EUROPEAN COUNCIL ON FOREIGN RELATIONS
ecfr.eu

POLICY BRIEF

SUNNY SIDE UP: MAXIMISING THE EUROPEAN GREEN DEAL'S POTENTIAL FOR NORTH AFRICA AND EUROPE

Laura El-Katiri

February 2023

SUMMARY

- North African states hold great potential to become important partners in Europe's energy transition in the medium and long term.
- The EU and its member states can make stronger use of the European Green Deal to direct investment in North Africa in support of clean energy.
- Governments in the region are worried about the impact of some EU decarbonisation tools, such as the carbon border adjustment mechanism. Europeans can allay some of these fears by providing political commitment, financial investment, and advice on the energy transition.
- New partnerships between the EU and North African states also offer the opportunity to make progress on wider environmental considerations, including biodiversity, and to embed a human rights-based approach.

Introduction

"This generation's defining task," is how the European Commission describes the climate crisis. The European Union has set out to become the world's first climate-neutral economy, aiming first to cut emissions by at least 57 per cent by 2030 and then achieve EU-wide climate neutrality by 2050. To rein in greenhouse gas emissions, in 2019 the European Commission adopted the European Green Deal, a comprehensive transformation strategy for energy, transport, and food supply.

North Africa could become an important partner in Europe's energy transition – should the EU take the right steps in the coming years. North Africa has enormous renewable energy potential, particularly in solar and wind power, whose surplus could be exported to Europe with relative ease. While not a short-term solution to Europeans' fossil fuel woes following Russia's invasion of Ukraine, clean electricity from North Africa would be an important medium-term option to help diversify Europe's energy mix and reduce reliance on imported fossil fuel in the long term.

North Africa is also a promising place for the future production of green hydrogen, an energy source that is likely to be essential for the EU to fulfil its climate goals in hard-to-decarbonise sectors. And the region is also home to critical raw materials (CRMs) necessary for the energy transition, offering the EU the opportunity to further diversify its supply chains for clean energy technologies. North Africa's young and well-educated workforce also offers the EU not only a potential workforce for technology manufacturing closer to home than Asian markets, but also the skills necessary for meaningful cooperation in areas such as research and development (R&D).

All this needs to proceed while also assisting states in North Africa to reduce their own carbon emissions, including in energy-related technologies. Currently, governments in this region, as elsewhere, are apprehensive about the EU's proposed carbon border adjustment mechanism (CBAM), which they fear will unduly impact on their economies. Closer cooperation between European and North African states can help alleviate these worries. The EU will need to assist them to produce energy and other products that do not fall foul of the CBAM, and which in turn create jobs, increase national prosperity, and strengthen national governments' budgets. This cooperation can also promote intra-regional integration of trade and networks between North African states, further supporting their economies.

The European Green Deal represents an important umbrella opportunity to pursue this transformation on both sides of the Mediterranean. This policy brief identifies those parts of the European Green Deal that can benefit EU states and North African countries by helping

them build mutual long-term energy security and secure environmental benefits. It also examines the main obstacles for the EU to overcome, including the operational challenges in local investment environments and how the bloc can ensure it builds a rights-based approach into its engagement on the European Green Deal.

North Africa's energy potential

The countries of North Africa have significant solar and wind resource potential, are strategically located between Europe and sub-Saharan Africa, and maintain solid political and economic links with European states and businesses. The region could become an important player in clean energy value chains.

North African governments have previously shown interest in partnering with their European counterparts on clean energy, as electricity generated from renewables could be economically and politically attractive. This is particularly the case for Morocco and Tunisia, which are net importers of energy. North Africa is also highly vulnerable to climate change impacts, including rising sea levels, increased droughts, desertification, and extreme weather events, all of which will affect North Africa's water and food security, as well as its energy security: Morocco and Egypt have a high degree of reliance on hydropower. Green energy and its related value chains dovetail with the policy priorities of some North African governments, including attracting foreign investment, promoting economic diversification and job creation, developing new export sectors, and, in cases such as Morocco, Egypt, and Tunisia, positioning themselves internationally through 'green' leadership.

Clean tech innovation fits well with the policy priorities of all North African governments, which wish to create skilled jobs for their young, well-educated populations, especially in scientific fields. The region has a ready talent pool for R&D and a large cohort of skilled workers for more labour-intensive tasks, and so its labour markets can support innovative industries. European investors and technology developers could use existing research capacity in North Africa to cooperate on low-carbon technologies, including to find solutions that the region's sub-Saharan neighbours could also apply. North Africa's geographic position could also help strengthen and diversify European supply chains to raw materials producers in sub-Saharan Africa. Morocco, for example, has been negotiating with European electric vehicle battery manufacturers to set up a plant in the country, aiming to integrate its cobalt production with an existing strategy of developing its automotive sector. Such forms of cooperation could yield positive results for both sides.

