

Twin Transitions in the Mediterranean: Environmental & Digital

Green Hydrogen Partnerships between the EU and the Southern Mediterranean: Challenges and Opportunities for Coherent and Just Energy Transitions

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Introduction: Southern Mediterranean Countries as Strategic Partners to the EU

Just as the global economy began to pick up in the aftermath of the pandemic, the Russian invasion of Ukraine caused further global turmoil. The Russian gas supply disruption took its toll on the EU, which started to work quickly on securing other sources of energy. The EU launched the REPowerEU Plan in May 2022 while working in tandem on accelerating decarbonization to meet its aim of becoming climate-neutral by 2050. Both actions call for the EU to coordinate with regional and global partners to secure energy supply in the short-to-medium term and to speed up the development of green technologies, in line with the European Green Deal (EGD). These recent developments are redefining Europe's strategic partnerships. In this context, the bloc's neighbours on the southern shore of the Mediterranean could play a key role in the EU's present and future energy security, and their cooperation (or lack thereof) is likely to influence the potential success of the EGD. Southern Mediterranean Countries (SMCs) are key partners for the EU for several reasons. Firstly, some of these countries are abundant in oil and gas (such as Algeria and Libya) and can help secure the EU's demand in the short-to-medium term. Others enjoy a strategic location as a main energy corridor (such as Egypt) (Bartoletto, 2020).

Secondly, all SMCs have a great (yet untapped) potential in renewable energies for producing green hydrogen, Europe's key tool for decarbonizing hard-to-abate sectors in the future. Thirdly, the region is home to critical raw materials (CRMs) that are necessary for the energy transition (El Katiri, 2023). Fourthly, some of these countries are among the EU's major energy suppliers with established gas pipelines and electricity grids. They are also part of regional African power pools (such as Morocco) and could serve as regional hubs that connect Africa to Europe. The existing energy infrastructure could not only help in securing energy supply in the short-to-medium term, but could also be used for the cost-effective transport of green hydrogen in the future. Finally, SMCs are witnessing growing climate awareness and show enthusiasm for the energy transition. Most SMCs presented Nationally Determined Contributions (NDCs) in the framework of the Paris Agreement and have announced their willingness to meet these targets if the necessary technical and financial assistance is available (Herranz-Surrallés, 2021). Some countries in the region are also working on increasing investments in renewables to diversify their energy mix and increase their energy security.

In this article, we investigate the potential success of a just energy transition in the Euro-Mediterranean space through green hydrogen. Our analysis focuses on three southern Mediterranean countries (Morocco, Algeria, Egypt) which differ substantially in their energy endowments, energy trade and energy policies. We explore these countries' green hydrogen partnerships with the EU and investigate the different regional challenges that may affect a potentially timely implementation of the energy transition component of the EGD. We also look at the broader concept of the *just* energy transition from a southern

Mediterranean perspective and provide some recommendations for potentially transformative energy partnerships in the Euro-Mediterranean space.

Energy Policies in SMCs: Between Fossil Fuels and Green Hydrogen

The energy sector greatly exposes SMCs to global shocks. Notwithstanding individual countries' energy production and trade, the sector has long been one of the major sources of political and economic stability and one of the main pillars of post-independence social contracts in the region. As the EU is actively working on accelerating the energy transition through the EGD, not all SMCs are likely to respond to EU policies in the same way.

Morocco is not only North Africa's "superstar" in renewable energies, but also in green hydrogen

For net fossil fuel exporters such as Algeria, the recent developments provided an opportunity for the economy to recover from the previous plunge in export revenues and foreign reserves during the pandemic. Algeria is one of two North African fossil fuel rent-based economies and Africa's top gas producer. In 2022, the oil and gas sector accounted for 19% of the country's GDP, 93% of exports and 38% of public revenues (World Development Indicators¹). Most importantly, revenues from fuel exports support the country's post-independence energy and food subsidy system. Overall, Algerian energy policies reflect – to some extent – the government's reluctance to participate in the race for hydrogen investments, and, possibly, some scepticism vis-à-vis the implementation of the EGD in the medium term. Prior to the war on Ukraine, for example, the government had announced that a National Hydrogen Strategy was in the pipeline and created a Ministry for Renewable Energies and Energy Transition to implement this strategy, and others. In

