

3. Managing Climate Change and Mapping an Energy Transition in North Africa

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Summer 2021 has dramatically exposed North Africa's vulnerability to the climate crisis as the region was ravaged by wildfires, drought, and extreme weather events.

Wildfires in Algeria and Tunisia have destroyed hectares of forests, leaving behind dozens of casualties as heat waves swept through Egypt, with temperatures surpassing 40° Celsius during the day for more than a week. According to a draft report by the Intergovernmental Panel on Climate Change, the Mediterranean is a “climate change hotspot” which will face highly interconnected climate risks, such as land and marine biodiversity losses, risks related to drought, wildfire, alterations of water cycle, endangered food production and serious health risks for the population.¹

According to the World Bank, changes in water availability are set to become the main driver of internal climate migration, in particular from areas of the Nile Delta, the northeastern coast of Tunisia, the northwestern coast of Algeria, western and southern Morocco, and the central Atlas foothills. Meanwhile, cities like Cairo, Algiers, Tunis, Tripoli, the Casablanca-Rabat corridor, and Tangiers are projected to become “climate

¹ AFP Staff, *Mediterranean faces fiercer heatwaves, drought, fires: UN draft report*, RFI (website of French public radio station), August 6, 2021.

in-migration hotspots,”² as water scarcity or sea-level rise elsewhere drive people toward them.

Against this backdrop, tackling global warming is of the utmost importance for the security and prosperity of the region: key actions include changing the path of economic development and undertaking a structured effort toward a clean energy transition, which is part of climate change adaptation measures. This process, which is slowing developing across the region, is not devoid of significant internal political and socioeconomic implications. It also has a strong impact on the external projection of the countries of the region, redefining their commercial relations and foreign policies.

In North Africa, the penetration of renewable energy is very limited compared to its potential, which is largely untapped. Nonetheless, renewable electricity has grown more than 40% over the last decade, driven by the expansion of wind, solar photovoltaic (PV), and solar thermal power.³ This transition to renewable energy sources is at an early stage in North Africa (and in some cases feel more like political rebranding rather than a structural package of reforms), yet the development and implementation of strategies are emerging as useful tools in understanding current and future political scenarios in the region.

The first section focuses on the promotion of an energy transition in North African states; the second analyzes the role of foreign countries and international companies in sustaining local pathways to this transition and the broader implications in geopolitical terms; and the third will speculate on how the energy transition could result in growing regional interconnections and economic integration.

² The World Bank, *Millions on the Move in Their Own Countries: The Human Face of Climate Change*, September 13, 2021.

³ International Energy Agency (IEA), *Clean Energy Transitions in North Africa*, Country Report, October 2020.

Energy Transition in North Africa: Policies and Implementation

From an energy perspective, North Africa is a very diverse region. Tunisia and Morocco are heavily dependent on energy imports, Algeria and Libya are net energy exporters, and Egypt has emerged as a major natural-gas exporter in recent years. The five countries of the region have different energy mixes and different sources of electricity generation. This implies that the path toward a clean energy transition has a different impact on each country, depending on the importance of the energy sector for the domestic socioeconomic equilibrium, the impact of the volatility of fossil-fuel prices and the role of energy imports, and the composition of their respective energy mixes.

All the countries are experiencing a strong increase in internal energy demand, due to economic growth, population growth, and rapid urbanization. The fundamental priority of the energy policies of each North African country is increasing its power-generation capacity: energy security drives policies and investments.⁴

For oil-importing countries, the energy transition is crucial to diversifying the domestic energy mix, reducing dependency on external suppliers, and mitigating vulnerability to price shocks. For oil-exporting countries that are highly dependent on export revenues, the energy transition could help to satisfy growing internal demand, thus increasing availability of resources for exports.

Rabat and Cairo : North African leader
of the transition

Morocco and Egypt are the North African leaders of the energy transition, both in terms of installed capacity from renewable sources and being proactive in promoting a clean-energy transition within and outside their borders.

⁴ S. Duygu Sever, *Accelerating the Energy Transition in the Southern Mediterranean*, French Institute of International Relations (IFRI), Editoriaux de l'Ifri, September 2019.

Morocco imports more the 90% of its energy supplies. Its energy mix is essentially met by the use of fossil energy sources (mainly oil and coal), and new coal-fired power plants have been recently opened or are planned. Nevertheless, the country has identified in the energy transition a strategic axis of development, benefiting from political support at the highest level.