For their part, before all these benefits can materialise, North African countries will need to overcome the political deadlock that exists among some of them. This has long hindered cross-border cooperation and energy trade. For example, neighbours Morocco and Algeria, two of North Africa's largest electricity producers, have had decades of difficult relations. In recent years, tensions about their shared border have resurfaced, as have tensions about the long-disputed territory of Western Sahara, where Moroccan control is contested by pro-independence movement, Polisario, which receives support from Algeria. At the other end of the region, Egypt is an attractive partner for trade in renewables-based electricity as it is in the Maghreb Electricity Committee (COMELEC) area, but the country is de facto cut off from the rest of North Africa neighbours by Libya, where political instability has made the use of the Egyptian power grid for regional electricity transfers impossible. As this particular situation is unlikely to change in the foreseeable future, the most likely partners for Europeans in the near-term will be Morocco, Algeria, and Tunisia, though policymakers in Europe should also acknowledge the possibility of cooperation with Egypt. Libya would certainly benefit from new energy partnerships with Europe, but in view of the current situation, such cooperation is some way off.

North Africa's governments also have a stake in protecting their access to Europe for existing exports such as agricultural produce, manufactured goods, and fossil fuels. From 2026, the EU's incoming CBAM, which levies charges on carbon-intensive products, has the potential to negatively affect trading partners in the southern Mediterranean. But equally, Europeans could help North African states benefit from the relatively lower carbon-intensity of their products compared with products made further away. Morocco and Tunisia are already positioning themselves in this way by increasing the share of renewables-based electricity generation.

Clean energy industries and their value chains have much to offer North African countries, especially if the region's governments make progress on integrating their regional electricity markets, regional harmonisation of technology standards, and, in the long term, cooperation over third-party pipeline access. In addition, given the region's importance to other parts of the African continent, this growth potential extends beyond power generation. New revenue streams could, if well managed, also enable governments to implement wider reform, such as restructuring utility and energy markets, reducing energy subsidies, and overhauling social security systems.

Europe's interest

As partners in such significant new industrial development in North Africa, Europeans would increase their access to clean energy and potentially diversify their supply chains for clean energy technologies. In addition, they would have greater access to policy circles in North Africa and would be able to strengthen their advocacy of democratic reform and governance alongside advancing the EU's own climate and environmental goals. Without strong European engagement, North African countries are likely to rely on other, dominant suppliers in clean energy value chains, particularly China.

The EU has the tools to turn the green transition into a social and economic opportunity beyond Europe's borders, and create an engine for recovery in the aftermath of the global covid-19 pandemic. The European Commission has emphasised that the EU alone will not be able to achieve the climate and environmental ambitions of the European Green Deal.

The EU and North Africa have worked in strategic partnership for many decades; they are connected by geography, trade and investment, financial and development aid flows, and diplomatic links. North African states are part of the EU's neighbourhood policy in the southern Mediterranean and the Union for the Mediterranean, which includes cooperation on biodiversity conservation, climate action, and sustainable energy. From the EU's perspective, this partnership reflects both economic and political interests, ranging from access to North Africa's natural resources and maintaining political influence to try to control migration across the Mediterranean into the EU.

The EU does not currently use the European Green Deal umbrella or other climate finance facilities to promote collaborative investment in clean tech. It should seize this opportunity while also adopting a common long-term vision for North Africa's existing pipeline infrastructure (to transport natural gas, switching increasingly to hydrogen as it becomes viable). Together, these could form the backbone of a realistic long-term strategy capable of gaining political support in Algeria, and perhaps in a future, post-conflict Libya: both countries remain highly reliant on hydrocarbon exports and are thus most sceptical of Europe's energy transition. This policy could also support other European strategies under the European Green Deal, such as REPowerEU, a European Commission plan comprising numerous measures to end European dependence on Russian fossil fuels, by "fast-forwarding the clean transition," working with new partners around the world.

EU member states also have their own long-standing plans to transition from fossil fuels towards cleaner energy through a mix of national and Europe-wide strategies. They have also partly engaged bilaterally with North African countries in this context. North Africa has

previously been heralded by politicians and scientists as a source of clean electricity for Europe, embraced, for example, by the now-abandoned German-led Desertec Industrial Initiative, which planned to build a network of Saharan solar projects.

The European Green Deal aims to scale up the commercial application of breakthrough clean technology innovation. By diversifying supply chains in this sector, the EU hopes to reduce its reliance on the dominant players, including the United States and China. North Africa's skilled labour force gives countries there the potential to become important partners in this endeavour. Europeans should seek to build secure, cost-effective, ethical, and sustainable supply chains for transition-related technologies under a common umbrella framework.

Horizon Europe, the EU's research and innovation programme, could also be an important instrument to support R&D in North Africa. It contains a focus on climate change and the UN Sustainable Development Goals, and offers a separate funding stream for research and innovation, including a pool of more than €90m to disburse between 2021 and 2027, which is open to non-EU countries. European policymakers would need to consider how to 'sell' the resulting job creation back home; political leaders may face questions about public money being used to create green energy jobs outside the EU. However, they would be able to point to the importance of supporting stability in, and reducing migration from, Europe's southern Mediterranean neighbourhood and securing access to new clean energy technology value chains.

The war in Ukraine means North Africa could again become a focus region for intensified inter-regional trade in renewables-based energy. Although this would be a medium-term process, developing renewables-based electricity exports – and, possibly, hydrogen – could in the future offer an alternative to importing more (Russian or other) natural gas, in addition to increasing supply chain security in the long term.

There is already significant interest in North Africa in these issues, as shown by, for example, the signing of the EU-Moroccan Green Partnership in October 2022. This, as well as a potential similar partnership between the EU and Tunisia, which is currently in development, could benefit from more European engagement. To do this the EU should make use of existing provisions under the European Green Deal and similar tools, including the Sustainable Europe Investment Plan, the Just Transition Mechanism, the European Biodiversity Strategy, and Horizon Europe, to promote 'green' development in North Africa.