September 2022, the short-lived Ministry was cancelled and renewable energy policies were transferred to the mandate of the Ministry for Energy and Mines (Farrand, 2022). To date, the hydrogen strategy has not yet been published. Instead, Algeria responded to the energy crisis by expanding contracts with the Italian investor Eni to increase the production of oil and gas over the coming years, and to explore the potential for hydrogen through a pilot project (Sarno and Colantoni, 2023). Other concrete policies in the field of hydrogen have not been announced.

For net-energy importing SMCs (such as Egypt, Morocco and Tunisia), the recent energy price shocks worsened their imported inflation and, consequently, their macroeconomic disequilibria. On the one hand, fuel imports constitute a heavy burden on these countries' foreign reserves. On the other, more expensive fuel imports drive a growing wedge between international and domestic energy prices, because of subsidies. The case of Egypt is particularly interesting, as the country has shifted from being a net gas exporter to a net importer in recent years. In Egypt, political stability and energy-related developments have always been closely associated (Roll and Ibrahim, 2018), as reflected in the policies of el-Sisi's Administration since his accession to power in 2014. Energy policies are centred on increasing electricity generation to avoid unrest, while energy subsidies are being gradually phased out to lift their burden on the state budget. The discovery of huge gas fields in the Mediterranean in 2014 had raised hopes of Egypt becoming a major global gas exporter, but did not yield the expected production (El Katiri, 2023). According to IRENA (2022a), Egypt's energy mix is dominated by gas (54% of total energy supply), followed by oil (36%), while renewables represent a minor share of 7% of the country's energy mix. Diversification strategies have been largely undermined due to regulatory, transparency and dispute settlement issues (Roll and Ibrahim, 2018). Recently, Egypt signalled its willingness to take part in the race for investments in hydrogen by using the opportunity of hosting the COP27 to announce its intention to launch its National Hydrogen Strategy and sign several MoUs

¹ <https://data.worldbank.org/country/algeria?locations=dz>.

with European and international investors on the production of green and blue hydrogen.²

Morocco is a net-energy importer with negligible oil and gas endowments (IRENA, 2023). To increase its energy security and reduce dependency on energy imports, the Moroccan government was among the early birds in the region to develop an energy diversification strategy, and has been making use of its solar and wind endowments to attract investments in renewables since 2009. Today, renewables represent at least 10% of the country's energy mix (IRENA, 2022b) and the government plans to produce 50% of its electricity from renewables by 2030 (Herranz-Surrallés, 2021). To lift the burden from the state budget, fuel subsidies have been eliminated since 2014 (Vidican-Auktor, 2018). Today, Morocco is not only North Africa's "superstar" in renewable energies, but also in green hydrogen. In 2019, Morocco had created a hydrogen commission under the Ministry for Energy, Mines and Sustainable Development (IRENA, 2023) and in 2020, it signed a partnership agreement on Green Hydrogen with the German government. In 2021, the Moroccan Green Hydrogen Roadmap was announced. In October 2022, an EU-Moroccan green partnership was concluded. Morocco seeks to capture 4% of the global demand for hydrogen by 2030 (Green Hydrogen Organization), thereby planning to increase energy security through diversification, and increase export revenues through green hydrogen, before incorporating it in domestic value chains. For example, a prototype for a 100% hydrogen-powered Moroccan-made car was recently introduced to showcase the government's interest in developing forward linkages with other leading export industries.³

Challenges to a Successful and Well-timed Energy Transition on both Sides of the Mediterranean

The EU Green Hydrogen Strategy, released in 2020, posits that renewable hydrogen "is the most compatible option with the EU's climate neutrality and zero pollution goal in the long term, and the most coherent with an integrated energy system"

