BUSINESS BRIEF

World Business Council for Sustainable Development

SYSTEMIQ

2024 Update

Global Resources Outlook 2024: *Implications for Business*

→ It is no longer a question of whether a transformation towards global sustainable resource consumption and production is necessary, but one of how to make it happen

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→ The Global Resources Outlook 2024 Key Messages

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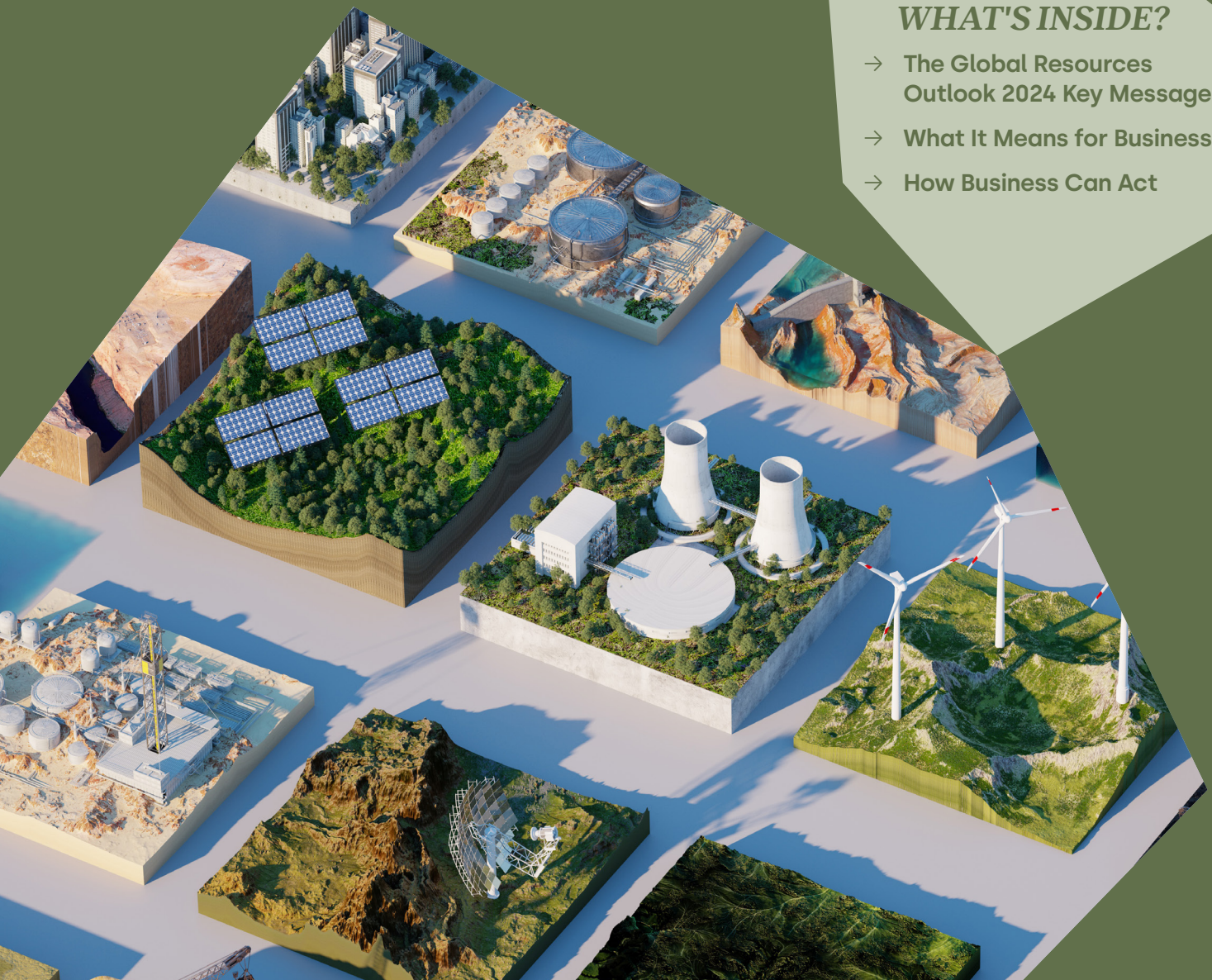


