

*ZEBRA-LIFE 101 series: In this first series we introduce the basis of the project overseeing its value chain, starting with raw materials, moving into technology and into final products by reviewing their potential benefits. In case you missed any previous articles, you can find them in our websites "[Latest News](#)" section.*

## IMPACT ASSESSMENT

### Climate Change and the Imperative for Action

In the current context of climate change, the rise in global temperature, extreme weather events, biodiversity loss and ocean acidification are clarifying why immediate actions are needed to mitigate these effects. Global agreements, such the Paris Agreement, have been made to limit the global warming to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit it to 1.5 degree Celsius.

Climate change poses future challenges such as climate injustice, where vulnerable communities, often in low-income countries, are disproportionately affected despite contributing less to the problem. In addition, climate change policies often encounter opposition from vested interests and require international cooperation, making it challenging to implement comprehensive solutions. Therefore, society is slowly adapting to the realities of climate change, but significant efforts are still needed to mitigate its impacts and build a sustainable future.



### The Role of Impact Assessment

When implementing initiatives to combat climate change, it is crucial to have a system that can assess their impact, to make sure that new developed technologies and products make no additional harm. But what

does impact mean? According to European Commission<sup>1</sup>, an impact is the "wider long-term effect on the society, environment, economy and science, enabled by the outcomes of R&I investments". To do so, the quantification and evaluation of those impacts are fundamental to assess the possible effects of the planned activities in the long term. Therefore, impact assessment in projects involves a structured approach to evaluating the potential implications of planned actions while they are still subject to modification. Recognizing the essential role of impact evaluation in guiding effective initiatives, we can further explore its multifaceted benefits.

The key benefits of impact measurement can be both internal and external. Internally, it acts as an essential instrument for shaping strategic decisions and enhancing operational effectiveness. By evaluating successes and pinpointing areas needing improvement, it boosts team dynamics, fostering a sense of responsibility and commitment to ongoing progress. Such measures can be positive in inspiring and motivating the team since by articulating the positive change, they are contributing to and evidencing project's successes and achievements. Externally, the role of impact measurement is crucial in building and maintaining trust and credibility. It aims to demonstrate better engagement with current funders and stakeholders as well as to attract new sources of funding. In addition, it showcases a project's commitment to societal impact, strengthening its reputation and influence in the field.

Impact measurement is also important for the success of European projects, especially to differentiate which projects are most effective in promoting sustainability, and therefore helping European institutions to align sustainability goals and broader policy objectives, such as the European Green Deal. In addition, the goals and impacts achieved can be evidence of progress to communicate the EU's achievements to the public and other stakeholders, thereby engaging and motivating the broader audience.

## **Impact Assessment in ZEBRA-LIFE**

ZEBRA-LIFE technology emerged as a beacon of innovation, offering pulp and paper industries a remarkable opportunity to transform one of their by-products into valuable natural products. The overreaching goal? To establish a new, sustainable circular value chain that could revolutionize the pulp and paper industry, as well as the broader spectrum of end-user

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<sup>1</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/experts/standard-briefing-slides-for-experts\\_he\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/experts/standard-briefing-slides-for-experts_he_en.pdf)

industries. And the best part is that this entire process could seamlessly integrate with existing pulp mill operations, requiring no additional chemicals or very limited downstream technologies.

Perhaps the most astonishing aspect of the ZEBRA-LIFE project is its remarkable environmental impact. In a world increasingly conscious of carbon footprints, the project's preliminary assessment revealed that in the mid-term it could reduce up to 4.8 kg CO<sub>2</sub>-eq per kg of antioxidant produced<sup>2</sup>, representing almost 35 kt CO<sub>2</sub>-eq per year<sup>3</sup> by 2027. In addition, it would contribute to reduce if not avoid the overall amount of under recycled resources of the pulp and paper industry. This is a game-changer, significantly reducing the environmental impact of several industries.

But the ZEBRA-LIFE project isn't just about environmental benefits; it has far-reaching social and economic implications. One of the key societal impacts lay in the potential to create new employment opportunities. As the demand for renewable additives surged, the need for skilled labour in research, development, production, and distribution activities could present a golden opportunity for the workforce. This could breathe new life into regions in need, driving economic development and potentially rejuvenating rural or economically disadvantaged areas.

The allure of renewable additives wouldn't be limited to the job market; they might attract investments from various quarters, such as private investors, venture capital firms, and public funding agencies. As word of such projects spread, they could also capture the attention of stakeholders, policymakers, and the public, opening doors to new networking opportunities and fostering the exchange of knowledge.

The practice of impact assessment stands as a cornerstone for sustainability projects, ensuring their efficacy and fostering a culture of accountability and continuous improvement. By effectively measuring and communicating the impacts of such projects, we can not only build trust but also inspire and involve the wider community in our journey towards a more sustainable future. At ZEBRA-LIFE, our mission to replace fossil fuel-derived additives with renewable alternatives offers multifaceted benefits, from job creation to innovation, investment opportunities, and community revitalization. This approach sets a precedent for how innovative solutions can drive meaningful change, exemplifying the profound impact that sustainability initiatives can have on our world.

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<sup>2</sup> According to Ecoinvent Database

<sup>3</sup> According to internal calculations considering the substitution of 7200t of fossil-based antioxidants by 2027.