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African Union-European Union cooperation on climate and energy

Discussing perspectives on hydrogen and just transitions

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The views expressed in this paper are those of the authors.

KEY MESSAGES

- Africa and the European Union (EU) have a shared interest in providing reliable and clean energy to their citizens, despite this being a rather heated moment of Africa-Europe relations in the area of climate and energy cooperation. Tensions concern the perceived protectionist slant of the European Green Deal, the EU's "dash for gas" in Africa as part of its strategy to become more independent of Russian imports, and multilateral climate issues, such as at COP27 the balance between climate finance, loss and damage, and climate ambition.

- Hydrogen technologies have been prominent in discussions between the EU and African countries since the 2020 political push for hydrogen in Europe. In theory, cooperation on hydrogen may benefit both continents. Yet, techno-economic issues remain unsettled, and a framework for cooperation needs to be set up that includes both environmental and social criteria, economic benefits, as well as investments in industrialisation for producer regions.

- Just Energy Transition Partnerships (JETPs) have so far been targeted mainly at countries with rapidly growing greenhouse gas (GHG) emissions, such as South Africa and Indonesia. While this is a legitimate focus, it risks leaving out most African countries, in particular the least developed ones. JETPs in Africa could focus on access to clean energy and bring important innovations in terms of country ownership and donor coordination.

INTRODUCTION

Although European and African states successfully cooperated in international climate negotiations in 2011 (Durban) and 2015 (Paris), in recent years, diverging agendas and interests have prevented such collective engagement. Indeed, cooperation on climate change and energy transitions has become a recurring point of conflict in EU-Africa relations. Moreover, the global situation today is significantly different from that of the EU-AU Summit in February 2022.

Both continents have a shared interest in providing reliable and clean energy to their citizens and investing in renewable energies and green transitions. Tensions arise regarding pathways and concrete measures for financing the shift. Russia's invasion of Ukraine further sharpened the energy debate between the EU and Africa, as some European countries have turned to Africa for alternative sources of natural gas. This move has been viewed as hypocritical, considering the EU's push at COP26 to phase out external investment in fossil fuels, including in Africa (though the EU has continued to allow such investment within its own borders). The EU has also expressed disappointment that no further progress was made on phasing out all fossil fuels during the COP27 negotiations. European leaders have portrayed energy diversification as a lever to become less dependent on Russia, while intensifying investments in renewable energies. Some African countries have welcomed the opportunity to get involved, both to improve their own access to energy and to generate export revenues. Yet, other observers warn that Africa's energy investments could become skewed towards serving external markets, as opposed to primarily strengthening energy access and transition for African citizens.

It would be wrong to portray these parties' different interests and motivations as a rift between the continents, as neither the EU nor Africa is a distinct and uniform bloc on these issues. Within the EU and within Africa there are equally important differences in countries' interests, their "energy mix" and their levels of fossil fuel dependence, as well as in the origin of their energy imports. The most recent example of the ongoing debate within and between the continents is Africa's negotiating position for COP27. In July, the AU pledged to use all of its energy resources, both renewable and non-renewable, to meet energy demand. Yet, this position was rejected by the African Climate Negotiators Group for COP27, as it feared it was too controversial and would distract from other important discussions.

One such discussion concerns climate finance and loss and damage (L&D), both of which have been points of controversy between the EU and Africa. On L&D, the EU, which before COP27 rejected the idea of such a dedicated L&D fund, gave up its resistance towards the end of the negotiations and agreed to create a new fund, the details of which are to be sorted out at COP28. Even though this agreement was found last minute, it can be seen as a victory for African countries and the Group of 77, which have demanded a separate facility and urged settlement of these issues.

Meanwhile, Africa's National Determined Contributions (NDCs) remain severely underfunded, in terms of both planned climate mitigation and adaptation. Africa's financial needs for energy transitions are far beyond what the EU is able and willing to provide, despite its considerable financial commitments and high-level international cooperation. The EU is the world leader in climate finance provision. It has committed some 35% of its external action funding to climate objectives and 7.5% to biodiversity objectives under the current 2021-2027 EU budget. This assistance will take the form of both grants and facilitation of wider European investment in Africa. Major EU programmes to stimulate investment in Africa include the Global Gateway Africa-Europe Investment Package, launched at the AU-EU Summit in February, and the EU-Africa Green Energy Initiative, a so-called Team Europe Initiative (TEI), in which the EU, its member states and European development finance institutions combine their various cooperation initiatives with a focus on climate and energy. After being announced at the summit, the EU-Africa Green Energy Initiative was launched at COP27. While the financial volumes to be involved are still unclear, the EU has already announced that Just Energy Transition Partnerships (JETPs) and promotion of green hydrogen will be key priorities.