Introduction

During the sixth United Nations Environment Assembly (UNEA6) on March 1st, the International Resource Panel's flagship report, the Global Resources[1] Outlook 2024 (GRO) was revealed, highlighting the alarming rise in material extraction over the past 50 years, fueling the triple planetary crisis. The full report can be viewed **here**. *As natural resource demand surges, businesses face a critical imperative to optimize resource productivity and resilience. Embracing sustainable resource management and circular economy principles offers a pathway to decarbonization, nature protection, and just transitions, presenting significant opportunities for businesses to shape future-proof models and alliances.*

The GRO represents the most comprehensive assessment of global material flows, emphasizing the urgent need for transformative action. It provides valuable insights for CEOs and boards to decouple value creation from resource consumption, unlocking new profit avenues and enhancing resilience.

By integrating circular economy practices into business models and value chains, companies can lead systemic change, driving demand signals for sustainable resource management and fostering collaboration for a healthier planet.

1 Resources as defined by the GRO24 — including land, water and materials — are seen as parts of the natural world that can be used in economic activities to produce goods and services. Material resources (see above) are biomass, fossil fuels, metals and non-metallic minerals

Key Messages *of GRO24:*

Increased resource use is unequivocally linked to rising climate and nature risk.

Extraction and processing of material resources, including fossil fuels, minerals, non-metallic minerals, and biomass, contribute to at least 55% of greenhouse gas emissions[2] (GHG) and 40% of health-related particulate matter impacts. Fossil fuels drive the most impacts across all material value chains: climate impacts of metal and non-metallic mineral value chains are driven by fossil-fuel-powered processes in their extraction and processing. Downstream, climate impacts are driven by fossil fuel combustion in further processing and logistics, and by combustion in households. Material-related impacts on nature[3] are almost completely (>90%) driven by the extraction of biomass, largely in agriculture and forestry.

Natural resources underpin our modern economy, and our demand for natural resources is accelerating every year despite attempts to dematerialize and decouple.

GRO24's peer-reviewed data shows that resource extraction continues to grow by nearly 400% since 1970, and still by 2.3% per year, to a level of 106.6 bn tonnes in 2024, while material productivity stagnates.

If historical trends continue, resource extraction will increase by almost 60% until 2060 (1.6x 2020 levels), primary energy use will increase by ~50% (1.5x 2020 levels), and emissions will increase by 83%.

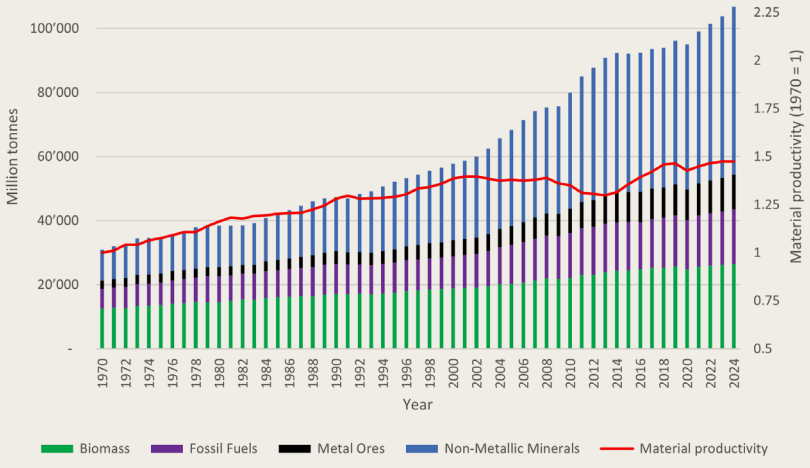
The sustainable alternative is described in the report as the Sustainability Transition Scenario. The urgency of phasing out fossil resources is well established, and GRO24 reinforces this direction. This is likely to bring even greater demand over the next years for certain natural resources necessary for the clean transition, such as land, water, minerals, metals, or rare earth elements.

Example - A group of partners from industry, science and beyond recognized the opportunity forming "Battery Pass", a consortium of leading experts to jointly advance the implementation of the battery passport based on requirements of the emerging EU Battery Regulation and beyond.