(European Commission, 2020, p.5). The aim is to establish at least 40 GW of renewable energy electrolyser capacity by 2030 and produce 10 million tonnes of renewable hydrogen between 2025 and 2030 (ibid). The strategy is a companion to the EGD and is coherent with several of the EU's policies and agendas, including the REPowerEU Plan and the Strategy with Africa. These all clearly state the bloc's quadruple aim. Firstly, to decarbonize. Secondly, to do so in large measure with green hydrogen. Thirdly, to become independent from Russian gas by diversifying energy sources. And finally, to pursue partnerships with countries with a high renewable export potential, which can help deliver the first three objectives.

Several North African countries feature here, with the recent EU-Morocco Green Partnership launched in October 2022 as a case in point. Algeria is also one of the EU neighbours with great hydrogen production potential, given the high wind speeds along its coast and high solar irradiance in the southern Sahara. Furthermore, Egypt is among the promising EU partners in the field of green hydrogen. Together, these three countries could cater for an important share of the EU's clean energy needs.

Regional conflicts limit the opportunities for successful cooperation between SMCs to create a hub for the production and export of hydrogen

Present and future hydrogen partnerships between the EU and SMCs fall under the New Agenda for the Mediterranean, aiming "for a green, digital, resilient and just recovery, guided by the 2030 Agenda for Sustainable Development, the Paris Agreement and the European Green Deal" (European Commission, 2021). Simultaneously, the Strategy with Africa, published in 2020, posits partnerships to enable a green transition and energy access (among others), with a focus on green finance, sustainable en-

² www.hydrogenegypt.com/post/egypt-signs-more-green-hydrogen-agreements-with-seven-companies-1.

³ Moroccan Ministry of Industry and Trade: www.mcinet.gov.ma/en.

ergy and energy efficiency (European Commission, 2020). To meet these aims, policy coherence (i.e. a policy process to maximize synergies and reduce trade-offs across policy spaces) needs to be potentiated, both within individual countries, within the EU and between the EU and its Southern Neighbourhood. The EU's Strategy with Africa, for example, already notes that "coherence should be ensured between this strategy and the legally binding agreements between the EU and African countries..." (European Commission, 2020). This policy tool is key to ensuring both the EU *and* the southern Mediterranean are able to achieve their respective energy transitions.

However, the outcome of present and future partnerships with SMCs could be undermined for several reasons. On the southern Mediterranean side, political, regional and technical challenges persist. On the one hand, Morocco's hydrogen production alone cannot meet the demands of the EU. On the other hand, Algeria is hesitant to take rapid steps in the field of (green) hydrogen, given the current short-to-medium-term benefits from exporting fossil fuels. Additionally, long-standing political conflicts between Morocco and Algeria over the Sahara will continue to destabilize cross-border trade in energy and future South-South cooperation. On another note, Egypt is a potentially strategic partner to the EU. However, it is likely to remain cut off from the other SMCs due to the persistence of armed conflicts in Libya. Thus, regional conflicts limit the opportunities for successful cooperation between SMCs to create a hub for the production and export of hydrogen. This recalls the negative experience of the DESERTEC project that failed largely due to a lack of political stability in the region, among other reasons. It is also worth noting that two SMCs have particularly close relations with Russia in the field of energy. Both Algeria and Egypt are cooperating with Russia on the construction of nuclear power plants (Escribano, 2018; Roll and Ibrahim, 2018). Moreover, Egypt, for example, sources nearly 60% of its wheat imports from Russia (FAO, 2022). Strategic trade and energy relations between Russia and the SMCs, in addition to the current EU-Russian conflict, could slow down the progress of energy partnerships in the Euro-Mediterranean space.