Against this backdrop, this policy brief analyses policy convergence and divergence between Europe and Africa in the field of climate and energy and identifies areas for further policy debate beyond COP27. Specifically, it examines cooperation efforts and challenges in two areas: hydrogen and JETPs.

HYDROGEN AS A PILLAR OF EU-AFRICA CLIMATE COOPERATION?

Considering that fossil fuels should be gradually phased out under the Paris Agreement, developing hydrogen exports might constitute an economic opportunity for current gas, coal or oil exporting countries in Africa, enabling them to maintain their income throughout the transition. While there are reasons to believe that international hydrogen trade could develop, it would likely not resemble international trade in fossil fuels. Hydrogen is unlikely to become as lucrative as fossil fuels, because it comes from an energy conversion rather than extraction. Producer countries, therefore, would not receive a "hydrogen rent", analogous to the "oil rent" enjoyed by many fossil fuel exporting countries (the difference between oil prices on the international market and the cost of oil production domestically). The economic model for hydrogen exports would be fundamentally different from that for fossil fuels. Additionally, as IRENA research observes, the potential for hydrogen production is not as concentrated as fossil fuel resources, suggesting that the business will be more competitive than fossil fuels, which are geographically quite concentrated.

Hydrogen trade should be considered part of the broader issue of reshaping global value chains for a low-carbon world. While today, industrial production is generally located close to demand centres, in a world where renewable electricity provides a large part of energy supply, it might be more advantageous to locate production close to renewable energy sources, which are difficult to transport. Instead of trading raw materials and energy, supply chains might be broken down into trade of intermediate feedstocks, for example, elemental iron made from the reduction of iron ore using renewable hydrogen in, for example, South Africa instead of Europe. If such shifts in global value chains occur, security of industrial and energy supply to importers also needs to be considered.

Hydrogen technologies have been a prominent topic in discussions between EU and African countries since the 2020 political push for greater consideration of hydrogen's potential in the energy transition. Indeed, the European Commission and several European countries (Germany, France, the Netherlands and Italy) published strategies for the development of hydrogen towards climate neutrality. These documents present visions for hydrogen development by 2030 and 2050, to achieve decarbonisation objectives especially in industry and in the transport sector. They also define strategies towards reaching these goals. With the war in Ukraine contributing to increases to planned uptake, the European Commission, and a few individual EU countries (e.g., Germany and the Netherlands) have pointed to the possibility of imports to supply enough hydrogen for the energy transition, while others (e.g., Spain and Portugal) would like to become exporters of hydrogen to European counterparts. A third group of countries (e.g., France) is not considering hydrogen cross-border trade. The African countries that have produced hydrogen strategies (Morocco and Egypt) have expressed interest in exporting some of their renewable hydrogen to Europe. To that end, Morocco, Mauritania and Namibia are hosting industrial pilot projects with European companies aimed ultimately at exporting part of their production.

Several European and African countries have signed bilateral memoranda of understanding (MoUs) laying the groundwork for bilateral hydrogen trade. For example, Namibia signed an MoU with Belgium at COP26 and with the EU at COP27 for renewable hydrogen to be produced in Namibia and exported to Europe. Hydrogen partnerships with African countries are an important element of the European Commission's external energy engagement strategy which focuses, among other things, on adapting to the "fast-changing... energy landscape [in which]… new commodities such as hydrogen and ammonia will begin to be traded internationally". The European Bank for Reconstruction and Development (EBRD) announced at COP27 that it will fund, through a US $80 billion loan, the first green hydrogen facility in Egypt (and in Africa). KfW (German development bank) has launched a platform to fund green hydrogen projects outside Europe as a basis for cooperation with Germany.

In theory, cooperation on hydrogen may benefit both continents. Many African countries have a large renewable energy potential, unlike Europe, suggesting that trade between the two regions would allow for a better global allocation of renewable energy sources. African countries could produce relatively cheap hydrogen for EU industries, while benefiting from external investments in renewables and hydrogen technologies. This, in turn, could accelerate Africa's industrialisation and deployment of clean energy.

However, techno-economic issues continue to block this theory from becoming reality. As yet, there is no means of long-distance transport of hydrogen, casting doubt on the technical and financial feasibility of global hydrogen routes and whether these could in fact be constructed in time for political ambitions to be met. For distances up to a thousand kilometres, it is supposedly less expensive to transport hydrogen by pipe, as is mostly the case for natural gas today. For longer distance transport, it is possible to transport hydrogen in

liquefied form or as ammonia, although these two methods are less technologically mature and relatively more expensive, according to a recent IDDRI study.

