

POLICY BRIEF

**BUILDING A SHARED AGENDA
ON GREEN INDUSTRIALIZATION
FOR AFRICA AND EUROPE**

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This paper presents the platform members' analysis and discussion of three papers analysing green industrialization in Kenya, Nigeria and Namibia that were written by independent researchers based in the countries concerned.

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For more information about the Ukâmâ platform, see:
<https://www.iddri.org/en/reseau/ukama>

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The Ukama platform aims at building an informal dialogue process between a diversity of African and European experts bringing together perspectives of the Europe-Africa cooperation, including Climate, Sustainable Development, Economic transformation, International Cooperation, Finance and Trade to facilitate the emergence of such shared expectations. The main objective of the platform is to convene critical thinkers to help set out the themes and issues that are relevant for shared sense of prosperity for Africa and Europe.

Introduction

This *Policy Brief* presents key messages from studies on emerging green industrialization initiatives in Africa, focusing on the influence of Africa-Europe relations as well as opportunities and barriers to transformational partnerships. The studies concentrated on i.a. green hydrogen, solar and electric cooking in Namibia, Nigeria, and Kenya.

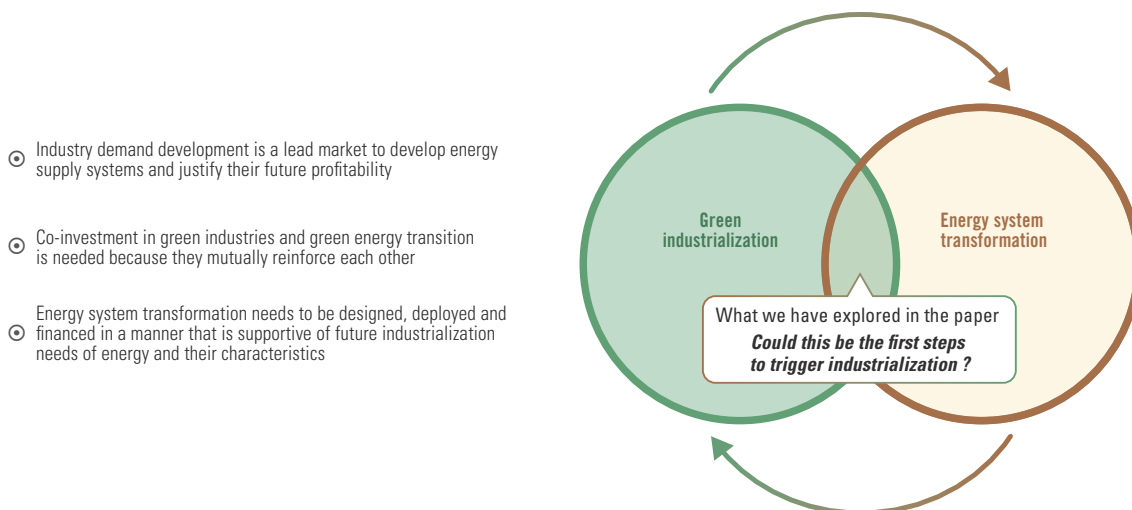
Green industrialization extends beyond clean energy, but these sectors are pivotal as access to decarbonized energy is crucial for Africa's industrialization efforts. Clean energy transition also aligns with the global climate goals and the imperative for a just transition to low-carbon futures.

Despite different industrial, economic, and political contexts, Africa and the European Union (EU) share an interest in transitioning to greener industrialization. For African countries, industrialization is paramount to ensure both decent and well-remunerated jobs for a rapidly increasing workforce and to ensure Africa can capture more value in the rapidly evolving global value chains. However: but access to affordable energy and finance for investments is limiting this industrialization pathway, and in this context, green energy alternatives offer opportunities to improve energy access, diversify economies, and alleviate poverty.