In 2009, Rabat adopted its National Energy Strategy with the ambition of reaching 42% of the total installed power capacity coming from renewable energy in 2020. This goal has recently been updated to 52% by 2030. Today, 31% of its electricity capacity comes from renewable energy, one of the highest percentages among the countries of the entire MENA region.

The Noor Power Station, a solar-power complex based on a concentrated solar and photovoltaic system that is located near Ouarzazate, is the symbol of the Moroccan strategy for the energy transition. It entered into operation gradually, beginning in 2016, and once completed will produce a total of 582 megawatts (MW). With its 300 MW of capacity, the wind plant of Tarfaya is one of the biggest on the continent.

Rabat has reaffirmed its commitment to the Paris Agreement, presenting an ambitious revision of its nationally determined contributions (NDCs) to reduce greenhouse gas emissions by 45.5% by 2030. The monarchy aspires to be the regional leader in the struggle against climate change: Marrakech has hosted two United Nations Climate Change conferences, in 2001 (COP7) and 2016 (COP22).

The country established a comprehensive set of institutions to facilitate the promotion of clean energy sources: the Moroccan Agency for Solar Energy (MASEN), now Moroccan Agency for Sustainable Energy; the National Electricity Regulatory Authority of Morocco (ANRE); the Institute for Research on Solar Energy and New Energies (IRESEN); and the Moroccan Agency for Energy Efficiency (AMEE).

Egypt, with an installed capacity of 5.9 gigawatt (GW) from renewable sources, has the most renewable energy capacity in the

region and the second most-developed strategy for the energy transition, after Morocco. Cairo emerged as a regional energy leader in recent years, following the 2015 discovery of the Zohr natural gas field by Eni SpA, an Italian energy company. With its 850 billion cubic meters of gas, Zohr is the largest eastern Mediterranean gas field, and its discovery marked the advent of Egypt's energy self-sufficiency. Exporting surplus natural gas to neighboring countries is an essential piece of the Egyptian strategy to become a regional energy hub.

In 2015, the country launched its 2035 Integrated Sustainable Energy Strategy, with the aim of producing 20% of its electricity from renewable sources by 2022 and 42% by 2035, for a total of 61 GW of installed capacity from renewables.

Renewable energy currently accounts for only 10.1% of Egypt's power production capacity, with hydropower accounting for over three-quarters of the total.⁵ The Benban Solar Park, a major infrastructure project under construction near the southern city of Aswan, will produce 1.8 GW and is deemed the largest African PV solar park. It will consist of about forty solar plants, developed by more than thirty foreign companies from twelve countries, and will supply power to more than two million households. Ras Ghareb wind farm, with its 262.5 MW of power capacity, is the biggest in the country.

As part of the growing attention Egypt is paying to the energy transition, the country will host the next United Nations Climate Change Conference (COP27), set to be held in Sharm el-Sheikh in November 2022. It will be the occasion to measure the regional influence of the country in the struggle against global warming.

It is worth mentioning that Egypt will be the first North African country using nuclear energy for its power production, with the El Dabaa plant (developed by Russia's state-owned Rosatom) set to be in service by 2030.

⁵ M. Tanchum, *Egypt's Prospects as an Energy Export Hub Across Three Continents*, ISPI Commentary, ISPI, September 24, 2020.

In both Morocco and Egypt the deployment of solar, concentrating solar-thermal power, and wind technologies has been linked to their employment strategies: the goal of diversifying the energy mix is connected with the necessity to mitigate high youth unemployment. Morocco aimed to create jobs in project management, installation, construction, operation, and maintenance activities, and has reached a 32% local integration rate for the Noor I solar power-plant project. Egypt's government established employment quotas through local content requirements. In 2018, Egyptian manufacturers produced half of the components used in the country's wind farms.⁶

Algeria, Tunisia, and Libya: The slow path of transition

Much like Morocco and Egypt, the other North African countries have developed strategies to promote renewable energy in their power generation, but the process toward clean energy has been undertaken with less emphasis and new projects experience delays in their entry into operation.