Closer cooperation could also address significant environmental concerns relating to energy production in North Africa. For example, according to the International Energy Agency (IEA), the combined methane emissions of Algeria, Egypt, and Libya were around 10m tonnes in

2019, or 12 per cent of global oil and gas methane emissions. The region also releases more than 10 per cent of global flared gas volumes, which the IEA has called "a major wasted economic and environmental opportunity". (Gas flaring is the burning of gas associated with oil extraction.) It estimates that some 40-55 per cent of the region's methane emissions could be avoided at no net cost, noting that there are "ample, cost-effective opportunities" to reduce them. Finally, Morocco uses emissions-intensive coal-fired power generation that leads to carbon leakage in Spain, where Moroccan coal-fired power exports undercut Spanish producers.

Moreover, Europe's capacity to channel large-scale investment into clean energy technologies and value chains in North Africa also comes with political and ethical obligations as well as legal constraints. These include the will to tie green partnerships with external trade partners to a rights-based approach that ensures European green investments are not instrumentalised by governments in the region to legitimise repressive rule. The way the Egyptian hosts of COP27 dealt with NGOs critical of the government in the run-up to and during the event illustrates the large differences with EU states in political attitudes towards issues such as inclusiveness, representation, civilian rights, and institutional accountability. Such matters may prove to be a challenge when implementing large 'green' investment projects in North Africa in the future.

Trust and distrust

In March 2022 the European Council agreed to introduce the CBAM, an instrument designed to drive down the carbon intensity of products. The measure is likely to affect all of the EU's trade partners, many adversely. The CBAM follows the European Green Deal's already-stipulated new regulatory standards, such as for agricultural products: the Farm to Fork policy package aims to make agricultural produce more sustainable. However, both policies erect additional non-tariff barriers for North African agriculture and other products exported to the EU.

North African states comprise the EU's largest goods trading partners in Africa, exporting items that range from agricultural products and fertilisers to textiles and manufactured goods. From 2026, fertilisers and electricity will require CBAM carbon certificates. Agricultural products, too, may face increased hurdles to access the European market, unless North African agricultural producers find ways to increase compliance with EU standards in the European Green Deal regulations. Still, North Africa's proximity to the European market will likely prove an asset relative to agricultural producers located in other parts of the world, because it means shorter journeys and therefore potentially lower emissions.

European cooperation with North African trade partners through European Green Deal mechanisms could focus on tools and forums that assist governments and companies to reduce emissions on exports to Europe. In this sense, the European Council's proposed dialogue with third countries through a new G7 "climate club" would be a forum for discussing carbon pricing policies and solutions for developing country trade partners of the EU. The European Green Deal could, for example, provide financial support to North African partners to invest in reducing the carbon footprint of key industries – and to address the region's high methane leaks. EU institutions could give guidance on in-country regulatory changes and provide financial support for energy efficiency schemes so manufacturers can change to be able to export to Europe.

However, if the North African public perceives these programmes merely as instruments for European environmental (and political) priorities, they are unlikely to accept them, and policymakers too will shy away from engaging with them. European and North African decision-makers will therefore need to ensure such policies are accompanied by genuine local and national dialogue with, and information dissemination to, government entities, industries, businesses, and the public about the risks and benefits of new environmental standards. This is a challenge worth taking on: EU-North Africa cooperation has great potential to make environmental protection mainstream by achieving clear reductions in environmental pollution, improving air quality, and agreeing credible environmental designations of protected areas. The political visibility of such cooperation on both sides of the Mediterranean would elevate environmental and climate action into a key tool to foster sustainable development, industrialisation, and job creation.

Main opportunity areas

The EU and member states should consider pursuing options for trade in four types of energy area: wind and solar power, bioenergy, green hydrogen, and natural gas as a transition fuel. Significant opportunities also exist with CRMs, which are vital to modern technologies, including in the clean energy sector.

Wind and solar power

North Africa has some of the African continent's greatest potential for solar and wind power. The figures tell their own story. The annual average solar irradiation in the region is around 2,200 kilowatt hours per square metre; wind speeds average a high 7 metres per second, and 9.5 metres per second in Algeria, according to the International Renewable Energy Agency (IRENA). IRENA estimates the installable capacities as 2,792 gigawatts (GW) for solar and 223

GW for wind – which is more than 12 times the total installed electricity generation capacity in Africa and more than two and a half times Europe's entire electricity output in 2021. This immense potential, alongside its proximity to the European market, means North Africa is Europe's most important potential future trading partner in renewable energy.

Falling costs for investment in solar and wind energy in North Africa make these technology options highly cost-competitive in the near term. The average installation cost of solar photovoltaic panels (PV) in North Africa fell from $2,000 per kilowatt (kW) in 2015 to $1,306/kW in 2019, and for wind from $1,795/kW in 2015 to $1,448/kW in 2019, according to IRENA. The agency says that costs for solar energy in North Africa could fall further through utility-scale deployment of battery power plants. This could be a game changer for renewables deployment across the region.

