

ANTICIPATING AND MITIGATING SIDE EFFECTS: THE ROAD TO A SUCCESSFUL GREEN TRANSITION IN THE EURO-MEDITERRANEAN REGION

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EuroMeSCo has become a benchmark for policy-oriented research on issues related to Euro-Mediterranean cooperation, in particular economic development, security and migration. With 116 affiliated think tanks and institutions and about 500 experts from 30 different countries, the network has developed impactful tools for the benefit of its members and a larger community of stakeholders in the Euro-Mediterranean region.

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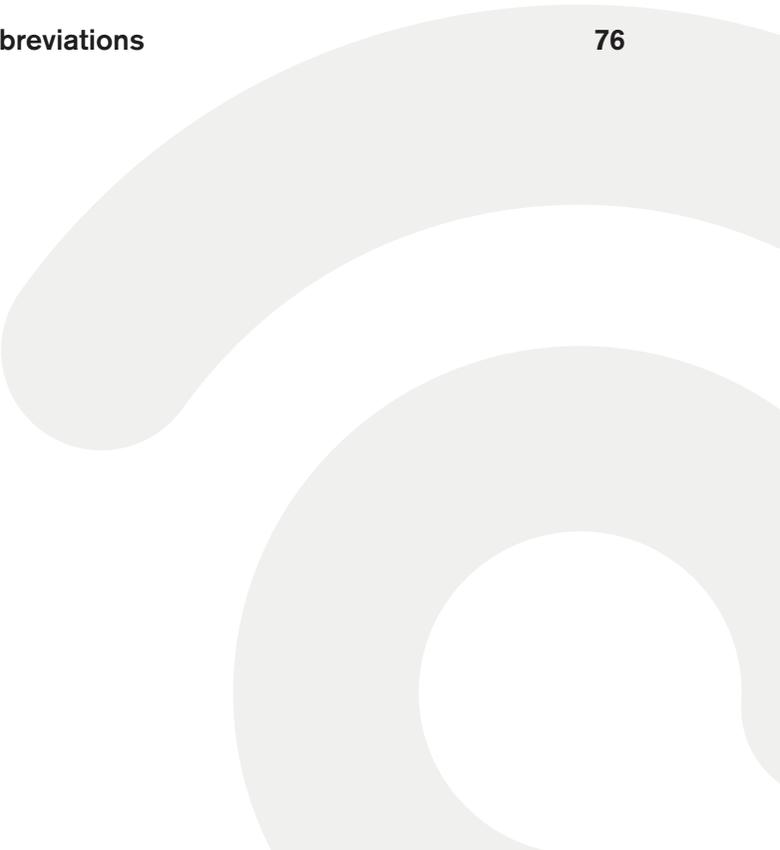
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Policy Study

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Executive Summary

The European Union (EU) has set ambitious climate targets to reach in the span of the next 30 years, including a collective net greenhouse gas emissions reduction target of at least 55% by 2030 (compared to 1990 levels) and the objective of a climate neutral Europe by 2050. The EU decarbonisation process can have significant positive side effects externally, including in the European neighbourhood. However, to produce win-win outcomes, equity should be kept at the forefront of climate cooperation through both diplomatic efforts and technical and financial assistance. European instruments such as the Carbon Border Adjustment Mechanism (CBAM) and the EU's Green Taxonomy are a case in point.

CBAM is expected to have an impact in the Southern Neighbourhood (SN), for example in the market of fertiliser-exporting countries such as Morocco, Algeria and Egypt. To make the measure more digestible for trading partners, the EU could consider deferring revenue to them to maximise investment in better technologies and discourage polluting business models.

The EU's green taxonomy also affects natural gas producers (Egypt, Algeria and Israel) in the Mediterranean, as gas is only listed in the taxonomy as a transitional fuel, without providing a comprehensive long-term solution when the EU moves away from fossil fuel consumption. The EU should therefore continue to deepen cooperation with energy suppliers in the SN both bilaterally and regionally in the attempt to support energy diversification on both shores of the Mediterranean and develop renewable energy sources, with technical and regulatory support where needed. In the context of energy diversification, green hydrogen is certainly a very promising technology in some SN countries, such as Algeria and Morocco. Yet EU accompanying measures will be necessary to facilitate bilateral trading agreements.

For the European Green Deal to be successful in driving the green transition domestically and globally, internal and external EU policy decisions must be fine tuned with climate ambitions, and the climate dimension needs to be included in all policies and sectors. In addition, climate diplomacy will continue to play a key role in EU external policy for the years ahead and it will have to be paired with green finance to manage the future of trade patterns in carbon-intensive industries, especially if asymmetries of climate efforts continue to exist.