In Algeria, economic diversification is crucial to ensure a sustainable future, yet the energy transition has only recently attracted meaningful political attention. This is also due to the so-called volatile volatility of energy crises: when oil prices drop, impacting energy revenues and endangering the fragile social equilibrium of a country, the political discourse focuses on the importance of reforming the energy sector; when prices go up, the question fades to the background. The energy transition is quite urgent in Algeria given its rentier state configuration, dependence on exports for fiscal revenues, government spending needs, and fast-growing domestic energy consumption. Notably, the country's energy industry is one of the most polluting in the world in terms of the methane intensity of oil and gas production and gas flaring.⁷

⁶ S. Côté, *Renewable Energy and Employment: The Experience of Egypt, Jordan and Morocco*, King Abdullah Petroleum Studies and Research Center (KAPSARC), November 2019. doi: 10.30573/KS--2019-DP69

⁷ L. Baccarini et al., *Les enjeux énergétiques en Afrique du Nord: Algérie, Libye, Égypte*, Observatory for the Security of Energy Flows and Materials (in coordination

Algiers created its first energy-transition plan in 2011 and updated it in 2015. Known by its acronym, Pneree (for *Programme national dédié au développement et la promotion des énergies renouvelables et de l'efficacité énergétique*), the ambition is to reach 40% of power production from renewable energy before 2030. In 2020, the government launched the National Program for Energy Transition (PNTE) and created a ministry for energy transition. The PNTE aims to reach 4,000 MW of renewable energy before 2024 and 16,000 MW before 2035. At the moment, the country has 686 MW of installed renewable capacity. The most important infrastructure is located in Hassi R'Mel (hybrid gas-solar), Ouargla and Ghardaïa (solar), and Kabertene (wind). Construction on a complex (Tafouk 1) that will allow the country to reach the 2024 target has not yet begun.

In Tunisia, the Renewable Energy Action Plan 2030 was adopted in 2015 and set a target of 30% of electricity production through renewable energy before 2030. The goal is quite ambitious, since the current share of renewable electricity capacity is around 6% (the rest of electricity is produced by natural gas). The country has three wind farms and one solar power plant, built in 2019.⁸

Due to Libya's protracted situation of conflict, the nation has not implemented a comprehensive strategy on energy transition. In 2012, before the outbreak of the civil war, the government approved the Libya Renewable Energy Strategic Plan 2013-2025, with the aim of achieving a 7% renewable energy contribution to the electric energy mix by 2020 and 10% by 2025. The Renewable Energy Authority of Libya has

with the Institute of International and Strategic Relations (French acronym, IRIS), in a consortium with Enerdata and Cassini, under contract to the General Directorate of the French Ministry of the Armed Forces), Report no. 8, June 2021.

⁸ A. Bennis, *Power surge: How the European Green Deal can succeed in Morocco and Tunisia*, Policy Brief, European Council on Foreign Relations (ECFR), January 26, 2021.

recently presented its Strategic Plan for Renewable Energies, 2018-30, setting the target of reaching 6.6 GW of renewable capacity by 2030. In June, Abdul Hamid Dbeibah, prime minister of the Government of National Unity (GNU) , agreed to refer the Paris Agreement to the House of Representatives for ratification, which definitively approved it in September.

TAB. 3.1 – RENEWABLE EBERGY IN NORTH AFRICA

Country	Renewable Energy Share of Electricity Capacity (%)	Total Renewable Energy (MW)	Solar Energy (MW)	Wind Energy (MW)
Algeria	2.8%	686	448	10
Egypt	10.1%	5 980	1694	1375
Libya	0.0%	5	5	0
Morocco	30.9%	3 447	734	1405
Tunisia	6%	401	95	244

Every country of the region has approved specific provisions for a clean energy transition, although implementation has been delayed. In addition to this, most of the approved energy policies are supply-side driven, while demand-side measures and energy efficiency could play a crucial role in reducing consumption, especially in the transportation, housing, and industrial sectors.⁹

The suppression of energy subsidies is key to promoting energy efficiency. Morocco has gradually phased out its system of fossil fuel subsidies . Elsewhere in the region, subsidies in 2020 accounted for gross domestic product (GDP) of 2.2% in Egypt, 5.8% in Algeria and 15% in Libya.

⁹ S. Duygu Sever (2019).

Energy Transition and Climate Diplomacy

The speed in implementing energy-transition strategies will have an impact on a number of sensitive questions for the future of the area: economic diversification, industrial development, the labor market, and its vulnerability to the threats of climate change.