The infrastructure enabling electricity trade across the Mediterranean is already largely in place. EU and North African states could work together to expand this relatively easily. Two direct grid lines run between Spain and Morocco; a third line was agreed in 2019, to be operational by 2026. Trade in renewable electricity between Europe and North Africa is therefore a realistic near-term option.

North Africa's national electricity systems are also interconnected, meaning that the technical preconditions are in place to ramp up intra-regional electricity trade. There is also potential to make use of intra-regional differences in demand peaks and weather-related variations in renewable energy generation between the southern Mediterranean's east and west: COMELEC includes Algeria, Libya, Mauritania, Morocco, and Tunisia, but coordination is sporadic and electricity transfers between states remain limited. Nonetheless, the frameworks exist for countries to export a portion of their electricity and earn new revenues. With technical assistance from EU partners in commercial electricity trading, such sales could play a critical role in encouraging more cross-regional electricity flows and political cooperation.

Several national grids in North Africa are also linked to neighbouring regional power pools or countries. This means that the option exists to expand future renewable energy trade and exchange beyond North Africa – thus potentially increasing markets for North African clean electricity. Morocco's grid is linked to the West African Power Pool, which also covers: Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea-Bissau, Liberia, Mali, Mauritania, Nigeria, Senegal, Sierra Leone, and Togo. Egypt is linked to the equally extensive Eastern Africa Power Pool, which is made up of: Burundi, Djibouti, the Democratic Republic of the Congo, Ethiopia, Kenya, Libya, Rwanda, Sudan, Uganda, and Tanzania. In 2021, Egypt and

Saudi Arabia signed an agreement to build an additional interconnection across the Red Sea, giving Egypt access to another large electricity market with substantial renewable energy plans.

Biofuels

Europe could also look to North Africa, particularly Egypt, for cooperation on bioenergy, such as the use of biofuels in transport. In 2021, the EU updated its Renewable Energy Directive (RED) and made it legally binding, introducing new rules and targets to take account of the risks the biofuel market poses to cropland and carbon sinks such as forests and wetlands. It seeks to curb fuels at risk of high "indirect land use change" (ILUC) and sets criteria for the certification of low ILUC-risk bioenergy, and other sustainability criteria. These changes will likely make it harder to source biofuels from traditional established channels. Therefore, the EU needs to look to other countries to source bioenergy that meets the sustainability criteria.

Sustainable biomass feedstock such as agricultural residues and organic waste are available in North Africa provided that supplies are backed by proper certification. European countries could secure a source of biofuel to meet the EU's REDII target that 32 per cent of energy consumed should be from renewables by 2030. Collaborations could focus on improving certification, engaging local producers, ensuring the sustainability of exports, and building export markets. North African bioenergy producers could apply various independent certificates to demonstrate compliance with EU requirements, while North African governments and the EU could, in parallel, partner to work on environmental projects and the extension of protected areas financed by European Green Deal-linked funds, the EU Biodiversity Strategy, and the European Climate Fund.

Green hydrogen

Hydrogen is a relatively new energy carrier whose importance will likely increase over the coming decades. It can be generated from a variety of existing energy sources, including fossil fuels. Most relevant for the energy transition is "green hydrogen," which is hydrogen generated by using renewable energy. By enabling the conversion and transport of clean energy in a form other than electricity, green hydrogen could in the future support the decarbonisation of hard-to-electrify – and thus hard-to-decarbonise – sectors, in particular energy-intensive industries such as steel, aluminium, and (petro-)chemicals. Europe will likely become a major green hydrogen market and North Africa is a nearby, potentially low-cost supplier. IRENA believes Africa and the Middle East to have some of the highest technical potential for green hydrogen production, based on renewable potential and the cost of

electricity. It lists Morocco as one of the countries best placed to become a green hydrogen producer by 2050, along with Australia, Chile, Saudi Arabia, and the US. North Africa also holds a strong advantage as it would be able to transport hydrogen relatively efficiently and cost-effectively along existing gas pipeline networks to Europe, especially if compared to exports from sub-Saharan Africa or the highly inefficient transport of liquefied hydrogen from overseas.

Both Morocco and Egypt have already launched ambitious plans for the production and export of green hydrogen. In 2019, Morocco created a National Hydrogen Commission and in 2021 published a green hydrogen roadmap, which envisages a local hydrogen market of 4 terawatt hours (TWh) and an export market of 10 TWh by 2030. This would require the construction of 6 GW of new renewable capacity and support the creation of more than 15,000 direct and indirect jobs. Egypt recently announced plans for a $5 billion project for producing green ammonia. Morocco's and Egypt's longstanding experience with electrolysers in existing hydropower production has drawn the attention of international investors.

Egypt already has partnership agreements and memorandums of understanding (MoUs) with several European countries (see table). Morocco has an existing bilateral trade agreement with Germany, which includes German support to build Africa's first green hydrogen plant, including investment in knowledge transfer and R&D. Both sides also cooperate within the framework of the Green Ammonia project: this aims to develop processes and technologies to efficiently produce green hydrogen and green ammonia as sustainable raw materials for the fertiliser industry.