For European countries, re-industrialization is a central objective in current policies to secure Europe's access to green and affordable energy, position in global value chains and job creation in a race for competitiveness with the USA and China. In this context, greening this re-industrialization pathway, as well as accessing green energy for industries, is crucial for maintaining or increasing industrial competitiveness, decarbonization and climate objectives, eliminating use of fossil fuels and ensuring more security of provision by diversifying supply sources.

Differences, as well as convergences, in interests between the two continents, are thus obvious, but as in any other partnership, maximizing areas of convergence and cooperation over areas of divergence and competition is key to avoid a pure zero-sum game. This poses important challenges and obstacles in the EU-Africa relationship both in the process and on the substance, and they impact the practical implementation of these shared interests. Hence, understanding key issues and differences is vital to establishing a common agenda for green industrialization and development.

Figure 1. Green Industrialization and Energy System Transformation



A closer look at green industrial opportunities

The case studies looked at different sectors, relating to the renewable energy industry (solar PV), but also clean tech manufacturing and market development (electric cooking) as well as new green industries and global value chains (Hydrogen economy).

A closer look at the solar sector in Nigeria and Kenya shows that it is key to look at both the supply and demand factors in the electrification of the continent, as well as consider the structural differences in energy systems. Kenya has seen a recent rise in solar deployment, which can be attributed to an enabling policy environment, donor support and state-funded programs. Yet it also builds on a unique geothermal and hydropower-dominated energy system. Nigeria in turn faces a much greater electrification gap. Decentralized solar in particular has significant employment and economic development potential. Nigeria's solar PV market is also one of the fastest growing in Sub-Saharan Africa, fuelled by support from donors, commercial initiatives, and supportive policies. However, high upfront costs limit uptake, with only a small percentage of households and of the SMEs that are to be the basis of industrialization are able to install solar systems.

Hydrogen is seen as a unique opportunity for many African countries, both for exports to Europe and jumpstarting domestic industries, yet countries have very different starting points, which play out in early hydrogen initiatives. Namibia for example aims to become a leading green hydrogen producer and exporter, based on a perspective that solar energy is the main comparative advantage of Namibia. The government's investment in hydrogen is intended to promote energy security (which necessitates to first ensure access to electricity to all users before transforming power into hydrogen), a low-carbon economy by using hydrogen as a clean energy for heavy industry processes, and job creation in hydrogen production facilities as well as in industries using hydrogen. The country plans to produce green hydrogen at competitive costs and has established collaborations with foreign research institutions. Key projects are underway, including pilot

hydrogen and ammonia production plants and large-scale hydrogen projects with international partners. To ensure alignment between hydrogen deployment and the industrialization pathway of Namibia, in order to maximize for instance jobs creation, a series of conditions and priority setting (as formulated hereabove) need to be met. They require extreme and continuous oversight and governance to ensure that interferences of other interests in the reality of contracts and investments will not lead to divert electricity towards options of direct commodity export without enough value addition and jobs creation. Nigeria in turn is taking a slightly different approach to hydrogen as a fossil fuel exporting economy. It currently produces hydrogen modestly, and has plans for green and blue hydrogen projects. The country's industrial decarbonization strategy involves replacing grey hydrogen with green and blue hydrogen in ammonia production and adopting zero emissions fuels for heating. Germany's establishment of a "Hydrogen Office" in Nigeria signifies deepening international ties in green energy. But there are probably more central areas of cooperation on energy access for industrialization than hydrogen.

The emerging electric cooking sector in Kenya in turn shows that domestic market dynamics and political economy factors are critical for new technologies to take root. In Kenya, there is strong competition between providers of different cooking energy services. The sector is at an embryonic stage and faces challenges in institutional embeddedness and market access. A shift towards prioritizing e-cooking at national and county levels is underway, with potential for creating green jobs and even add value in the domestic production of the technology or the provision of a service of access to clean energy for cooking.