The energy transition also will affect North Africa's place in the world: the international standing of nations, their foreign policies, and regional ambitions. At the same time, the untapped potential of renewable energy in North Africa and its local markets are at the center of the commercial policies of other interested parties such as the European Union (EU), the Gulf countries, and China.

The EU is the top trade partner of North African countries, and major European energy companies are active in the development of the energy transition in the region.

Within the EU, Germany has developed a comprehensive strategy to promote the green transition. Berlin launched specific bilateral energy partnerships with Algeria, Morocco, and Tunisia, showing the extent to which technical and development assistance, intergovernmental policy dialogue, and private-sector involvement are at the center of German influence in the Mediterranean. The most advanced partnership has been established with Morocco and is focused on the development of renewable energy sources and efficient energy technologies, as well as on green hydrogen production. Egypt and Germany established the Cairo Climate Talks (CCT) in 2011 with the aim of fostering cooperation between Egyptian and German policy makers, businesses, the scientific community, and civil society in the field of energy and environment.

Far from being a technical issue, energy transition is a field where foreign policy could play a crucial role, facilitating or interfering with its development. For instance, energy bilateral cooperation between Morocco and Germany was suspended last May due to the diplomatic crisis that arose between the two countries after Germany's request for a UN Security

Council meeting on the status of Western Sahara.¹⁰ Berlin's request followed the December 2020 US decision to recognize Moroccan sovereignty over lands identified by the United Nations as a "non-self-governing territory," which came amid the Trump administration's brokering of the normalization of relations between Morocco and Israel.¹¹ The diplomatic crisis between Berlin and Rabat may incur a high cost for Morocco, given the €1.4 billion it receives in development cooperation.¹²

At the same time, normalization of relations with Israel will probably result in much narrower cooperation on clean energy: in January 2021, green technologies and renewable energy industries were identified as industrial sectors with high potential for the Morocco-Israel partnership.¹³ This is an interesting example of the interplay between energy transition, foreign policy and regional ambitions.

Energy transition is an emerging piece of the Morocco's Africa policy: the country hosted the first Africa Action Summit on the sidelines of COP22 and established a Coalition for Sustainable Energy Access with Ethiopia (CSEA).

Gulf countries are increasingly active in the North African energy transition, mainly in Egypt, their major ally in the region. ACWA Power, partly owned by the Saudi Arabian government, has backed significant projects in Egypt, such as the Kom Ombo solar plant, a 200-MW complex. Riyadh has recently launched a Middle East Green Initiative, with the purpose of transforming the country into "a global leader in forging a greener world."¹⁴

¹⁰ *News Wires*, "Morocco Recalls Ambassador in Germany over Western Sahara", Deutsche Welle (website of Germany's international broadcaster), May 7, 2021.

¹¹ J. Mundy, "The U.S. Recognized Moroccan Sovereignty over the Disputed Western Sahara: Here's What That Means", *Washington Post*, December 11, 2021; and A. Gearan et al., "Morocco and Israel to Establish Diplomatic Relations with U.S. Backing", *Washington Post*, December 10, 2021.

¹² F. Peregil, E.G. Sevillano, "La tensión por el Sáhara Occidental deja en el aire la ayuda al desarrollo de Berlín a Rabat", *El País*, June 18, 2021.

¹³ "Morocco-Israel: Sectors with High Partnership Potential Identified", *Agence Marocaine de Presse*, December 28, 2020.

¹⁴ K. Elgendy, *Competition bids up for climate leadership in MENA*, Expert Comment,

The United Arab Emirates are competing with Riyadh for climate leadership in the MENA region. AMEA Power will develop a 500-MW wind project in the Gulf of Suez and a 500-MW solar PV scheme in Aswan governorate in Egypt. Another Emirati energy firm, TAQA, announced in March that by the end of the decade more than 30% of its power generation would come from renewable sources.¹⁵ The company plans to expand its renewables portfolio and electricity assets in Morocco, where it is the largest private electricity producer. Masdar, headquartered in Abu Dhabi, is part of a consortium which is developing the Noor Midelt Phase 1, a multi-technologies solar power plant which will have a total installed capacity of 800 MW. Ministries from Egypt and Morocco recently took part in the UAE Regional Dialogue for Climate Action.