The consortium is the first project that brings together experts from leading organizations along the entire battery value chain to develop timely and holistic guidance on all relevant aspects of a Digital Battery Passport.

Battery Pass Content Guidance

Figure 1: **Material extraction continues to grow while productivity stagnates (material productivity = unit GDP per tonnes extracted) (Source: Global Resources Outlook 2024)**



Source: International Resource Panel (2024), **Global Resources Outlook 2024**; **IRP Global Material Flows database**

2 If emissions from land use change are also included, this figure rises to 60% (See GRO24, Chapter 3).

3 Land-related biodiversity loss (See GRO24, Chapter 3).

Our current resource use patterns are causing severe environmental impacts, while many citizens of the world do not have their basic needs met.

We can only capitalize on opportunities and avoid risks if we decouple resource use from rising human well-being, economic activity, and climate and nature impacts.

In high-income contexts, where human needs are largely met, the ultimate aim should be reducing resource use altogether. However, increasing resource use (while avoiding the worst impacts) is necessary and just in low- and some middle-income contexts where additional resources are needed to meet human needs.

The systemic answer is clear: Bend the trend!

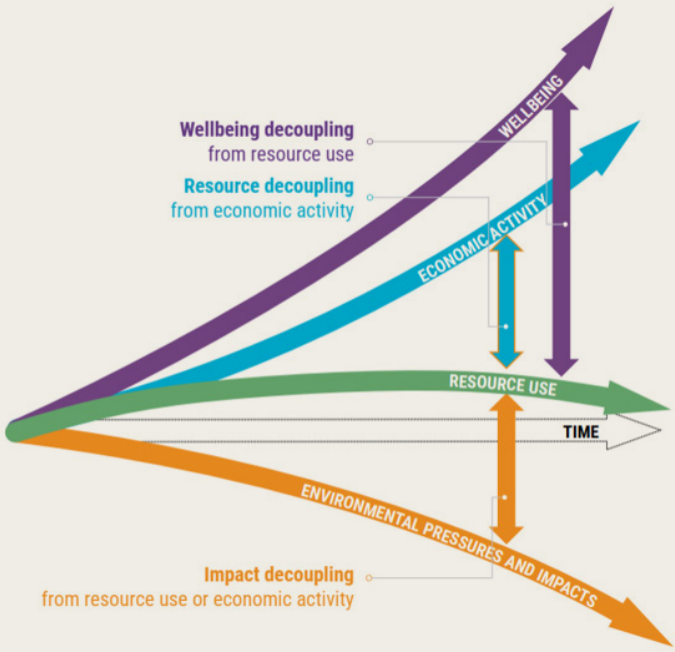
Markets will have to shift towards more effective ways of using resources, smartly and responsibly.

Shifting the market can also deliver better value and quality well-being, which means focusing on human needs and the respective provisioning systems that deliver them.

Scenario modeling by GRO24 suggests that adopting the decoupling strategy could lead to a world by 2060 with a global GDP of approximately 3% higher and a global Human Development Index of 7% higher compared to continuing our current trajectory. Implementing such measures could also lead to a 30% reduction in material use compared to continued historical trends. Additionally, greenhouse gas emissions could be reduced by over 80% from current levels by 2060, aligning with the goals of the Paris Agreement, alongside absolute reductions in energy use, agricultural land area, and other environmental pressures.

Arkema has partnered with Swiss sportswear brand On to develop the first fully recyclable bio-based shoe called the Cyclon shoe. This shoe is crafted from Rilsan polyamide 11, a bio-based plastic derived from sustainable castor beans through Arkema's Pragati Sustainable Castor Initiative. By using the same material for all components of the shoe, recycling becomes straightforward, as the entire shoe can be recycled in one piece. Arkema implements a circular business model for the Cyclon shoe, offering a subscription with a take-back scheme. Worn-out shoes are collected and sent to Agiplast, an Arkema subsidiary specializing in high-performance plastic recycling, where they undergo recycling through the Virtucycle program.

