

CHALLENGE EUROPE

Yes, we should!

EU priorities
for 2019-2024

OUR
FUTURE

IN
YOUR
HANDS

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Framework for a new European economy

Gunter Pauli – Founder of ZERI and author of *The Blue Economy*

MAIN RECOMMENDATION ▶ While there is a broad support for the circular economy, the Council, the Commission and the European Parliament are not going far enough to ensure the transformation towards a truly competitive and sustainable economy.

WHAT TO DO:

- ▶ Take seriously the concerns of young consumer-citizens, who favour a more radical transformation of the modes of productions and devise policies accordingly.
 - ▶ Continue the work on the circular economy and expand standards and norms beyond macro-economic generalities.
 - ▶ Provide the right framework and incentives for developing and deploying new solutions against plastic pollution.
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A decade ago, my report to the Club of Rome entitled: ‘The Blue Economy: 100 innovations, 10 years, 100 million jobs’ presented a vision. This vision was based on an understanding that nature in general, and a wide range of ecosystems, have overcome nearly every imaginable challenge over the past millions of years, and therefore provide an inspiration of how our society can chart a pathway towards the future.

We can build on the ingenuity of ecosystems that provide a wealth of products and services on which life depends, and then strengthen social systems that build up culture, tradition and social capital. This provides resilience in adverse times and can generate more joy in our lives. It also permits us to learn how to live within the obvious limits of the planet, while evolving from scarcity to abundance as we have successfully implemented in more than 200 projects across the globe¹. A new approach to creating a sustainable, competitive European economy is needed – and this should become a strategic priority for the European Union (EU) in the next politico-institutional cycle (2019-2024).

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It is possible to achieve a relatively fast shift from traditional business and economic development, which builds on globalisation and efforts of enterprises

to reduce costs and search for ever higher economies of scale, to a more sustainable and competitive 'Blue Economy'.

The 'invisible hand' – The existing economic model is flawed

There are fundamental shortcomings in the existing economic model. It has a narrow focus and is based on a limited set of core businesses and competences, and favours companies that target narrowly defined market niches and outsource the majority of their activities. This paradigm blinds us, making it impossible to see the range of opportunities that we could pursue, as a company, a region, or a nation. When companies adhere to short-term objectives, devoid of social and environmental considerations, the 'commons', the cultural and natural resources that should be accessible to all members of a society, are exploited (as we do with excessive consumption of water) or they become a place to release our excesses (as we do with the release of greenhouse gases into the atmosphere). The commons include biodiversity, drinking water, the supply of oxygen in the air, the availability of grazing land for herds, the evolutionary and symbiotic path of biodiversity, the cycling of nutrients, the build-up of top soil, and so much more.

The logic of enlightened self-interest whereby "an individual who intends only to improve his own gain, is, as it were, led by an invisible hand to promote the public interest" (Adam Smith, 1776) has not worked. Enlightened self-interest turns into destructive behaviour when deployed in the realm of the commons, where services and production systems are supplied freely by nature and have no inherent commercial

value. Businesses and society have privatized the commons for commercial exploitation. For example, giving an exclusive licence for some to bottle and sell water, deprives ecosystems due to the depletion of water tables. The commons are also abused by the license to dump toxic waste that undermines the very premises that guarantee the conditions of life. The notion of the invisible hand has been criticised since the 19th century, but this has conveniently been omitted from current economic teachings.

In 1833, William Forster Lloyd wrote a pamphlet that put forward the concept «the overuse of the common by the commoners» which was later developed by Garrett Hardin as 'The Tragedy of the Commons', whereby individuals acting on their self-interest behave contrary to the common good by over-using or spoiling common resources. Picture an open pasture, where herdsmen are allowed to let their animals graze. To maximise individual gains, each 'rational' herdsman would bring as much cattle as possible on these commons. However, while receiving additional revenue from the sale of additional animals, he – together with others – would promote overgrazing, and thus damage the commons. When the problem of overgrazing is recognised, the herdsman who has added extra animals does not feel responsible – since others have also applied the same rationale.

Modern society believes in the freedom to exploit the commons and offers companies

a license to act accordingly. We have confused the free market with the free exploitation of the commons. Now we realise that there is not only over-grazing. The «freedom to add extra sheep to graze on public land» leads to soil erosion, loss of water retention and desertification. Thus, the freedom to pursue one's own interests leads to the destruction of the very basis of the ecosystem that supports life. The 'laissez-faire' approach that has been applied to the market, is unconsciously applied to the commons.