On the European side, several internal challenges remain. In the face of crises, the EU has proven to

be both a leader of a coordinated and coherent response (i.e. in the aftermath of Russia's invasion of Ukraine), but can also be subservient to the policies of individual Member States (for example, in countries' markedly differentiated responses to Covid-19). The EU, in driving forward bloc-wide climate and energy policies to put the energy transition at the heart of its mandate, remains coherent in policy outputs. Implementation, however, is challenged, given Member States' varied policies to address their differentiated vulnerability to climate change, dependence on Russian gas and ability to meet domestic energy demands (either through fossil fuels or renewables).

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For example, in the wake of Russia's aggression in Ukraine, Germany (which in 2021 was dependent on Russia for 55% of its gas use) revamped coal production to ensure its energy security, thereby jeopardizing not only its own climate targets but the EGD too. Others called for the postponement of the EGD, pitting climate and energy priorities against each other even when the best way to deliver both is precisely through the coherence that the Deal itself promotes (Iacobuță, Faus Onbargi et al., 2022). In turn, policy incoherence amongst Member States can weaken the EU's position when it comes to negotiating strong and reliable green hydrogen partnerships.

Furthermore, conflicts of interest over energy supplies between Member States can send mixed signals to would-be-partners to the EU on the bloc's ability (and willingness) to deliver coherent energy transition partnerships. This can be especially hampering in light of SMCs' growing "de-coupling" from their southern European neighbours, due, in part, to the EU's historically mercantilist approach to trade with the region, and the bloc's lukewarm – if not ret-

icent – reaction to condemnable sociopolitical events, such as political repression in countries like Algeria (Ghilès, 2021). For example, the Midi-Catalonia Pipeline, meant to deliver natural gas (and in future green hydrogen) from Spain to the rest of Europe through the Pyrenees, was cancelled in 2019, and then again in 2022, after a political stalemate with France. The latter, while citing the 2050 climate neutrality aim of the EU as a main reason to object, also feared the effects of gas imports on its own energy exports (particularly nuclear, exported especially to Italy and Germany) (Reuters, 2022). Calls from Germany to allow the pipeline to go ahead, even in the wake of rising energy insecurity in the EU, were to no avail. Instead, a new hydrogen pipeline – dubbed the H2Med – between Portugal, Spain, France and now Germany – has been put into motion to supply around 10% of the EU's green hydrogen demand by 2030. In parallel, Italy's negotiations with Algeria to guarantee ongoing gas supplies have intensified, as noted above. Indeed, Italy is currently expanding gas extraction in Algeria and heavily investing in pipelines, in line with its plan to become an energy gateway to Europe (Sarno and Colantoni, 2023). At present, these pipelines are designed to transport gas, but could be converted to transport hydrogen in the future. This rests not just on the economic viability of hydrogen technology, but also on the political willingness of Algeria to produce hydrogen and that of Italy to transport it. In addition, diplomatic tensions between Algeria and Spain over the latter's reversed neutral position on Western Sahara has led Algeria to suspend gas exports to the country, diverting exports to Italy instead.

The external dimension of the EGD should not translate into a one-sided pursuit of the EU's own energy interests to the detriment of other countries

EU green hydrogen partnership aims may also be hampered by competing green hydrogen capacities on either side of the Mediterranean. Portugal and Spain, for example, countries with some of the high-

est renewable energy potential in Europe and conveniently located to become green hydrogen gateways for the rest of the EU, might find themselves in competition (when not in partnership) with Morocco, Algeria and Egypt, among others. These countries are not only emerging as green hydrogen powerhouses themselves, but are also in a position to bypass their southern European neighbours and pursue better deals with other EU states (even if they do tend to prioritize bilateral relations with southern European states, rather than with Brussels). The Germany-Morocco green hydrogen Power-to-X projects (see Bhagwat and Olczak, 2020) are a case in point. At the same time, southern European countries and SMCs are seeing dwindling freshwater reserves, raising questions on their future ability to produce green hydrogen. Preliminary pilot projects, confirming the feasibility of electrolyzing desalinated seawater, provide a glimpse into the vast green hydrogen opportunity potential for countries on either side of the Mediterranean Sea.