China is another important player in North Africa's energy transition. In the past twenty years, Beijing has increased its presence in the region in terms of trade and investment. After the Beijing visit of Moroccan King Mohammed VI in May 2016, strong cooperation was established between the two countries. China has invested in the Moroccan energy transition, with the Shandong Electric Power Construction Corp. involved in the construction of the Noor solar complex. In the north of Morocco, state-owned China Communications Construction Co. and its subsidiary, China Road and Bridge Corp., is financing the Mohammed VI Tangier Tech City, which will host food industries and automotive, aeronautical, renewable energy, chemical, and textile production plants. In Egypt, China Gezhouba Group is investing in the construction of a 500-MW solar power.¹⁶

Chatham House, May 10, 2021.

¹⁵ "UAE energy firm TAQA plans to expand its renewables portfolio", *Reuters*, March 24, 2021.

¹⁶ M. Forough, *Towards Sustainable China-MENA Relations in the Renewable Energy Sector*, Leiden Asia Centre, September 2021.

Can the Transition Foster Regional Economic Integration?

North Africa stands in a strategic position at the crossroads of trans-Mediterranean and trans-African human and commercial flows. However, the region has one of the lowest levels of regional economic integration in the world: the lack of connectivity is a major obstacle for the future prosperity of the area.

In this respect, the energy transition could open new opportunities for sustainable economic growth and regional integration, establishing new connections and serving as an essential vector of political transformation. Energy infrastructure between North African countries and their European and sub-Saharan partners, transporting, for example, green hydrogen or electricity produced through renewable sources, could boost the green economic transition in the different regional subsystems – with positive spillover in terms of economic diversification, employment opportunities, political dialogue, and regional integration.

The latter could be highly consequential for North Africa, which is one of the world's most susceptible regions to global warming. Regional integration of energy infrastructure can decrease vulnerability to the consequences of climate change and help ensure energy security.¹⁷

The external dimension of the European Green Deal, the EU package to reach carbon neutrality by 2050, represents a potential leverage for strengthening regional economic integration between the two shores of the Mediterranean. Around 30% of the EU 2021-2027 budget for external cooperation is devoted to climate change mitigation and adaptation.

Last June, the EU and Morocco announced the intention to establish a “Green Partnership on energy, climate and the environment”,¹⁸ to strengthen cooperation in the struggle

¹⁷ International Energy Agency (IEA) (2020).

¹⁸ The EU and Morocco form a Green Partnership on energy, climate and the environment ahead of COP 26, <https://ec.europa.eu/clima/news-your-voice/>

against climate change. Similar partnerships could be extended to other countries of the region.

Accelerating the energy transition on its southern shore will help the EU to diversify its energy suppliers, thus increasing its energy security. North African countries hold a strategic position due to their proximity to European energy markets. For instance, the EU Hydrogen Strategy has “an important international dimension that can benefit both North African countries and EU member states by increasing their use of hydrogen”.¹⁹ Green hydrogen could be produced through the use of renewable sources in North Africa and then exported to Europe using existing gas pipelines: the Maghreb-Europe (between Algeria, Morocco, and Spain); Medgaz (Algeria-Spain); Transmed (Algeria, Tunisia, and Italy); and the Greenstream (Libya-Italy).

Electrical interconnections across the Mediterranean sea will be an additional factor of systemic transformation in the area. Progress toward an integrated Mediterranean electricity market will require new infrastructure for transmission and distribution. While a network of electrical interconnections is already in place between Morocco and Spain, Italy and Tunisia are finalizing a project for an undersea electricity connection that will link up the electrical substations of Partanna, in Sicily, with the corresponding Tunisian substation of Cap Bon.

Electricity from North Africa needs to be clean. In July 2021, the European Union proposed the Carbon Border Adjustment Mechanism, a measure conceived to prevent so-called carbon leakage from EU-based companies that could otherwise move carbon-intensive production abroad to take advantage of lax standards and to accelerate the decarbonization strategies of trading partners.²⁰ Thanks to a new coal-fired plant opened in

news/eu-and-morocco-form-green-partnership-energy-climate-and-environment-ahead-cop_en

¹⁹ A. Bennis (2021).

²⁰ European Commission, “[Carbon Border Adjustment Mechanism](#)”, Taxation and Customs, Fact Sheet of July 14, 2021.