The same logic applies to the miners who pursue their gold, the petrochemists who exploit fossil fuels to be turned into plastics, those that pollute water or air, and the individuals and institutions that pursue the goal of 'more for me'. This 'me-first' attitude has led to irreversible climate change, health problems such as respiratory diseases, the accumulation of toxic waste around us, the depletion of top soil, and the permanent loss of biodiversity. The mistreatment of the commons goes hand in hand with our free market's incapacity to fulfil the basic needs of all living people on Earth. It is no surprise that poverty is rampant and increasing in spite of all the glamour of Sustainable Development Goals. We are continuously undermining the ecosystem services that make life on Earth viable.

The tragedy of the commons: The need for a new approach

The key for business is not to implement the latest strategy for cost reductions, the newest technology, nor the return on investment that pleases shareholders beyond expectations and surprises analysts. Businesses need to urgently rethink their basic model of operations. We need business models that strengthen the very conditions on which life depends. How could we ever have given a license to a company that destroys – often unknowingly – the very environment on which life exists? This has to be a clear mission for the new Commission taking office at the end of this year.

In the past decades, there have been more efforts to create business models that can respond to our basic needs, ensure thriving commons, *and* offer a financial return. We should stop pretending that the invisible hand will guide us, and rather make a conscious decision to stop, not 'lessen or slow down'

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the exploitation of the commons. The logic is the same as with stealing. Stealing less is still stealing! Polluting less is still polluting!

The Commission will have to take the concerns of this new generation of consumer-citizens seriously and devise policies accordingly.

The institutions of the EU have to collaborate with ambition, both in reaching environmental targets but also in terms of guaranteeing the competitiveness of its primary and secondary sectors. The Commission must develop a strategy that will make the European economy truly sustainable.

In the next institutional cycle, EU institutions can choose to protect the old system, or embrace new paths that respect the ecosystem.

The example of the herdsmen has modern-day analogies. Cattle farmers have learned that productivity increases by adding antibiotics to animal feed. The additional and faster sales of meat offers farmers (and pharmaceutical companies) benefits and profits. The downside is that due to the unnecessary inclusion of antibiotics in the food chain, bacteria build up resistance leading to superbugs that have in 2015 caused an estimated 700,000 casualties, and are expected to increase to a staggering 10 million additional deaths by 2050.² Epidemics that were thought under control or even eradicated are emerging without any antidotes known to the medical world. The cost of resistant bacteria has, for example, been estimated at \$20 billion annually in the US, which is far more than the profits obtained by the suppliers of the synthetic drugs.

The healthcare sector provides other worrying examples. Resistance to antibiotics is exacerbated by the fact that doctors are directly or indirectly rewarded for prescribing antibiotics to people. In the US, some 40 million people are prescribed antibiotics for respiratory problems every year. In 2013, a paper published in the *Journal of Antimicrobial Chemotherapy* estimated that two-thirds of those people may well not have needed antibiotics³. The tragedy of the commons is prolonged and extended: pharmaceutical companies and doctors earn the additional revenue, the economy grows, but the cost is borne by society. At the same time, market mechanisms fail to bring medical treatments needed to patients who are in urgent need. There is demand but no supply, because innovation is stifled by the search for ever lower costs and ever larger and standardized volumes, which means that 'specialty illnesses' receive little to no research funding. It is clear that the financial reward for innovations in health must be decoupled from sales.

But sustainability and competitiveness can be two sides of the same coin. For example, a transition from petrochemistry to biochemistry is an enormous opportunity with many winners. It can speed up the shift towards the bio-economy, with a strong impact in the regions where this transformation is taking place. Converting, for example, low value materials like straw, or waste such as weeds, into bioplastics and functional, high-value products creates jobs, injects cash in the local economy, and helps to address a major challenge of today: plastic pollution.

Europe already has a strong emerging bioplastics industry. For example, in Italy more than 150 factories and over

4000 employees are contributing to this promising business transformation that has led to converting old defunct industrial sites into production units, dramatic reductions of CO₂ emissions and hundreds of new patents, including: biodegradable capsules; compostable fruit and vegetable bags used to support treatment of organic municipal waste; and an agricultural mulch film preventing herbicides and plastic residues accumulation in soil. There are hundreds of more examples. These achievements

are the result of joint research efforts over decades, made possible by EU public and private funds, and driven by a new generation of entrepreneurs. Bioplastics can be a frontrunner in the emerging circular economy, where waste is turned into value and soils and water are no longer polluted. The next Commission should strengthen the entrepreneurial framework that allows stranded assets and available biomass to be converted to healthy and competitive emerging industries.