Crosscutting Observations

The clean technologies reviewed in Nigeria, Kenya, and Namibia, such as solar and hydrogen, demonstrate growth potential but are at early stages of development. These sectors have not yet significantly contributed to GDP or job creation. However, they may be among the fastest-growing sectors for employment (in domestic production and installation of these technologies), as well as key enablers for triggering industrialization in other manufacturing sectors, including by SMEs and from informal sections of the economy. The market for clean technologies is nascent, and policies to support technology deployment remain highly fragmented. Despite over two decades of solar activity in Nigeria and Kenya, most activity is spurred by imports from China, and only a third of planned on-grid solar in Kenya is operational. Clean cooking has made significant penetration in Kenya, but uptake is still hampered by perceived high costs. The three sectors analysed—solar, e-cooking, and green hydrogen—have high capital requirements, risks, and policy challenges. There are differences in their applications, with solar primarily for off-grid generation and domestic consumption and hydrogen as part of an

international export strategy. These differences shape skills development and employment opportunities. All three sectors can be opportunities themselves for the creation of industrial jobs in the production and use of these technologies. Still, it is also important to question how the deployment of these energy sources can be supportive of an industrialization pathway in other manufacturing sectors for each country. The pattern of geographical deployment of green energy sectors and the type of contracts and arrangements in which they are financed and organized: all these elements are critical to assess if green energy sector development will trigger or, on the contrary, hamper national industrialization pathways. In particular, future demand for energy in a developing manufacturing sector can be a lead market to justify the future profitability of an energy sector investment. The other way around, an energy sector investment at scale is also a guarantee necessary to justify the feasibility and profitability of an investment in a manufacturing industry sector. Hence, investors need to look jointly at investments in energy sectors and in manufacturing sectors.

Table 1. Clean technologies reviewed in Nigeria, Kenya, and Namibia

Sector	Maturity	Business Models	Business and Regulatory Structure
Solar	Low percentage of total energy mix in Kenya and Nigeria, with expectations for higher-than-average sectoral growth.	Dominated by PAYG and power as a service for pico and C&I segments	Primarily downstream business activities. Organized industry associations; relative policy and regulatory fragmentation, particularly in Nigeria.
Green Hydrogen	Not yet commercialized	Exploration models	Policy framework and regulatory development led through inter-ministerial committee. NamGHA is the industry body interfacing with government.
E-Pressure Cookers	Low market penetration	Retail and PAYG.	Cross-cabinet clean cooking strategy under development. Emerging industry association (CCAK).

Key Issues in Africa-Europe Relationship

1. Differences in Priorities and Framing: Africa tends to prioritize its economic diversification and social development, while Europe emphasizes reducing greenhouse gas emissions to meet Paris Agreement targets as a guiding principle both for its own energy security and reindustrialization strategies and for its public support to investments in Africa. This divergence is not necessarily an opposition but leads

to perceived contradictions and a narrow focus on renewables versus fossil fuels rather than examining how, in the current state of play and in each national context, the combination of various technologies can help trigger an industrialization pathway aligned with the SDGs, while avoiding lock-in in technologies that would be contradictory to economic resilience as well as to meet the goals of the Paris Agreement.

2. Value Addition and Supply Chains. Africa seeks to move from supplying raw materials to developing manufacturing capacities but faces challenges in resource management, infrastructure, energy for industrialization and technological gaps. Europe needs access to critical raw materials for its greening agenda and to increase competitiveness, especially in relation to China. This can potentially create a zero-sum game in value and job distribution between the two continents.

3. Colonial Legacy and structural asymmetries in the global economic and financial system:

The colonial legacy creates distrust, with some African experts perceiving EU's green industrialization agenda as centred on its needs for energy security and critical minerals for its transition. The energy crisis and EU's inconsistent stance on gas imports exacerbate these trust issues, and lead to a perception of hypocrisy. The EU's approach tends to depoliticize green hydrogen and other clean technology agreements, not adequately addressing historical responsibilities and power imbalances. Being much clearer about the EU's interests (energy security, reindustrialization, as well as solidarity and climate) would be an improvement in negotiating these arrangements. But it is also important to discuss explicitly critical power issues in the reconfiguration of global supply chains, both in the energy sector and in other manufacturing sectors : which segment of the chain has prescription power, who captures added value and jobs, how can financial flows and investments contracts be more aligned with industrialization objectives on both sides.