Hydrogen projects in North Africa

Country	Project/Agreement	Date of agreement	Characteristics and targets
Morocco	Agreement for the development of an ammonia and green hydrogen project (HEVO Ammoniac Maroc) between the Ministry of Energy and Mines, Fusion Fuel Green, and Fusion Fuel and Consolidated Contractors Group S.A.L. (CCC).	July 2020	Green ammonia: 3,650t in 2022, 60,000t in 2025 and 2026. Hydrogen: 616t in 2022, 3,472t in 2023, 6,940t in 2024, 10,411t in 2025 and 2026. Investment: €865m.
	Partnership agreement on green hydrogen between Moroccan and German governments.	June 2020	100 megawatts (MW) renewable energy plant to produce green hydrogen in Morocco.
	The Moroccan Agency for Solar Energy (Masen) plans to develop a hybrid PV/wind	November 2020	Electrolysis capacity 100 MW. 2022: finalisation of the feasibility study and tendering process.

	power plant to supply a green hydrogen plant.		2024-2025: commercial launch of the site.
	Agreement between Moroccan and Portuguese governments for the development of green hydrogen.	February 2021	
Egypt	MoU between Egypt's Ministry of Electricity and Renewable Energy and Siemens.	January 2021	To assess the production of green hydrogen in Egypt and the implementation of a pilot project.
	Cooperation agreement between Egypt's Ministries of Electricity, Petroleum, and the Navy and DEME (Belgium).	March 2021	To investigate producing green hydrogen in Egypt and exporting it.
	Agreement between Eni, the Egyptian Electricity Holding Company, and the Egyptian Natural Gas Holding Company.	July 2021	To conduct a study to assess the feasibility of projects to produce green and blue hydrogen in Egypt.
	MoU between Siemens and EEHC.	August 2021	To launch a green hydrogen pilot project with an electrolysis capacity of 100-200 MW.
	Partnership between Scatec (Norway), ammonia company Fertiglobe, and the Sovereign Wealth Fund of Egypt.	October 2021	To develop a 100 MW green hydrogen plant for ammonia in Egypt.
	MoU between Egypt's Ministry of Electricity and Renewable Energy, the Ministry of Petroleum and Mineral Resources, and the European Bank for Reconstruction and Development to assess low-carbon hydrogen in Egypt.	March 2022	Assessment to produce guidelines for the national low-carbon hydrogen strategy.
Tunisia	MoU between Tunisian and German governments.	December 2020	To establish a Tunisian-German alliance on green hydrogen.
Algeria	MoU between the state-owned oil company Sonatrach and Eni.	March 2020	To develop a pilot project to produce green hydrogen in Algeria.

Source: Planning and prospects for renewable power: North Africa, IRENA

Europe's and North Africa's existing natural gas pipeline network currently comprises:

- the Enrico Mattei ("Galsi") pipeline, which runs from Algeria via Tunisia to Italy.
- the Pedro Duran Farell ("Maghreb-Europe") pipeline which runs from Morocco to Spain.
- the Medgaz pipeline, which runs from Algeria to Spain.
- the Greenstream pipeline, which runs from Libya to Italy.

This existing pipeline network could in future transport green hydrogen across the Mediterranean. It offers a technologically and (probably) economically viable option for the otherwise difficult long-distance shipment of hydrogen. It would give North African fossil fuel exporters an alternative to natural gas exports as the energy transition gradually reduces European demand for gas in the coming decades.

Natural gas as a transition fuel

The European Commission has endorsed natural gas as a transition fuel that can contribute to the decarbonisation of the EU economy. Under the European Green Deal, the commission pledged to facilitate the decarbonisation of the gas sector, including by enhancing support for what the EU considers "decarbonised gases" and "a forward-looking design for a competitive decarbonised gas market, and by addressing the issue of energy-related methane emissions."

North Africa will not be a source of immediate relief for Europe's gas supply worries. Algeria lacks short-term production expansion capacity and there are capacity constraints in existing pipelines between Spain and the rest of Europe, which currently limit market access for North African gas via Spain to the rest of western Europe. In Libya, political instability has constrained exports and will most likely continue to do so. Egypt's new natural gas discoveries in recent years could help increase its natural gas exports in the near term, in the form of liquefied natural gas (LNG), which Europe can more easily import as transport capacity issues are more readily solved than challenges with pipeline gas. But, overall, North Africa's output will not plug Europe's immediate gas supply shortfall.

Crucially, the EU's prioritisation of natural gas as a transition fuel could help alleviate political concern in North Africa about the European Green Deal as a tool that drives down demand for fossil fuels, which hydrocarbon-producing governments in the region worry will lead to an accumulation of stranded assets. For countries still reliant on fossil fuel exports – Algeria and, to a lesser extent, Egypt – European gas demand alongside support to develop replacement industries could be a major selling point of the energy transition.

This approach offers scope to reconsider ways to secure existing and future North African gas exports. By guaranteeing EU export markets for North African gas in the medium term, the EU could offer Algeria incentives to explore a medium-term production increase through 'debottlenecking' and reducing flaring. Expanding existing gas pipeline links between Spain and its European neighbours could enable Spain's existing LNG import capacity to ease bottlenecks in Europe's western pipeline capacity. This would result in more western European access to LNG, given current bottlenecks both in LNG import infrastructure in western Europe and in pipeline links within western Europe. Germany and Spain have recently engaged in bilateral talks to explore the option of a possible European pipeline expansion from Spain across the Pyrenees towards central Europe.