The Outlook: A “Just Transition” for Everyone?

While trying to balance its energy security and speed up the energy transition, the EU is looking for strategic partners in the Southern Neighbourhood. A potential cooperation between SMCs and the EU in the field of hydrogen could entail many benefits for SMCs, such as energy security, increased export revenues, FDI positive spillovers and the development of linkages along local value chains. However, for such energy partnerships to be successful and “transformative,” many challenges must be overcome, and some unanswered questions should be addressed.

Perhaps one of the most important questions relates to the meaning and implications of a just energy transition for Europe's neighbours. The EGD, as some have noted, understands its external dimension as a projection of its own internal strategies (Koch and Keijzer, 2021). But delivering on the external dimension of the EGD should not translate into a one-sided pursuit of the EU's own energy interests to the detriment of other countries. In the EU's Strategy with Africa, the EGD is specifically presented as “both the EU's new growth strategy and a plan to make Europe the world's first climate-

neutral continent by 2050" (European Commission, 2020, p.6). The EGD should not, however, come at the expense of growth strategies or climate-neutral initiatives elsewhere. This is particularly the case for countries, like those in the Southern Neighbourhood, that are especially vulnerable to climate change, have weakened social contracts and poor capacities to address both. In addition, green hydrogen partnerships should not come at the expense of these countries' energy and water needs, particularly given that the renewable energy supply is not sufficient to meet domestic demand in many countries across the African continent (Mallach et al., 2021, p.3). One should also not forget that the energy transition requires critical raw materials (CRMs), some of which are available in SMCs. However, the mining and extraction of CRMs to satisfy the future green hydrogen needs of the EU could entail significant environmental risks and encourage land grabbing and the displacement of local communities (El Katiri, 2023), rendering an unjust energy transition for both parties.

It is also important to note that the necessary investments in hydrogen and hydrogen-related industries are capital and technology, and they are energy intensive, with a limited impact on long-term employment. Moreover, the potential development of linkages to local industries may be undermined as hydrogen investments will be predominantly carried out by multinationals (Altenburg et al., 2023). Thus, hydrogen production may create "export enclaves" and, possibly, another "resource curse" in some of these countries. It is also uncertain whether SMCs have the capacities and the willingness to decarbonize their hard-to-abate industries (such as steel, cement, and fertilizers). Some of these industries are also either predominantly controlled by the state or reveal complex business-state relationships, and are usually heavily protected from domestic and foreign competition by high non-tariff barriers and opaque, exclusive regulations. Aside from the technical feasibility and cost competitiveness, the political economy of both energy and energy-intensive industries in the region may create resistance to effective decarbonization.

Energy partnerships should not be developed in ways that deepen processes of extraction (as some critics claim the EGD does) (Dunlap and Larette, 2022), nor deepen hegemonic North-South rela-

tions that can foment green colonialism (Claar, 2022). In the case where green hydrogen is not integrated in the SMCs' industries, for example, the EU will be importing green hydrogen from SMCs to accelerate its own decarbonization, while penalizing these countries using the Carbon Border Adjustment Mechanism (CBAM) for exporting non-green products (Altenburg et al., 2023). Ensuring that past colonial wrongs – leading to these countries' historical exploitation and economic path dependencies – are *not* repeated will be crucial if a global energy transition – with the EU as a fundamental partner – is to be a truly just one for all people and countries.

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This will require re-thinking the potential of green hydrogen not just as a bridge between fossil fuels and renewables to decarbonize energy systems and industrial sectors, but as a common platform to pursue a broader, and far more transformative, socio-ecological transition, which promotes fairer and more sustainable development pathways both in the EU and beyond. To this end, notions of social and climate justice will have to be integrated into green hydrogen partnerships, if energy transitions are to be truly just. Importantly, green hydrogen deals between the EU and its partners should not be one-sided, but rather based on observing partners, and their needs, as equals. As such, terms and conditions should be set in an equal (or, even better, equitable) manner, on the basis of strong consultation and deliberation mechanisms that strengthen democratic processes. At the moment, and motivated by the urge to end the bloc's dependency on Russian gas, the EU transition may be too quick for the economic and institutional capabilities of its neighbours, as well as their political will to follow the EU's lead. These considerations should be embedded in current and future green hydrogen partnerships, if the energy transition is to be coherent and, more importantly, just.