4. Just Transition: The concept of a just transition, while shared by both continents, is understood differently. In Europe, the focus was first mostly on displaced workers, although the broader social impacts on both consumers and workers are becoming a core concern domestically. In Africa, it's about lifting millions of people out of poverty by providing access to energy, decent jobs and remuneration in industrial sectors. This divergence may lead to conflicting interests in implementing a just transition agenda with regard to green industrialization, in particular if the allocation of industrial jobs in

supply chains linking Europe and Africa (hydrogen or ammonia, critical raw materials, for instance) is considered as a zero-sum game rather than a joint support to an industrial ecosystem between the two continents.

5. Financing Green Industrialization: Depending of the initial situation of the country, the cost of financing the energy transition in African countries can be high, and access to finance for other investments necessary for an industrialization pathway (infrastructures in general, manufacturing facilities and technologies...) is challenging, in particular given the debt challenges in many emerging and least developed economies. While domestic fiscal policies are important to attract and orient investments, domestic finance will not be enough. The market-oriented catalytic funding approaches, adopted to complement limited development finance, face issues in particular in nascent sectors where sustained investment is needed, such as in clean cooking and solar energy. The conversation on financing green industrialization is mostly inward looking in the European Union, as it is also the case in the USA. But what is specific to the European Union and its member states is that they are particularly struggling with domestic macroeconomic challenges to finance their own transition while restoring their macroeconomic balances post Covid crisis. The issue of access to finance in partner countries in Africa is at risk to become a secondary priority.

African countries also need specific national sustainable industrialization pathways to provide a clear reference point to investments and to align various funding flows, both on energy access and on manufacturing industries, in a mutually supportive manner. But the challenges faced by African countries in defining their own industrialization pathways are not negligible. While not all new, they are reinforced by the current crises in the international financial systems (debt crisis, need for reform of Bretton Woods institution, etc.) as well as by the incipient subsidy race between the USA, China, and the EU race to attract industrial investments. It would be important that the EU support the definition of these national pathways and of adequate policies. Pathways and visions for sustainable industrialization are necessarily context

specific, depending on the country's resources and skills, its embeddedness in subregional and regional markets, as well as its political economy. The EU should also avoid confusion by ensuring that short term funding is aligned with the social prosperity goals of green industrialization.

If not, the African governments feel that Europe is not actually committed to providing adequate finance to help them invest in green industrialization.

6. Industrial and Trade and Investment Policies:

The EU's revival of industrial policy and mechanisms like the Carbon Border Adjustment Mechanism (CBAM) is likely to affect its trade relations with Africa, potentially impacting African industrial development. African governments express that they feel disadvantaged by Europe's trade-related policies and standards and point at inconsistencies with a commitment to just global transitions that respect historical responsibilities and a commitment to help Africa balance between climate and sustainable development goals. While the EU seeks to accompany its trade-related rules and instruments with some complementary clauses and development support measures to help mitigate detrimental effects, particularly on African countries in the current structure of their economy, many African governments perceive the risk for their own structural economic transformation and industrialization pathways and question the hegemony of the ever-expanding EU's unilateral regulations and trade-related instruments. An open conversation about the dynamic impacts of

current and expected trade-related policies on each continent's structural economic transformation would be necessary.

Beyond trade discussions that are already ongoing, the issue of FDI regulation and fiscal policies, on both sides, can also play a key role in orienting the type of financial and contractual arrangements as well as capacities to move up supply chains.

7. Capacity and Technology Diffusion:

Addressing the skills gap and ensuring technology transfer is crucial for the success of green transition and industrialization, particularly in sectors like green hydrogen, as well as in other manufacturing sectors. The current race for securing the provision of energy and critical raw materials could hinder lead to prevent the development of long-term and high-cost transformational programmes at organizational and institutional levels, in which a partnership between European and African operators are considered as the support to an industrial innovation ecosystem linking the two continents, with African partners (including SMEs and the informal sector) equally considered as innovators.