The way forward – Leadership and political will

We need to focus on how disruptive technologies and disruptive business models could transform the present production and consumption system to a market economy that considers the role and the importance of the commons. We need to respect the global ecosystem, recognising that without it the whole system will degenerate and ultimately collapse. We need to put a value on the ecosystem, and avoid the ‘tragedy of the commons’.

To move in this direction, three things will be key:

First, the principles that guide business management, such as outsourcing, supply chain management and sticking to one core business, only assign value to 10% of harvested and processed natural resources, while 90% ends up as waste: only 0.2% of the coffee bean is consumed, 40% of the fish is discarded, and weeds are considered the wrong plant in the wrong place only to be subjected to herbicides. How will enterprises explain the shipping of wheat, butter, sugar and milk across the globe to bake cookies, which are then also shipped around the world, to the cohort of new,

young consumers, who favour a more radical transformation of our production and consumption patterns? The Commission will have to take the concerns of this new generation of consumer-citizens seriously and devise policies accordingly.

Second, the present production, distribution and consumption patterns do not only squander resources and infringe on the commons, but the linear and focused approach on one core business has blinded everyone to the possibility of a vast portfolio of opportunities that would come from a smarter use of our resources. In 2018, I wrote PLAN A with 10 new industrial sectors for Argentina. We called it Plan A, because there is no Plan (nor planet) B. It is essential that the EU institutions continue the work on the circular economy and expand standards and norms beyond the macro-economic generalities.

The Commission and the European Parliament have to work on concrete material efficiency targets. Cascading and clustering can increase material efficiency and create added value. This is technically viable and commercially implemented. For

example, coffee waste can be turned into a substrate for mushrooms, which in turn - after harvesting the fungi - is an ideal chicken feed. Broken car windshields and bottles can be converted to a glass foam insulator with a 98% carbon capture rate or to abrasives for the wood and paint industry, without the need for sand mining of rivers and coves.

Third, plastic pollution is a concrete challenge recognised by the industry. Plastics in the sea have caught the public's attention, with dramatic images of fish, turtles, birds and even whales suffering horrific deaths due to polymer products, flooding social media. A lot of these products can instead be made of compostable and/or readily available biological raw materials, which do not compete with food and are able to regenerate the soil. It is essential that the EU institutions provide the necessary framework and incentives for developing and deploying new solutions. The EU institutions should impose the use of these materials through public purchase guidelines.

Bioplastics, which degrade in the soil, sun and sea, replenish farmland, regenerate the local economy and reduce emissions, is a prime example of how the circular economy can cluster agriculture and chemistry, generate higher value and increase Europe's competitiveness. It was therefore a surprise that the European Commission's proposal for a Directive on Single-use Plastics in 2018 did not recognise the role of bioplastics,

while paper covered with petroleum-based polymers were exempted from the directive and can still be freely used without any limitations. While only a tiny fraction of single-use paper products are made in Europe, a dominant share of bioplastics are produced in the EU. It would surely be in the EU's interest to build on the potential that new materials like bioplastics could bring. Chemicals represent the largest industrial sector of Europe; the EU will have to facilitate the acceleration of the sector's transformation towards true sustainability.

The institutions of the EU have to collaborate with ambition, both in reaching environmental targets, but also in terms of guaranteeing the competitiveness of its primary and secondary sectors. The Commission must develop a strategy that will make the European economy truly sustainable. However, to succeed, businesses must be able to count on a legal framework without excessive norms, standards and regulations, which permits them to introduce innovative products, like the substitutes for the much debated glyphosate-based herbicides. In the next institutional cycle, EU institutions can choose to protect the old system, or embrace new paths that respect the ecosystem. They can choose sustainable growth, or only pay lip service to global fora, and the bio- and circular economy. Are the European Union and its member states really prepared to lead this endeavour? This will require an act of leadership, which is not easy to find in the present political environment.

1. See [here](#) for more information on The Blue Economy project.

2. Assessment by Jim O'Neill, formerly chief economist at Goldman Sachs, on behalf of the British government and the Wellcome Trust.

3. "The Grim Prospect of Resistance to Antibiotics", *The Economist*, 21 May 2016.