References

- ALTENBURG, T.; STAMM, A. and STROHMAIER, R. "Green hydrogen- support for the just transition?" *IDOS Current Column*, March 2023, German Institute of Development and Sustainability (IDOS), www.idos-research.de/uploads/media/German_Institute_of_Development_and_Sustainability_EN_Altenburg-Stamm-Strohmaier_13.03.2023.pdf.
- BARTOLETTO, S. *Energy Transitions in Mediterranean Countries: Consumption, Emissions, and Security of Supplies*, Edward Elgar Publishing, 2020. DOI: <https://doi.org/10.4337/9781788977555>.
- BHAGWAT, S.R., and OLCZAK, M. *Green Hydrogen: Bridging the Energy Transition in Africa and Europe*, European University Institute Africa-EU Partnership Brief, 2020, https://africa-eu-energy-partnership.org/wp-content/uploads/2021/04/AEEP_Green-Hydrogen_Bridging-the-Energy-Transition-in-Africa-and-Europe_Final_Publication_2.pdf.
- CLAAR, S. "Green colonialism in the European Green Deal: Continuities of dependency and the relationship of forces between Europe and Africa." *Culture, Practice and Europeanization* 7(2), 2022. DOI: <https://doi.org/10.5771/2566-7742-2022-2-262>.
- DUNLAP, A. and LARATTE, L. "European Green Deal necropolitics: Exploring 'green' energy transition, degrowth and infrastructural colonization." *Political Geography* 97 (102640), 2022. DOI: <https://doi.org/10.1016/j.polgeo.2022.102640>.
- EL-KATIRI, L. "Sunny side up: maximising the European Green Deal's potential for North Africa and Europe." *ECFR Policy Brief*, 2023. https://ecfr.eu/wp-content/uploads/2023/01/Sunny-side-up_Maximising-the-European-Green-Deals-potential-for-North-Africa-and-Europe.pdf.
- ESCRIBANO, G. "Algeria: Global challenges, regional threats, and missed opportunities." in JALILVAND, D.R. and K. WESTPHAL (eds): *The Political and Economic Challenges of Energy in the Middle East and North Africa*, Routledge, 2018, www.taylorfrancis.com/chapters/edit/10.4324/9781315201917-17/algeria-gonzalo-escrIBANO.
- EUROPEAN COMMISSION. *Renewed partnership with the Southern Neighbourhood: A new Agenda for the Mediterranean*. Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. JOIN(2021) 2 final. www.eeas.europa.eu/sites/default/files/joint_communication_renewed_partnership_southern_neighbourhood.pdf.
- EUROPEAN COMMISSION. A hydrogen strategy for a climate-neutral Europe. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2020) 301 final.
- EUROPEAN COMMISSION. *Towards a comprehensive Strategy with Africa*. Joint Communication to the European Parliament and the Council. JOIN(2020) 4 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0004>.
- FARRAND, A. *Against the flow: Europe's role in kickstarting Algeria's green transition*. European Council on Foreign Relations, 2022. <https://ecfr.eu/publication/against-the-flow-europes-role-in-kickstarting-algerias-green-transition/#algerias-existing-transition-plans-and-activities>.
- FAO: *Global Information and Early Warning System, Country Profile Egypt, 2022* retrievable online from www.fao.org/giews/countrybrief/country.jsp?code=EGY&lang=en.
- GHIÈS, F. "The cost of strategic failure in North West Africa." *CIDOB Notes Internacionals* 246. January 2021. www.cidob.org/en/publications/publication_series/notes_internacionals/246/the_cost_of_strategic_failure_in_north_west_africa.
- GREEN HYDROGEN ORGANIZATION. *GH2 Country Portal- Morocco*, 2023 retrievable online from: <https://gh2.org/countries/morocco>.
- HERRANZ-SURRALLÉS, A. "The Green Transition: A New and Shared Paradigm in the EU Partnership with the Southern Neighbourhood? Euro-Mediterranean Dimension of the New European Policies." *IEMed, Mediterranean Yearbook 2021*, IEMed Barcelona, 2021. www.iemed.org/publication/the-green-transition-a-new-and-shared-paradigm-in-the-eu-partnership-with-the-southern-neighbourhood/.
- IACOBUTĂ, G., FAUS ONBARGI, A. and SHAWOO, Z. *The European Green Deal and the war in Ukraine: Addressing crisis in the short and long term*.