8. Governance Issues and business environment:

Differences in governance priorities impact the ease of doing business and the success of green industrialization. European and African interests vary, with Europe focusing on investment protection and Africa on skills development and resource processing.

Key Recommendations

1. Recognize and Address Differences in Priorities and Framing of Just Transition

European and African countries should explicitly recognize and discuss the differences in their priorities, framing and understanding of key concepts such as climate justice, green industrialization and just transition, as well as what such differences might mean for how they design and implement effective partnerships for sustainable green industrialization in both continents. Deliberations on the just

transition should consider trade-offs and whether it aligns with the interests of African states and populations, including disadvantaged groups, while also being clearer about the interests and objectives of the EU regarding its own green industrialization objectives, as well as its values and principles, notably on gender and youth. It is important to ensure that decisions consider the competitiveness of Africa-based businesses, emphasising skills, capacity development, and technology transfer.

2. Co-Create Transformative Financial Partnership

EU and Africa should pursue radical finance cooperation to finance green transition in Africa, relying on clear national industrialization pathways that combine energy and manufacturing sectors, balancing public and private finance and addressing short-term and long-term funding needs. In doing so, greater attention should be given to supporting transition finance, including the financing of intermediate (or amber) transition, on the pathway towards a more sustainable and greener economy. Beyond finance, such partnerships should address added value and industrial jobs in reconfigured supply chains and evaluate the inclusiveness of norms and standards in finance, investments, and trade to transform barriers into enablers for sustainable practices.

3. Prioritize Green Skills Development and Technology Partnership

EU and Africa should discuss how best to invest in education and skills development programs tailored to key technology issues in major value chains, as illustrated by the example of green hydrogen. The identification of which technology or sector is critical should not be only based on Europe's current needs (energy security or critical raw materials), even if they can be considered an opportunity to trigger industrialization as in the case of hydrogen in Namibia. The criticality of a specific technology should first be linked to an assessment of a specific country's comparative and competitive advantages in order to trigger the industrialization process. Collaboration with institutions locally, regionally, and internationally to nurture a skilled workforce needs to consider short-term and long-term gains. Conducting a green skills gap audit and developing a comprehensive green skills development program is a critical requirement for Africa. Specific attention should be dedicated to fully integrating the gender dimension in any educational and skills development initiative to promote women's empowerment and inclusion.

4. Attracting beneficial investments by improvements in governance and Coordination

Africa and the EU need to work together to enhance governance and coordination through bilateral

investment partnerships and domestic regulatory reforms in African countries, focusing on long-term goals, improving tax collection rates, and creating investor-friendly conditions. They also need to align green investment with economic development goals, as in the case of approaches to leverage productive use of energy (PUE). They should do so in an inclusive and gender-sensitive manner.

5. Involving Local Communities and Non-State Actors in Policy Making

There is a need for Africa, with the support of the EU, to formalize the role of non-state actors, including businesses and civil society, in agenda-setting, policy formulation and implementation processes to ensure inclusion, transparency and real ownership of policy initiatives. The role of SMEs and the informal sector in the very complex process of industrialization makes this inclusiveness even all the more necessary.

6. Enhancing African regional cooperation

By fostering collaboration at the regional level, African countries could leverage collective expertise and resources to overcome common challenges, accelerate the adoption of sustainable technologies and ensure the offtake for both energy investment and manufacturing industrial investments by building strong internal regional markets, and thus drive inclusive economic development. Regional cooperation, through Regional Economic Communities, could help address cross-border issues such as energy infrastructure development, trade facilitation, and harmonization of regulatory frameworks, thus creating a more conducive environment for green industrialization across the continent. Europe can help strengthen African regional organizations' capacity to facilitate collaboration and coordination on green industrialization.

Conclusion

European and African countries can work productively together to mobilize green industrialization. However, they need to address issues of conflict for both parties to achieve the most out of the partnership. By addressing these questions together, European and African countries can have direct conversations about their interests and capacity to deliver on the goals of a green transition.

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