products is maintained for as long as possible while minimising the generation of waste. Thus, the bio-based economy as much as the fossil, mineral, metal and renewable carbon⁴ based economies are not integral parts of the circular economy and will probably

never be fully included into it. One of the most important principles⁵ of the sustainable bioeconomy is circularity, however, not all its parts are circular and sustainable per definition. It is not the subject of this article to elaborate on this further but there are good examples for recent discussions on the differences.⁶

Investing in research and innovation

Continuing on the importance of the engagement from the public administrations it is important to emphasize the role of knowledge-based policymaking. The sustainable transformation of our societies is unimaginable without a heavy investment into research and innovation. Thus, the most important driver of our competitive and resilient future is education, research and innovation. The BIOEAST⁷ initiative is a governmental level platform helping 11 CEE countries to develop knowledge-based, sustainable and circular bioeconomies. The BIOEAST members are low or moderate innovator countries. Their national investment into research and innovation is at a low level (corresponding to less than 2% of the national GDP); however, the successful transition to sustainable societies should be facilitated by these investments. The different policies require a strong system

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based on and supported by research. Therefore, the ministries should rebuild and reinforce their research capacities, an important aspect that has often been neglected during the past two-three decades. Moreover, with a system approach, an overarching cross-sectorial strategy should be developed for the sustainable and circular bioeconomy, which envisages the sustainable use of resources including the waste streams for biomass production, processing and use for food-feed, fibre and energy purposes.

Individual earnings impact on environmental awareness

The possible solutions to current problems are brought by the research and implemented via policies by the public administration, but the decision on the step forward is taken at the political level. In this context it is important to see that an enormous societal pressure challenges the political decision-making process. More precisely, the society's understanding

of policymaking processes is key for their successful implementation. Presently there are big differences in how politics factor in societal reactions. There are also traps to avoid. For instance, talking about developed and developing countries in terms of their preparedness for transformation leads to a clear misunderstanding. Most Western countries are considered developed economies and the CEE countries fall into this category. However, the fact is that there are different layers of national societies with different levels of annual earnings. Everyday life often translates to struggle for many families. And this impacts on how much an individual can even deal with different aspects of a sustainable future (environmental, socio-economic), which are key for global sustainability. Authors of the book *Factfulness: Ten Reasons We're Wrong About the World--and Why Things Are Better Than You Think* are dividing the global population into four categories based on earnings. The fourth, and highest category includes those who earn more than 30 euro per day, 10.000 euro per year. These are the ones who also consider the environment besides their everyday life. When analysing the median annual earnings of the BIOEAST countries population from this angle, we might find some similarities, and surprisingly only a few of them have half of their population (median) earning more than 30 euro per day⁸. The median salary for more than half of the BIOEAST countries' population is just

a little bit above 5000 euro per year. Without far-reaching conclusions, it should at least be stated that an influential part of the electorates in these countries is struggling with every day personal and familiar issues, not having capacity for more complex concerns, which may influence their broader environment. The responsibility of the political level is therefore high and clearly challenged.

Importance of responsible policy-making

Taking the example of Slovenia, one of the few BIOEAST countries, where the median annual earnings since 2014 are higher than 10.000 euro. This clearly illustrates wider room for manoeuvre for political decisions. Results are visible, with steps already taken towards a sustainable and greener future. However, Slovenia is one of the countries, which are in the group of moderate innovators among the EU member states. Investing more into research and innovation with the help of the BIOEAST Initiative could open the door for an improved participation in the excellent based science, in an enhanced use of EU Research and Innovation framework programme, Horizon Europe. This might also pave the way for developing overarching circular and bioeconomy strategies and knowledge-based policies.

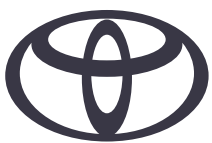
Overall, the BIOEAST countries should rebuild their cooperation in the field of circular and sustainable bioeconomy research. The use of biomass, including waste streams,

gives new opportunities for these countries, which cannot be fully exploited without cooperation at macro-regional and European levels.

To unlock this potential, the BIOEAST macro-region needs a vision, a strategic research and innovation agenda. Thus, there is a need for foresight, which shall look into the future perspectives of the macro region's bioeconomies (2030 - 2050) and at the same time setting it in the wider EU and global context, investigating the special characteristics of the macro-regional bioeconomy deployment, special needs and strengths. The BIOEAST foresight exercise could benefit the public sector as a whole, and especially researchers, policy makers and politics, responsible for defining the future evolution of the private sector, thus also shaping the CEE societies. The upcoming Slovenian EU Presidency could show a path for all the countries in this macro-region towards a sustainable green future with a developed strategic thinking on circular and sustainable production and use of bioresources.

Notes

- [1 https://ec.europa.eu/research/bioeconomy/index.cfm](https://ec.europa.eu/research/bioeconomy/index.cfm)
- [2 https://www.ellenmacarthurfoundation.org/circular-economy/concept](https://www.ellenmacarthurfoundation.org/circular-economy/concept)
- [3 https://www.iea.org/reports/putting-co2-to-use](https://www.iea.org/reports/putting-co2-to-use)
- [4 http://www.renewable-carbon.eu/](http://www.renewable-carbon.eu/)
- [5 https://ec.europa.eu/research/scar/pdf/ki-01-15-295-enn.pdf](https://ec.europa.eu/research/scar/pdf/ki-01-15-295-enn.pdf)
- [6 http://news.bio-based.eu/the-circular-bioeconomy-concepts-opportunities-and-limitations/](http://news.bio-based.eu/the-circular-bioeconomy-concepts-opportunities-and-limitations/)
- [7 https://bioeast.eu/home/](https://bioeast.eu/home/)
- [8 https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di04&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di04&lang=en)



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