- EETG, 2022. <https://ettg.eu/wp-content/uploads/2022/07/The-European-Green-Deal-and-the-war-in-Ukraine.pdf>.
- IRENA, *Planning and prospects for renewable power: North Africa*, International Renewable Energy Agency, Abu Dhabi 2023. www.irena.org/Publications/2023/Jan/Planning-and-prospects-for-renewable-power-North-Africa.
- IRENA, *Egypt Energy Profile*, 2022a retrieved online from: www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Egypt_Africa_RE_SP.pdf.
- IRENA, *Morocco Energy Profile*, 2022b retrieved online from: www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Morocco_Africa_RE_SP.pdf.
- KEULERTZ, M. and BYIRINGIRO, F. Trade for Food Security and Nutrition Security in the Arab Region, UNESCWA, December 2022.
- KOCH, S. and KEIJZER, N. The External Dimensions of the European Green Deal: The Case for an Integrated Approach, *Briefing Paper 13/2021*, German Development Institute, Bonn, www.idos-research.de/en/briefing-paper/article/the-external-dimensions-of-the-european-green-deal-the-case-for-an-integrated-approach/.
- MALLACH, K.; NEUBERT, S. and SCHAAF, J. "Bringing Climate Justice into the European Green Deal – Recommendations for new Energy Partnerships with Africa." *SLE Briefing Paper 01-2021*, Centre for Rural Development (SLE) www.sle-berlin.de/images/SLE/Publikationen/Briefing%20Paper%202021/GREEN%20DEAL_Briefing%20Paper%2001%202021.pdf.
- REUTERS. *France's Macron Says No Need for New Gas Pipeline between Spain and France*, 5 September 2022. Available at: www.reuters.com/business/energy/frances-macron-says-no-need-new-gas-pipeline-between-spain-france-2022-09-05/.
- ROLL, S. and M. IBRAHIM. "Energy politics in Egypt. A quick fix for economic problems." in JALILVAND, D.R. and K. WESTPHAL (eds), *The Political and Economic Challenges of Energy in the Middle East and North Africa*, Routledge, 2018, www.taylorfrancis.com/chapters/edit/10.4324/9781315201917-16/energy-politics-egypt-stephan-roll-mahmoud-ibrahim.
- SARNO, G.S. and L. COLANTONI. *A Changing Energy Diplomacy: The External Dimension of the RE-PowerEU Plan*, Paper prepared in the framework of the IAI-Eni Strategic Partnership, February 2023, Istituto Affari Internazionali. <https://iai.it/en/pubblicazioni/changing-energy-diplomacy-external-dimension-repowereu-plan>.
- VIDICAN-AUKTOR, G. "Energy Security, sustainability, and development in Morocco." in JALILVAND, D.R. and K. WESTPHAL (eds): *The Political and Economic Challenges of Energy in the Middle East and North Africa*, Routledge, 2018, www.taylorfrancis.com/chapters/edit/10.4324/9781315201917-18/energy-security-sustainability-development-morocco-georgeta-vidican-auktor.