Safi at the end of 2018, Morocco began net exporter of electricity to Spain the following year, rising concerns in Madrid over the consequences of the exports of Moroccan “dirty” electricity on its electricity sector.²¹

Cross-border grid interconnections in North Africa are weak, but the region’s countries are planning to improve them. It is worth mentioning that the region has successfully achieved near-universal access to electricity and clean cooking, with more than twenty million people gaining access to electricity in the last twenty years.²²

Algeria recently announced a plan to build direct electricity connections with the Libyan national grid. Egypt plans to export its electricity to Libya, Sudan, Saudi Arabia, Greece, and Cyprus.²³ Thanks to recent discoveries of natural gas and its potential in renewable energy, Egypt’s surplus capacity could reach an estimated 74.4 GW in the next fifteen years and potentially transform the country into an electricity-trading hub.²⁴

Power generation from renewable sources is not the only sector that could improve regional economic integration: the automotive sector is another promising one. At the end of August, Stellantis, a multinational automotive manufacturer, announced that its subsidiary, Opel, will start producing electric vehicles in Morocco.²⁵ The country, with the capacity to produce more than 700,000 vehicles per year, is the second-leading African manufacturer of vehicles. The model was developed at the Morocco Technical Center in Casablanca. This represents a significant technological shift for the country

²¹ J.S. González, “España pide una tasa en toda la UE para frenar la ‘energía sucia’ que llega de Marruecos”, *El País*, May 25, 2019.

²² International Energy Agency (IEA) (2020).

²³ F. Borsari, *Egitto: La grande scommessa sull’energia*, ISPI Commentary, ISPI, February 5, 2021.

²⁴ M. Tanchum (2020).

²⁵ M. Tanchum, *Morocco’s “first in North Africa” electric car production is a European manufacturing gain over China*, Middle East Institute, September 3, 2021.

and a good example of potential economic synergies with the northern shore of the Mediterranean, with the EU planning to ban the sale of vehicles using the internal combustion engine by 2035. At the same time, Morocco could export electric vehicles to the rapidly expanding car markets in sub-Saharan Africa, thus consolidating its leadership in the green economy.

On the other side of the region, Egypt developed a partnership with Chinese automaker Dongfeng to jointly produce electric vehicles in the country, aiming for an annual production capacity of 25,000 electric cars.

Conclusion

Decarbonization policies and low-carbon technologies will shape the North African region in the future. The global energy transition will affect the distribution of power, relations between states, the risks of conflicts, and the social, economic, and environmental drivers of geopolitical instability.²⁶

This transition will contribute to the transformation of North African societies in the coming decades. The decarbonization of their economies is urgent as the area will be one of the most affected on the planet by the consequences of climate change. The security and prosperity of the region will be severely impacted by global warming as the region already faces highly interconnected climate risks.

Morocco is the most advanced country in the region in terms of implementing plans for this energy transition. Along with Egypt, the country shares the role of regional leader. Both have developed significant projects in solar and wind energy, and are investing in climate diplomacy as a source of international legitimacy and standing. At the same time, investments in renewable sources of energy are attracting international energy companies to the region, thus contributing to the reinforcement

²⁶ J.E. Viñuales, “Géopolitique de la transition énergétique”, *Revue Européenne du Droit*, no. 2, Spring 2021.

of commercial ties with traditional and emerging players in the enlarged Mediterranean region. In particular, investments in renewable energy and energy partnerships are strictly linked with the international alliances of the two countries, reflecting continuities and discontinuities of their respective foreign policies.

The other countries of the region have not fully acknowledged the challenges of the energy transition, with the implementation of green strategies proceeding slowly and creating a limited amount of renewable installed power capacity. In the whole region, the development of renewable energy sources collides with the chronically dysfunctional energy sector, the degree of openness to foreign investments, reliable support mechanisms, and clear licensing procedures. In addition to this, renewable energy plays only a minor role in sectors other than electricity production, including the transportation sector.

The region's five countries are highly dependent on fossil fuels to meet their respective domestic demand – oil accounts for between 45% and 85% of consumption across North Africa²⁷ – and the role of hydrocarbons is slated to rise in the coming years. In spite of the notable advancements of the last decade, the role of renewables is still limited compared to their potential.

This energy transition across North Africa could be supported through the extension of energy interconnections between them and with European and African partners, through the use of existing gas pipelines to export green hydrogen from North Africa to Europe, and the implementation of a cross-border network of electricity interconnections between North African and sub-Saharan countries. This transition could open new opportunities for sustainable economic growth and regional integration. In this regard, the energy transition could prove to be a structural factor of political transformation in the region.

²⁷ International Energy Agency (IEA) (2020).