



# **INTEGRATING SUSTAINABILITY INTO NIGERIA'S PHARMACEUTICAL INDUSTRY: BEST PRACTICES AND INNOVATIONS FOR A GREENER FUTURE**



## INTRODUCTION

The pharmaceutical industry plays an important role in improving health outcomes and extending life expectancy. However, this critical sector is also a significant contributor to environmental degradation, primarily due to its energy-intensive production processes, extensive use of chemicals, and complex, resource-heavy supply chains. As the world increasingly confronts the realities of climate change and environmental degradation, the call for industries to adopt more sustainable practices has never been louder. Global discussions around sustainability in the pharmaceutical industry is therefore a clarion call for Nigeria to adopt a lasting approach to ensure sustainability in the pharmaceutical industry.

With a burgeoning pharmaceutical sector characterized by rapid growth and expansion, Nigeria faces the dual challenge of meeting the constantly increasing healthcare needs of its growing population while also addressing the environmental impacts of industrial activities. Therefore, integrating sustainability into the pharmaceutical industry is not merely an option, it is a necessity. Such integration promises not only

environmental benefits but also economic resilience and social well-being. The journey towards a sustainable pharmaceutical industry in Nigeria involves adopting best practices, implementing innovative technologies, and learning from global examples to forge a greener future.

Notable efforts have been made to steer the pharmaceutical industry towards sustainability. Legislative measures such as the Environmental Impact Assessment Act 1992, the Harmful Waste (Special Criminal Provisions) Act 1988, and specific guidelines from the National Agency for Food and Drug Administration and Control (NAFDAC) reflect the government's commitment to mitigating environmental harm. These regulations aim to manage waste effectively, control the use of hazardous substances, and promote environmentally friendly practices in the industry. Despite these measures, the path to sustainability is fraught with challenges, including regulatory enforcement, limited infrastructure, and financial constraints.



# NIGERIA'S EFFORTS TOWARD SUSTAINABILITY IN THE PHARMACEUTICAL INDUSTRY

Nigeria has yielded to the call to ensure a sustainable pharmaceutical industry. While these efforts may still be fraught with effective implementation, they are not unnoticeable. These steps are as follows:

## 1. Regulatory Framework and Policies

As the principal regulator for food and drugs in Nigeria, NAFDAC has issued several guidelines focusing on effective waste management, reduction of hazardous substances, and the promotion of green practices. A notable example is the Guidelines for Handling and Disposal of Unwholesome Medicines and NAFDAC-Regulated Products 2018<sup>1</sup>. The Environmental Impact Assessment Act 1992 mandates environmental assessments for industrial projects to ensure minimal ecological disruption<sup>2</sup>. Furthermore, the Harmful Waste (Special Criminal Provisions) Act 1988 provides stringent penalties for the illegal handling and disposal of hazardous waste.

## 2. Waste Management Initiatives

Effective waste management is crucial for reducing the environmental footprint of the pharmaceutical industry. The Federal Government has launched several initiatives,

such as the Safe Medicines Disposal Program and other campaign programs<sup>3</sup>, targeted to ensure the proper disposal of expired or unused medications. These initiatives are designed to prevent pharmaceutical waste from contaminating water sources and ecosystems, thereby protecting public health and the environment.

## 3. Local Production and Sourcing

To reduce the carbon footprint associated with the importation of pharmaceuticals, the government has been promoting local manufacturing. This involves the provision of incentives and support to indigenous pharmaceutical companies, intending to boost local production. Recently, the President<sup>4</sup> signed an Executive Order aiming to boost local production of healthcare products and reduce costs. This approach not only enhances economic self-sufficiency but also reduces the environmental impact of transportation and logistics associated with importing pharmaceuticals.

## 4. Public-Private Partnerships

Collaboration between the government and the private sector is essential for advancing sustainability. Initiatives like the Partnership for Sustainable Development in Nigeria (PSDN) bring together various stakeholders to address environmental challenges and promote sustainable practices. These partnerships are crucial for leveraging resources, expertise, and technology to achieve sustainability goals.

<sup>1</sup> This Guidelines provides a framework for the effective disposal of expired, improperly sealed, damaged, and improperly labelled drugs, counterfeit, substandard, and adulterated drugs.

<sup>2</sup> For example, Enzor, a leading pharmaceutical company in Nigeria submitted an environmental impact assessment to the Federal Ministry of for its proposed active pharmaceutical ingredient manufacturing facility - effluent treatment plant to be constructed in Sagamu, Ogun State.

<sup>3</sup> NAFDAC held a campaign in 2021 aimed at protecting Nigerians against the deleterious effects of unwholesome food, falsified medical products, harmful cosmetics, poor water, and other substandard regulated products.