Besides the cost of transport and production, the business case for hydrogen imports from Africa to Europe depends on their end use. While hydrogen can technically be used in a large number of applications, it is often more energy- and cost-efficient to use alternatives and will remain so even as hydrogen production costs decrease, in part because it is fundamentally more expensive than electricity. Hydrogen will thus play a key role in decarbonisation only in certain segments of heavy industry, such as biofuels and fuel refining, the chemical industry and steel, as well as in long-distance air and sea transport, in the form of ammonia or synthetic kerosene (see IDDRI study, 2022). For example, for steel manufacturing, there are few alternatives, and the cost of hydrogen would have little effect on the competitiveness of final steel-based products, considering their cost structure. This suggests that the business case for hydrogen from electrolysis is strong, whereas in long-haul trucking, hydrogen is in a tight race with battery-powered vehicles. This strengthens the case for clarifying the EU's vision on hydrogen end uses, which remains vague for most segments. For example, although the EU's Sustainable and Smart Mobility Strategy sets goals for hydrogen charging infrastructure, greater clarity about the actual role of hydrogen in road transport will be needed to build adequate industrial supply chains.

Whether it is strategic for European countries to support the buildout of supply routes depends on their vision for domestic hydrogen industries. The EU's hydrogen strategy aims for development of a European hydrogen industry that is competitive at the global level. However, this objective is likely to conflict with the EU's ambitious imports target, as European hydrogen producers might have difficulty competing with cheaper imports.

Beyond solving such techno-economic issues, other conditions will need to be met for hydrogen to become a lever for EU-Africa climate and development cooperation. As the hydrogen industry slowly ramps up in the next decade and trade partnerships start to form, the priority is to establish an adequate framework for these conditions to be met. It should ensure shared prosperity for the EU and African countries involved, with strict environmental criteria, including carbon content but also water use and quality. Conditions also need to be formulated regarding energy access of local communities, the allocation of revenues from hydrogen and local community engagement.

STRENGTHENING COOPERATION AROUND COUNTRY-LED JUST ENERGY TRANSITIONS

The investment needs for sustainable development trajectories in Africa are massive, while the financing capacities of African countries have been dwarfed by a succession of crises. According to the International Energy Agency, 600 million Africans still lack access to electricity, and 970 million Africans lack access to clean cooking. Paradoxically, despite their huge needs and potential, Africa and the Middle East receive only 2% of global investment in renewable energy annually.

In the lead-up to COP27, an initiative called the African Common Position on Energy Access and Just Transition, led by the AU Commission and adopted by the AU Executive Council, set out an approach to respond to Africa's energy access and transition needs without compromising its developmental priorities. The initiative emphasises the continued deployment of renewable but also non-renewable resources to meet energy needs on the continent. It also underlines the need to mobilise adequate funding and to establish appropriate regulatory frameworks for the development of large energy markets. The position was presented at the February 2022 AU-EU Summit in Brussels. Some African experts insist on the importance of avoiding development of gas infrastructure in African countries for the sake of supplying Europe's energy security, as such infrastructure could soon become stranded assets.

Importantly, the reality of each country must be taken into account when seeking pathways to clean energy systems. This was confirmed by a recent comparative study commissioned by the Ukàmà platform. Decisions need to be context specific and not dominated by a single narrative. Among the country-specific variables that must be taken into account are electrification rate, the country-specific cost of renewable energy from different technologies, current fossil fuel generation and net exports of fossil fuels (see Mulugetta et al., 2022). Other important context elements are the cost of capital and of electricity from renewable energy can be more than double in one country than in another, while price differences between renewable and non-renewable energy also differ strongly between countries. Many countries moreover face social, economic and institutional uncertainties that influence the potential to deploy large-scale renewable technology.

At COP26, a JETP was announced between South Africa and a consortium of donor countries, mobilising an initial US $8.5 billion to accelerate and support South Africa on its ambitious NDC pathway. Since then, and in the run-up to COP27, the International Partners Group (IPG) and G7 countries have shown interest in expanding the JETP approach. At the margins of the AU-EU Summit in February, a number of African countries were mentioned as potential candidates. However, as COP27 neared, the focus was narrowed to Indonesia, Vietnam, India and Senegal. A new JETP with Indonesia was announced at COP27 with an even bigger consortium of IPG donors, now including Japan, the United States, Canada, Denmark, the EU, Germany, France, Norway, Italy and the United Kingdom.

The main interest of donor countries in replicating the JETP approach seems to be to target countries that are on a rapidly growing GHG emissions trajectory, leading to an emphasis on economically significant emerging countries. While this is a legitimate focus, it risks leaving out African countries, particularly least developed ones. It is worthwhile to discuss whether a similar type of innovative partnership could be imagined in different African countries. There are several interesting aspects of the JETP approach that could be relevant for improving Africa-EU relations.