Figure 2: IRP's decoupling framework



Source: Revised from IRP (2019b)

What does this *Mean for Business*

Unmitigated material consumption on a planet with finite resources is a medium-term business risk. Resource availability, resource use and extraction are directly linked to climate, nature and pollution hazards. Climate risk and nature risk is a business risk and investment risk. GRO's analysis shows that many actors cause climate impacts throughout a value chain, and globally exposed value chains are directly affected by physical risks (e.g. extreme weather events) and transition risks (e.g. decline in consumer demand or ability to meet regulatory requirements). Investors increasingly scrutinize businesses for their exposure to risks, and customers are increasingly embracing sustainability as a buying factor.

Competition for certain types of natural resources is growing, fuelling increasing pressure on already volatile supply chains across sectors and geographies. This means global supply chains are becoming less reliable and more volatile, exacerbated by climate change, geopolitical disruptions and other factors.

Resource decoupling needs to become the front and center of business growth strategies for the forward-oriented business community. It promises businesses to grow while minimizing their environmental footprint. By decoupling economic growth from resource consumption, these businesses can enhance their competitiveness, reduce risks associated with resource scarcity and environmental degradation, and contribute to a more sustainable future.

Compared to historical trends, it is possible to reduce resource use while growing the economy, reduce inequality, improve well-being and reduce environmental impacts. GRO24's Sustainability Transition Scenario shows a path towards sustainable resource use and high-performing provisioning systems. Important to note that we would still be increasing global resource use from today's levels (albeit in a way that minimizes environmental impact), as some regions need to consume more resources to meet human needs.

Unilever's Home Care division, responsible for brands like Cif and Sunlight, has launched the Clean Future innovation program to revolutionize the development, manufacturing, and packaging of cleaning products. The program prioritizes applying circular economy principles to packaging and product formulations to significantly reduce carbon emissions. Traditionally, cleaning products contain surfactants, which are often made from non-renewable petrochemicals. However, Unilever has partnered with Evonik to introduce rhamnolipids, innovative biosurfactants produced through biotech methods like fermentation. These rhamnolipids are fully biodegradable and offer excellent foaming properties and cleaning performance. Collaborative efforts from researchers across divisions have led to the development of an industrial manufacturing process for these environmentally friendly biosurfactants.

How Business *Can Act*

Businesses can operationalize decoupling regardless of their sector or ambition level by implementing the following long-term objectives:

1

Flattening the Curve of Future Demand: Adopt circular economy approaches to reduce unnecessary consumption, promote material reuse, and redesign products for maximum material value retention.

2

Transitioning Towards Renewable Resources: Shift away from destructive extraction systems and non-renewable resources towards renewable and regenerative sources. Strengthen global trade and supply chains to minimize supply risks and incentivize responsible resource use.

3

Optimizing Resource-Intensive Systems: Target well-being and improve quality of life by optimizing resource-intensive systems that serve essential human needs, ensuring smart resource utilization.

Businesses can harness the benefits of resource decoupling and circular economy practices to tackle climate and nature risks within their supply chains. By promoting resource efficiency among suppliers, companies can enhance resilience, mitigate risks, and boost brand value. Additionally, embracing circular business models unlocks new revenue streams and cost-saving opportunities, strengthening competitive positioning and fostering foward-oriented partnerships.

How Business *Can Act*

Key Actions for Businesses:

The short-term actions listed below are directly related to the above longer-term objectives. The business community should consider implementing these actions as a first step to reducing their environmental impact, contributing to a healthier environment and improving well-being and quality of life for everyone.

1. **Incorporate decoupling into business strategy:** Integrate resource-related risks into business strategies to identify alternative sources, prioritize resource-efficient practices, and innovate sustainable solutions, securing long-term viability.
2. **Adopt circular and resource-efficient business models:** Capture new value pools through product lifetime extensions, service offerings, and circular recommerce opportunities. Embrace producer ownership and industrial symbiosis to further advance customer experience and loyalty.
3. **Increase investment in renewable energy and regenerative agricultural practices.** This can include installing solar panels or wind turbines at facilities, sourcing raw materials from sustainable suppliers, and partnering with local farmers to implement regenerative farming techniques.
4. **Enhance supply chain transparency:** Optimize strategic resource management by enhancing supply chain transparency and circular operations, capitalizing on material productivity gains and mitigating supply chain disruptions.
5. **Resource efficiency audits and retrofits:** Businesses can assess their resource consumption (water, energy, materials) across their operations, and identify areas for improvement, focusing on processes with high resource usage. Based on the audit findings, businesses can invest in low-cost or moderate-cost retrofits to optimize resource use.