<sup>4</sup> President Bola Ahmed Tinubu



# CHALLENGES AFFECTING SUSTAINABILITY IN THE PHARMACEUTICAL INDUSTRY

Despite the significant strides made by the government to ensure sustainability, the pharmaceutical industry is confronted with several challenges such as:

## 1. Regulatory Enforcement:

While Nigeria has robust environmental laws and regulations, enforcement remains a major challenge. Limited resources, insufficient personnel, and regulatory inefficiency can hinder effective implementation and monitoring of these regulations, leading to environmental degradation and public health risks.

## 2. Infrastructure Deficits:

Inadequate infrastructure, including waste management facilities, energy supply, and transportation networks, poses a significant barrier to sustainability. Developing the necessary infrastructure requires substantial investment, which can be challenging given the country's economic constraints.

## 3. Financial Constraints:

Transitioning to sustainable practices often involves high initial costs. For many local pharmaceutical companies, securing the necessary capital to invest in green technologies and processes is a significant hurdle. Limited access to financing and credit facilities further exacerbates this issue.

## 4. Public Awareness and Education

There is a need for greater public awareness and education on the importance of sustainability. Both industry stakeholders and the general public must be informed about the environmental and health impacts of pharmaceutical waste and the benefits of sustainable practices.

The global pharmaceutical industry is constantly evolving with technological advancement and other innovative solutions to enhance its sustainability and for a greener future. Nigeria can glean from innovative trends around the world and adopt best practices to achieve a sustainable pharmaceutical industry. Some innovative trends that may be adopted include the following:

### 1. Green Chemistry and Eco-friendly Processes

Adopting green chemistry principles can significantly reduce the environmental impact of pharmaceutical production. This involves designing chemical products and processes that minimize the use and generation of hazardous and wasteful substances. The United States, through the American Chemical Society, has been a leader in promoting green chemistry through research, education, and policy advocacy.

### 2. Renewable Energy Sources

Transitioning to renewable energy sources such as solar, wind, and biomass can help reduce the carbon footprint of pharmaceutical manufacturing. Germany's pharmaceutical industry, for example, has made significant investments in renewable energy, demonstrating how sustainable energy solutions can be integrated into industrial operations.



### 3. Sustainable Packaging

Reducing the environmental impact of pharmaceutical packaging through the use of biodegradable and recyclable materials is another area where Nigeria can learn from global practices. Scandinavian countries have been at the forefront of sustainable packaging, with regulations and incentives that promote the use of eco-friendly materials.

### 4. Water Conservation and Management

Efficient water use and wastewater management are crucial for sustainability. Israel has pioneered water-saving technologies, including advanced purification and recycling systems. These technologies can be adapted for use in Nigeria to ensure sustainable water management in pharmaceutical production.

### 5. Digitalization and Smart Manufacturing

Implementing digital technologies and smart manufacturing processes can enhance efficiency and reduce waste. Japan's pharmaceutical industry has embraced Industry 4.0 technologies, utilizing automation, data analytics, and the Internet of Things (IoT) to optimize production processes and minimize environmental impact.

## CONCLUSION

Integrating sustainability in the pharmaceutical industry is expedient for ensuring environmental protection, economic growth, and social well-being. While Nigeria has made significant progress through regulatory frameworks, waste management initiatives, local production, and public-private partnerships, challenges such as regulatory enforcement, infrastructure deficits, financial constraints, and public awareness persist. However, by leveraging global innovations and best practices, Nigeria can further enhance its efforts to create a greener pharmaceutical sector. This will not only help mitigate environmental impact but also position the country as a leader in sustainable development in Africa. The journey towards sustainability is ongoing, requiring continuous commitment, collaboration, and innovation to achieve a green future.



# ABOUT STREN & BLAN PARTNERS

Stren & Blan Partners is an innovative and dynamic Law Firm with a compelling blend of experienced lawyers and energetic talents. We are focused on providing solutions to our client's business problems and adding value to their businesses and commercial endeavours. This underpins our ethos as everything we do flows from these underlying principles.

Stren & Blan Partners is a full-service commercial Law Firm that provides legal services to diverse local and multinational corporations. We have developed a clear vision for anticipating our client's business needs and surpassing their expectations, and we do this with an uncompromising commitment to Client service and legal excellence.

## THE AUTHORS



**Amala  
Umeike**  
Partner

[Amalaumeike@strenandblan.com](mailto:Amalaumeike@strenandblan.com)



**Emmanuel  
Ughanze**  
Associate

[Emmanuelughanze@strenandblan.com](mailto:Emmanuelughanze@strenandblan.com)



**Michael  
Afuye**  
Associate

[Michaelafuye@strenandblan.com](mailto:Michaelafuye@strenandblan.com)

## Stren & Blan Partners

+234 (0)702 558 0053

3 Theophilus Orji Street, Off Fola Osibo  
Road, Lekki Phase 1, Lagos, Nigeria

[www.strenandblan.com](http://www.strenandblan.com)

[contact@strenandblan.com](mailto:contact@strenandblan.com)

[@strenandblan](https://www.instagram.com/strenandblan)