African energy transitions need to remain African-led and not donor-led, keeping in mind that the vision for African countries when signing the Paris Agreement was to have clean and sustainable energy systems with universal energy access as the end goal. Towards this objective, COP27 launched the Africa Just and Affordable Energy Transition Initiative (AJAETI), an African-led initiative to secure access to affordable energy for at least 300 million Africans by 2027.

One potential strength of the JETP approach is the ability to base investment negotiations around a country-driven and nationally-owned plan with objectives not limited to the energy sector, but responding to the country's overall development and industrialisation needs. Concretely, this means focusing the partnerships around delivering access to modern energy, including clean cooking and industry, while mapping a pathway to the country's long-term decarbonisation objectives and avoiding stranded assets. This suggests that if JETPs or similar partnerships are developed in African contexts, they should have strong links to general national planning. Nonetheless, some ongoing JETP negotiations appear concentrated primarily on concluding a financial package, more or less disconnected from national planning processes.

A second potential strength of the JETP approach is its theory of change: the partnerships are conceived as playing a catalysing role for a step change that unlocks the status quo. This points to the need for a nuanced debate on where a JETP finance push could have the most catalytic effect. Depending on the country context, it could mean investing in underfunded transmission and distribution systems. Or, the focus might be on making clean energies more cost competitive, or in some contexts, on accelerating clean energy access to vulnerable populations.

For JETPs to be a real innovation in development and climate finance, they need to provide an addition in terms of the magnitude, nature and flexibility/modality of development finance, without increasing the debt burden of countries already at risk. This is one of the current criticisms of the South African JETP, as most of the money promised will ultimately take the form of loans. For JETPs to be innovative, they need to overcome classic development and climate finance pitfalls, such as ambiguous accounting and lack of development coordination. Clarity on accounting means, for example, explaining how the JETP links back to the United Nations Framework Convention on Climate Change – particularly developed countries' stated goal of mobilising US $100 billion annually for climate action in developing countries, and beyond that, the whole finance alignment discussion. JETPs could be a way to make progress on donor coordination, because they are based on defining an investment plan corresponding to a country's needs. Donor coordination is a real barrier to a step change, as partner countries continue to signal substantial difficulties in getting international partners at the same table and behind a large-scale nationally owned project.

In terms of stages to follow for just transitions, long-term energy and development strategies will certainly need to align with the 2030 Agenda and the AU's Agenda 2063. As a key aspect of planning, it is critical to estimate potential effects of transitions in terms of poverty and inequality, in order to identify appropriate complementary measures.

The idea underpinning just transitions is that decarbonisation and climate policies need to be fair. For example, a move away from coal should consider

consequences for coal regions and workers. Justice arguments are important not merely for intrinsic reasons, as poverty and inequality are primary policy goals, but also instrumentally, as fairness and justice are the main determinants of climate policy acceptability. Finally, as demonstrated by previous energy subsidy reforms, decarbonisation efforts need to go hand in hand with social improvements.

It is also critical to identify political economy barriers to just transitions and the main interest groups. Energy transitions may challenge the status quo, so it is critical to understand what players might oppose reforms and design policies in a way that addresses these political economy factors. Particular design aspects to consider include appropriate policy sequencing, information and communication campaigns (as demonstrated by subsidy reforms in the past), as well as stakeholder involvement. Citizens represent one of the main interest groups. Making sure that justice and fairness principles are adhered to will be critical for successful energy transitions.

CONCLUSIONS AND AREAS FOR FURTHER POLICY DEBATE

Europe and Africa share interests and objectives for cooperation and joint action in the field of climate and energy. As Europe is looking to diversify its energy imports and Africa represents a high-potential and severely underinvested region, seizing the opportunity to expand cooperation may appear logical. Yet, this is a rather heated moment in Africa-Europe relations in the area of energy cooperation. In particular, African partners perceive confusing signals between the EU's short-term and long-term climate and energy policies.

Moving forward, the EU should build a strong Africa diplomacy based on partnership, and it should structure discussions with African countries not just around the EU's need for imports but also Africa's industrialisation and development needs. On the African side, countries that advocate for gas as a transition fuel should elaborate credible long-term strategies in the UNFCCC context.

Documenting and sharing country-specific evidence for navigating the energy transition and sustainable development could be a key input for a structured Africa-EU dialogue and could help to nuance heated debates and feed into timely phased country energy transition and access plans. Country-specific evidence could also help in building and discussing realistic expectations around hydrogen partnerships that equally benefit the producing and the importing country. ■

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