Critical raw materials

Geopolitical tensions have stoked concern in Europe and elsewhere about reliable and unhindered access to certain raw materials. This is true for CRMs, which are economically important but have fragile or insecure supply chains. CRMs are essential for clean energy technologies such as solar panels, wind turbines, electric vehicles, energy-efficient lighting, and green hydrogen. The EU has identified access to them as "a strategic security question for Europe's ambition to deliver the Green Deal". The EU's 2020 list of CRMs identifies 30 raw materials deemed "critical", including cobalt, lithium, phosphorus, and rare earth elements.

Some CRMs are present in North Africa, in particular phosphates in Morocco. The country was the world's second largest producer of phosphates in 2020 and holds roughly 75 per cent of global reserves. Phosphate deposits are also found in Algeria, Tunisia, and Egypt. Other CRMs are deposited in smaller quantities across North Africa, including barytes (or barium sulphite) – a mineral mainly used in drilling fluids but also in specialist paints, concrete, and medicine – and cobalt. Morocco was the world's third largest producer of barytes in 2020, accounting for 15 per cent of Europe's supplies.

Like all mining operations, CRM production entails significant environmental risks and impacts on local communities. There are risks to health, and livelihoods may be jeopardised by land grabs. Morocco has carried out tree planting to remediate areas near to mining operations. The European Green Deal must ensure financing, investment, and trade agreements comply with clear and verified environmental and human rights-based standards for sustainable and ethical mining. Including CRMs under the European Green Deal umbrella could help communities to benefit from the development of local resources.

CRMs are also politically controversial. A significant share of Morocco's natural resources, including its CRMs, are found in Western Sahara, including phosphates. Recent renewed hostilities between the pro-independence Polisario and Morocco could complicate mining and exports. Foreign companies may be wary of investing or operating in Western Sahara because of the determination of the United Nations' legal counsel that any exploitation of the territory's natural resources "in disregard of the interests and wishes of the people of Western Sahara would be in violation of the principles of international law".

Finance

To attract corporate investment, different industries, technologies, and value chains will require varied and specific support. The benefit of using European Green Deal-related tools and mechanisms is that the EU has a large range of means at its disposal, although their application has been limited. Countries such as Algeria, Egypt, Morocco, and Tunisia have made many of their emissions cuts, and their renewable energy plans as part of their nationally determined contributions, conditional on the availability of sufficient funding.

Development finance institutions have a critical role to play in improving access to energy in North Africa, especially by enabling more electrification of household energy and finance for rooftop energy solutions. On the EU's side, the use of explicit financing tools such as Horizon Europe is an option: it could make finance available at more affordable rates, as the African Development Bank and the World Bank Group do. Many European Green Deal-linked financing tools already allow for financing in third countries, so the EU could activate these provisions by engaging in supportive bilateral talks and proactive strategies to build industries with export markets in Europe.

Another way to support investment in green energy technologies in North Africa, and clean energy trade, would be to extend existing subsidy schemes for green energy consumption within the EU to imports from North Africa. This could help avoid the pitfalls encountered in past projects such as the Mediterranean Solar Plan and the Desertec Industrial Initiative, which at the time had to contend with widespread subsidies for solar and wind projects inside the EU, which were designed as protectionist, and thus discriminatory, policies that turned out to be a significant obstacle to those projects.

So far, the EU and its member states have hesitated to deploy such funds proactively through partnering with developing countries. The European Green Deal and its associated financing mechanisms will face the same story unless Europeans invest more serious effort in better coordination between different policy tools and financing mechanisms. Underpinning this should be a clear political vision on the part of the EU for how to use these funds for the benefit of developing countries.

To spur investment in clean energy in North Africa, third-party access to energy transport infrastructure such as pipelines will be essential, including access to transmission lines and pipelines. This is a contentious issue within both Europe and North Africa, as built pipelines are owned by the commercial companies that originally constructed them, and third-party access will require negotiation with these companies (and their governments). It will likely also require a change in regulation as well to facilitate third-party access. Within Europe, the Third Energy Package may also complicate trade in gas imported by any one European country with third countries, and future gas

trade across Europe will likely require additional regulatory changes. Nevertheless, tackling this is essential in order to maximise investment flows. EU negotiators should therefore include third-party access as a condition of furthering clean energy trade so that the stipulation covers European companies and North African trading partners.

Recommendations

As they aim to meet the goals of the Paris Agreement, European and North African states have great potential for complementarity in the transition from fossil fuels to clean energy. However, at present the EU's southern Mediterranean neighbours are inclined to perceive the energy transition in Europe, especially the CBAM, as a challenge to their own economies. This is all the more reason to adopt an inclusive approach and extend to them the European Green Deal's related financing and partnership mechanisms. This will minimise friction and create a huge shared economic, environmental, and political opportunity.

European states' capacity to support their neighbours' decarbonisation efforts – financially and technologically, as well as through other partnerships such as in areas of research collaboration – could help provide North African leaders with important financial and political arguments to push for the transformation of their national energy sectors. This is true for North African countries with limited fossil fuel resources, in particular Morocco and Tunisia, which would be important 'winners' of a transition towards new energy sources. It is also true for North Africa's fossil fuel producers – Algeria and Libya – whose politicians struggle much more in making choices between climate goals and the spectre of large-scale job and income losses.

With so many problems, what are the solutions?

Mapping the problems and the potential

A mutual, and mutually trusted, process of due diligence should start by mapping out areas of concern and interest for both EU and North African governments. The process should cover areas where policymaking may easily fall prey to commercial interests. It could require its own dedicated institution.

