



# EXECUTIVE SUMMARY

## NATURE'S SOLUTIONS:

### Policy Innovations and Opportunities for Africa's Bioeconomy

Current global events provide an urgent reason to maintain our focus on the strategic orientation of food systems and agricultural transformation, and on innovation. Supply chain disruptions, war, the critical global economic situation, and rapidly rising inflation have prompted a global effort to develop and mainstream innovative solutions. With this report, on the opportunities of a bioeconomy, the Malabo Montpellier Panel draws attention to fields of innovations that are rapidly evolving worldwide, and where Africa is well-positioned to create its own unique approach, despite starting from a comparatively low base. Innovations in developing a sustainable bioeconomy in Africa offer real opportunities to address multiple challenges simultaneously. **Bioeconomy refers to the application of science, technology, and innovation to the sustainable production and use of biological resources to create innovative products, processes, and services for all economic sectors.** Indeed, the evolution of bioeconomy is defined by megatrends and the need to respond to them - climate change, a growing world population, socioeconomic pressures, and the rapid development of new sciences. This has resulted in a growing recognition of the importance of sustainable biological processes and products among emerging and advanced economies.

Africa is endowed with abundant natural resources and has already strong traits of bioeconomies. As African countries are rapidly updating and transforming their science capacities, skills development, innovation, entrepreneurship, and infrastructure, leapfrogging into bioeconomy becomes a real opportunity. A bioeconomy can help Africa progress to more sustainable production and consumption practices, in addition to accelerating progress toward its continental and global development commitments.

Bio-based innovations can offer technological solutions to many of the economic, social, and environmental challenges facing the continent. The use of renewable biological resources, primarily from the agricultural sector, provides a platform from which to accelerate a global transition toward greater sustainability. A vibrant bioeconomy can increase agricultural productivity and support the expansion of agro-industries, both of which are vital for sustainable economic growth, employment generation, and enhancing economic competitiveness. Meanwhile, greater uptake of biotechnology can also effectively increase food availability, raise its nutrient content, while promoting new food (and non-food) value chains, and improving food safety. There are also opportunities for protecting, conserving, and restoring biodiversity, and climate change mitigation.

Although most African countries are still in the early stages of developing bioeconomies, trends at the global level—in particular in Europe, Southeast Asia, Latin America, and India—indicate a move toward a bioeconomy approach. In Africa, the East African Community's (EAC) bioeconomy strategy is currently being finalized, while in some countries, as this report will demonstrate, the first generation of bioeconomy strategies is being developed. As a result, Africa has a clear opportunity to demonstrate leadership and leapfrog to a developed bioeconomy. African bioeconomy agendas shall be addressing practical and concrete issues and opportunities, such as broader food security, carbon farming as part of the climate agenda, clean cooking fuels, bio-plastic, sustainable construction, and biopharmaceuticals. Important lessons can be learned from successful government actions taken across the continent. By replicating, contextualizing, and scaling up those policy and institutional innovations and programmatic interventions that have shown to be successful on the ground, other African governments can develop their country-specific bioeconomy strategies. A wide range of mechanisms and tools can be deployed to promote the development and growth of bio-based transitions. Ensuring that the benefits are equitable, inclusive, and environmentally and financially sustainable requires a strong and supportive enabling environment.

This report draws on the experience and at times visionary leadership, of four African countries (Ghana, Namibia, South Africa, and Uganda) whose policy and institutional innovations have shifted the needle toward systemic change and transformation, propelling them to the forefront

of the developing bioeconomy. The Malabo Montpellier Panel has identified a set of actions summarized below that, if brought to scale, provide for a more holistic and comprehensive framework for policymakers and their advisors to develop and advance Africa's bioeconomy today and in the future:

1

### **Identify gateway sectors through which to initiate the development of transition to a bioeconomy.**

The development of a bioeconomy can be initiated via selected 'gateway' sectors. These sectors would ideally match those that form the focus of long-term national development plans, align with broader food security and resilience ambitions, provide clear innovation opportunities such as clean cooking fuels, the reduction of plastic pollution, bio-based materials for sustainable construction, and biopharmaceuticals, or which represent a comparative advantage or complementary approach. Working with a shortlist of sectors or challenges allows policymakers to model context-specific approaches prior to mainstreaming a bioeconomy strategy across other sectors.

2

### **Strengthen links to R&D and markets for new bioproducts and biosolutions.**

Energizing the national innovation system necessitates investments in education, research, and development. STEM subjects, sustainability education, and indigenous knowledge are critical components of a curriculum that is designed to empower students and young people to participate meaningfully in the development of a bioeconomy. Closer collaboration between higher education, national research institutions, and the private sector can be facilitated via incubators, competitions, and challenges. Enhancing the financial sustainability of national research institutes with hybrid funding models that accommodate private sector services and international development partners can enhance bioeconomy research outcomes and impacts and can further strengthen collaboration across sectors and among stakeholders.

3

### **Develop demand for bioproducts and biosolutions.**

Public awareness campaigns, public procurement, and industrialization and trade strategies can facilitate a bioeconomy market and can drive demand for bioproducts and biosolutions. At the same time, the introduction of recycling and biofuel mandates or of bans on single-use plastic products can provide low-hanging fruits with which to kick-start innovation in the bioeconomy.

4

### **Regulate for sustainability incentives and to manage trade-offs.**

The use of geographical indications, standards, and certification schemes ensures the realization of maximum benefits and gains from developing a bioeconomy. Policymakers across Africa can customize a vast range of existing (voluntary) guidelines and frameworks; while carefully crafted intellectual property (IP) regimes can protect Africa's domestic research outputs and indigenous knowledge while creating an attractive and innovation-driven environment for private sector investments in the bioeconomy.

5

### **Set up independent national advisory boards to inform and guide the development of bioeconomies.**

Given the complexity and multisectoral nature of the bioeconomy, the central task of the bioeconomy advisory board or council—whose expertise would cover all aspects of the bioeconomy—would be to keep abreast of emerging developments in science, research and innovation and identify those that are relevant to national development.