Engaging with Policymakers:

Businesses should actively engage with policymakers to shape the right enabling environment for sustainable resource use, advocate for circular design incentives, and promote responsible resource practices. As regulations tighten, companies must enhance resource productivity and prepare for further policy interventions to manage transition risks effectively. By co-shaping policy and creating the right enabling environment, businesses can incentivize finance towards sustainable resource use, signaling the necessity of redirecting capital towards sustainable practices.

Once implemented, the Global Circularity Protocol for Business (GCP) by WBCSD and UNEP's One Planet Network (OPN) will assist the business community in scaling circular business models. This should help address key points from the GRO24, including resource decoupling.

Launched In 2023 by WBCSD in collaboration with the One Planet Network, the GCP aims to become the go-to framework for companies to assess, measure, set science-based targets, report, and disclose progress on resource efficiency and circularity information consistently and comparably.

The initiative is a multi-year and multistakeholder process and is structured to address accountability and policy gaps currently impeding the scaling of circularity. It will result in a comprehensive Corporate Performance and Accountability system (CPAS) for Circularity and lay the basis for a policy framework for circularity.

Apple has set a very ambitious set of goals regarding its resource strategy. They include using only recycled and renewable materials in products and packaging, enhancing material recovery, eliminating plastics in their packaging by 2025, reducing the water impacts in the manufacturing of products, and finally eliminating waste sent to landfills from corporate facilities and suppliers. Their 2022 Environmental Progress Report states that 20 percent of the material in their products came from recycled or renewable sources. The company is working hard to transition to 100 percent recycled cobalt, tin, gold, and rare earth elements in select components by 2025. Furthermore, their product packaging contains only 4% plastic — down from 21% in 2015. Apple's Prineville, Reno, and Mesa data centers and 17 supplier facilities have been certified to the Alliance for Water Stewardship standard for leading water management practices. Finally, Apple's corporate facilities' waste diversion rate increased to 71%, mainly due to progress achieved at data centers.

Call to *Action*

1

→ The current trajectory of resource consumption is unsustainable. Businesses face a medium-term risk from resource scarcity and environmental degradation. **The answer is clear: decouple economic growth from resource use.**

2

Resource decoupling is a win-win:

→ Grow your business: Reduce environmental impact while maintaining or even increasing profitability.

→ Reduce risks: Mitigate risks associated with resource scarcity, climate change, and volatile supply chains.

→ Enhance brand value: Appeal to sustainability-conscious consumers and investors.

→ Contribute to a better future: Help create a world with a higher GDP, improved human well-being, and a significantly reduced environmental footprint.

The Global Circularity Protocol for Business offers a framework to help you implement these actions. If you want to engage, reach out to **Filipe Camaño Garcia** at WBCSD.

Be a leader in the transition to a sustainable future. Embrace resource decoupling today!

Take action now!

→ **Integrate decoupling into your business strategy.**

→ **Adopt circular economy models: Focus on reuse, repair, and material efficiency.**

→ **Invest in renewable resources and regenerative practices.**

→ **Improve supply chain transparency and optimize resource management.**

→ **Conduct resource efficiency audits and implement cost-effective retrofits.**

→ **Engage with policymakers: Advocate for policies that incentivize sustainable resource use.**

About Systemiq

Systemiq, the system-change company, was founded in 2016 to drive the achievement of the Sustainable Development Goals and the Paris Agreement, by transforming markets and business models in five key systems: nature and food, materials and circularity, energy, urban areas, and sustainable finance. A certified B Corp, Systemiq combines strategic advisory with high-impact, on-the-ground work, and partners with business, finance, policy-makers and civil society to deliver system change. Systemiq has offices in Brazil, France, Germany, Indonesia, the Netherlands, and the UK.

Find out more at **www.systemiq.earth**

About WBCSD

The World Business Council for Sustainable Development (WBCSD) is a global community of over 220 of the world's leading businesses, representing a combined revenue of more than USD $8.5 trillion and 19 million employees. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.

We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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