The European Green Deal should aim to stimulate developments in the following ways:

Partnerships: Meaningful partnerships are key to making the European Green Deal a credible policy mechanism capable of practical action. The EU and North African states should therefore set up a forum for two-way communication, information sharing, and implementation. This is equally true even if Morocco and Tunisia become EU Green Partners,

a status that should be tied to credible commitment and cooperation on environmental protection, biodiversity conservation, and climate action.

Progress will need to be demonstrable, and making it so will entail pursuing some difficult political processes touching on other sources of discontent in North Africa: data transparency; public access to information; public communication by government agencies; and free speech. Controversies exist over how far media and civil society organisations are able to present critical local viewpoints on land tenure and development, biodiversity conservation, infrastructure development, and civil rights. Making sure a European Green Deal partnership framework does not encourage or legitimate greenwashing will be critical to its success. European policymakers should therefore pay close attention to projects with European involvement, such as access to North African CRMs, and ensure they only receive support if they conform to the necessary standards and safeguards.

STEM R&D, jobs, and capacity building: Technical cooperation, knowledge exchange, and R&D – possibly co-funded by the EU – could promote capacity building in science, technology, and public administration and bring the ultimate benefit of significant job creation across North Africa. There are many practical elements to such programmes, some of which are relatively easy to implement: for example, student scholarships, research grants, and easing work and travel restrictions in Europe for relevant professions.

Trade facilitation: This will be particularly helpful to assist North African companies to adapt to the CBAM, especially small and medium-sized firms. CBAM compliance could be facilitated by EU financial support to help companies in North Africa's growing private sector to improve their energy efficiency, especially in core sectors such as agriculture, manufacturing, and utilities. Cross-Mediterranean cooperation should also focus on policy support for alignment with laws and regulations that conform to European Green Deal prescriptions. Both moves would benefit the region's R&D and private firms.

Market regulation: Multiple areas could gain from policy support that, combined, can play a powerful role in making the energy transition achievable. These include: exiting fossil fuel output and use, in particular coal which is still used in parts of North Africa; an end to fossil fuel subsidies and their replacement with financial aid for low-income households and clean energy technologies; electricity sector reform; and capacity building in national and local bodies. Reforming the electricity sector may include designing competitive auctions for renewable energy projects, legal and regulatory frameworks for independent power producers, and policies to support decentralised energy, such as rooftop solar.

Building trust: This will be key to success and depends on the presence of genuine partnerships that meet the needs of North African countries and deliver the support they request. A European Green Deal partnership umbrella between the EU and its southern neighbourhood is a political and diplomatic project as much as an economic one. Both European and North African decision-makers will need to support human capital, pursue transparent and nimble collaborations, and support scalable solutions that serve local value creation. Clear, transparent safeguards will be needed to protect the environment and human rights, especially when new large-scale developments require access to land, water, and local labour.

Synergies and planning for scalability

The European Green Deal will only be a successful tool for climate and environmental action in North Africa if it is accessible to people in the region and helps support meaningful projects and scalable solutions. One of the first steps could be for governments on both sides to identify such synergies, and to explore avenues in which the European Green Deal could make a difference in the specific context of each individual country. Applied well, the regional umbrella it provides could be transformative in its scale and ambition. It could leverage synergies with the following initiatives: the African Development Bank's New Deal on Energy for Africa; the Africa Renewable Energy Initiative; the Africa Power Vision; the African Clean Energy Corridor; and the African Union's new African Single Electricity Market. It could also build on global development projects and initiatives, such as the UN Secretary-General's Roadmap for Digital Cooperation and the African Union's Digital Transformation Strategy for Africa (2020-2030).

In such ways, the EU should link European Green Deal initiatives with existing programmes. This will demonstrate the multiplying power of regional action, as successful programmes could later be expanded to neighbouring regions, such as countries in west Africa. It could also eventually support a post-conflict Libya.

Environmental protection and enhancement

Extending European Green Deal mechanisms to North Africa could help address negative impacts from the region's fossil fuel production, whose emissions from oil and gas are among the highest in the world. The EU could couple financial support with formal requirements to reduce methane emissions and other environmental impacts from oil and gas production. It could ask potential new oil and gas producers, such as Morocco, to commit to a ceiling for methane emissions, especially from flaring. The EU should draw up dedicated programmes

to incentivise action, such as an emissions trading system that rewards greenhouse gas reductions or supports investment in relevant technology. New agreements with the EU or member states for purchases of gas as a transition fuel (see below) could be tailored to incentivise the capture of flared gas. Effective support could soften the political hostility to the European Green Deal in the region. A policy forum linked to such a joint body would enable policymakers to discuss contested issues, such as fisheries.

Many other existing EU initiatives would fit under a European Green Deal umbrella partnership. One such is NaturAfrica, which supports biodiversity conservation in Africa and EU global commitments under the Convention on Biological Diversity. It aims to protect ecosystems, fight wildlife crime, and increase financial flows to developing countries for biodiversity protection. Its brief includes funds for human rights protections where land dispossessions follow from conservation efforts. Such issues are of relevance given the major impacts large-scale industrial developments, including in renewables, can have on biodiversity and on the human rights of affected populations.

The Convention on Biological Diversity also has a joint initiative with the UN Environment Programme and others – the Pan-African Action Agenda on Ecosystem Restoration for Increased Resilience seeks to promote land and ecosystem restoration and was partly developed with the Egyptian government and the African Union. European Green Deal funding could aid these efforts and link project support to a set of good governance standards, specifically in cross-border water and biodiversity management. The need for such standards is evident in cases such as the Nile Canal project to divert water from South Sudan's White Nile to Egypt, which risks drying out the world's second largest wetland.

Establishing these complex forms of cooperation and moving towards implementation will undoubtedly bring both institutional and political challenges. Cooperation agreements and tightened environmental standards will need dedicated efforts and, possibly, capacity building within North African government institutions – specifically capacity building for technical regulation and risk assessments, monitoring and enforcement, and public consultation and communication.

A rights-based approach

Europeans need the political will to ensure clean tech investments truly promote sustainable industries, are environmentally responsible, and benefit local people. They must set high social and environmental safeguards for all energy and infrastructure-related projects and protect communities from land grabs, like the dispossessions created by previous Moroccan "concentrating solar energy" projects. Given the inherent risk of corruption and lack of

transparency linked to large-scale infrastructure development, there will need to be high-level EU engagement with a clear focus on pushing for transparency.

The EU needs to do more to ensure it is able to implement and monitor safeguards. It will need formal mechanisms backed by legal ones to tie investment, finance, and trade agreements to a rights-based approach. Safeguards should include community consultation; environmental impact assessments; capacity building for government agencies and local contractors as well as European companies operating in this area; and political support for civil society and press freedom. The EU will need transparent processes for the approval of clean energy projects in all partner countries. All this requires a high-level political vision within Europe for sustainable development in North Africa. The process of developing this vision could itself be a powerful tool for change.

Western Sahara is undoubtedly one of the most politically controversial and legally challenging questions such a vision will face. Much of the phosphate and other minerals that could fuel Morocco's clean energy industrial supply chains, as well as solar power generation potential, are in Western Sahara. This will clash with long-standing EU legal positions, including its non-recognition of Morocco's sovereignty over the territory. The European Commission's efforts to include Western Sahara in EU trade relations with Morocco have repeatedly been blocked by the European Court of Justice. As the court has ordered Western Sahara be excluded from EU agreements with Morocco, this would prevent the EU from using funding instruments such as Horizon Europe there and would pose a significant challenge to the EU's green partnership with Morocco. The commission and member states have yet to acknowledge these risks or engage in any serious contingency planning should the court once again block the EU's latest trading arrangements with the territory, as it is expected to do this year.

Conclusion

Extending the European Green Deal to North African countries could catalyse many opportunities – economic, social, and environmental. Strengthening the EU's cross-Mediterranean partnerships could contribute to European energy security, at least in the medium-to-long term. If managed in transparent and accessible ways, with high-level political support and the engagement of national governments, the EU could overcome some of the difficulties that have dogged past projects, such as financial waste, limited political appeal, and inadequate technical access for the people in North Africa who would benefit most, including those in the region's private sector.

About the author

Laura El-Katiri is a visiting fellow with the European Council on Foreign Relations. She is a consultant specialising in energy and sustainable development, with a focus on the Middle East and Africa. Her research includes work for the United Nations Economic and Social Commission for Western Asia, the UN Development Programme, the UN Office for Project Services, the UN Industrial Development Organization, the German Marshall Fund of the United States, and the International Renewable Energy Agency.

Acknowledgments

The author thanks Jonathan Walters, Julien Barnes-Dacey, Jeremy Shapiro, Adam Harrison, and Mary Hennock for their valuable input to this brief.

ABOUT ECFR

The European Council on Foreign Relations (ECFR) is the first pan-European think-tank. Launched in October 2007, its objective is to conduct research and promote informed debate across Europe on the development of coherent, effective and values-based European foreign policy. ECFR has developed a strategy with three distinctive elements that define its activities:

- A pan-European Council. ECFR has brought together a distinguished Council of over two hundred Members – politicians, decision makers, thinkers and business people from the EU's member states and candidate countries – which meets once a year as a full body. Through geographical and thematic task forces, members provide ECFR staff with advice and feedback on policy ideas and help with ECFR's activities within their own countries. The Council is chaired by Carl Bildt, Lykke Friis, and Norbert Röttgen.

- A physical presence in the main EU member states. ECFR, uniquely among European think-tanks, has offices in Berlin, London, Madrid, Paris, Rome, Sofia and Warsaw. Our offices are platforms for research, debate, advocacy and communications.

- Developing contagious ideas that get people talking. ECFR has brought together a team of distinguished researchers and practitioners from all over Europe to carry out innovative research and policy development projects with a pan-European focus. ECFR produces original research; publishes policy reports; hosts private meetings, public debates, and "friends of ECFR" gatherings in EU capitals; and reaches out to strategic media outlets.

ECFR is a registered charity funded by the Open Society Foundations and other generous foundations, individuals and corporate entities. These donors allow us to publish our ideas and advocate for a values-based EU foreign policy. ECFR works in partnership with other think tanks and organisations but does not make grants to individuals or institutions. ecfr.eu

 ISBN: Click or tap here to enter text.. Published by the European Council on Foreign Relations (ECFR), 4th Floor, Tennyson House, 159-165 Great Portland Street, London W1W 5PA, United Kingdom.