In the Middle East, to overcome the intrinsic complexity, the EU should have a stronger high-level political drive focusing on big scale and ambitious projects which address climate change. Radical changes in the Middle East region are possible, and the framework of water and energy interdependencies among regional actors could be a political game changer for EU climate security. Nonetheless, the complexity of the region requires the mobilization of the right incentives to attract leading green investments and mitigate the political risk. The US was able to broker a "renewable energy for desalinated water" agreement between Israel and Jordan in November 2021. The EU could use this project as an example to build its own, equally ambitious, but including the Palestinians in regional climate agreements. The latter could pave the way for greater EU involvement in revamping the Israeli-Palestinian peace process, not based on the ineffective "land for peace" formula but on a new "cross-border climate and water solutions for peace" formula.

To date, the EU's concrete involvement in regional initiatives promoting climate-resilient transboundary solutions remains limited, despite its efforts to strengthen its diplomatic engagement on water and its willingness to improve regional cooperation on energy, environment, and climate action. In this respect, the EU needs to mainstream the energy-water nexus into policy developments and programme design and implementation. The latter is already encouraged by the European Commission (EC).

Regarding cross-border cooperation between different EU Delegations, it is recommended that the EU review its internal mechanism to ensure that regional cooperation is operational. The compartmentalisation of responsibilities in geographically distinct locations – Brussels from one side for the design and the implementation of regional programmes in different thematic areas and EU Delegations from the other for the bilateral cooperation with the specific country – has impacted on the optimal declination of bilateral and regional cooperation. This is particularly true in conflict-driven regions, such as the Middle East, where political constraints and technical-legal-administrative challenges have prevented cross-border cooperation among different EU Delegations. One way to improve the current situation could be to promote closer cooperation between the EU Delegations on the ground and the Union for the Mediterranean (UfM), which is responsible for articulating regional political dialogue on different thematic areas.

EU Delegations are a key resource in facilitating cooperation not only at a bilateral level but also at regional one. A number of successful initiatives promoted by the EU Delegation in Israel have demonstrated that science and climate diplomacy is an important lever to promote peaceful and prosperous relations among regional actors. EU delegations should cooperate more closely on climate-related initiatives,

and facilitate the involvement of the European Investment Bank with local stakeholders, leveraging its possible financial support in regional green projects. The Delegations of the EU to the Gulf countries could also be part of this attempt at regional cooperation, as the Gulf countries have shown great interest in investing in large-scale projects to support climate issues in the Middle East. The latter is in line with the goal of externalising the European Green Deal.

The EU should look at the Southern Neighbourhood as a key strategic area, which not only can contribute to the success of the green transition of the entire Euro-Mediterranean region, but can also ensure the diversification of the EU's energy supply by providing both clean energy and fossil fuels. In fact, the EU is expected to remain significantly dependent on oil and gas imports to meet its energy demands, at least for the next few decades. To reduce its energy dependence on Russia, as recently planned in its RePowerEU strategy, the EU should explore with Algeria and Libya the possibility of increasing its fossil fuel imports, while Israel and Egypt could be potential new partners for gas supply. On the other hand, the EU also needs to increase the supply of clean energy. Among these lines, Algeria and Morocco are certainly promising candidates for green hydrogen, and the EU's bilateral cooperation is the perfect tool to facilitate trade agreements. Looking to the Middle East, Jordan could become the solar hub for the Middle East and export energy to the northern shore of the Mediterranean once/if power grids with its neighbors, such as Israel, are interconnected.

Finally, it is important to emphasise that externalising the European Green Deal cannot occur without strengthening the existing bilateral green partnership between the EU and its southern neighbours. Morocco is a clear example, where the development of a national climate finance strategy and the acquisition of expertise in the technical and financial design of adaptation and mitigation projects are highly dependent on cooperation with the EU's main climate action institutions, such as the European Investment Bank (EIB), the French Development Agency, and the European Bank for Reconstruction and Development (EBRD). Given the role that research and innovation can play in accelerating and directing Morocco towards the green transition (i.e., Horizon Europe programme), acquiring cutting-edge technologies in specific areas such as renewable energy can make the Morocco-EU green partnership more effective. In this direction, the establishment of a green partner label of relations between the EU and Morocco will facilitate access to and association with EU initiatives, political dialogue, and funding. Regarding the cooperation in green hydrogen, the green partnership between the two parties should contribute to the establishment of a high-level strategic committee with the objective of developing a roadmap based on an in-depth analysis of the opportunities and constraints for a successful green hydrogen strategic alliance. It is desirable to secure this alliance by setting up specific financial mechanisms according to the win-win partnership, specifying the contributions of each party and affecting all the links in the green hydrogen chain.

EU'S CLIMATE AMBITIONS AND THE CHALLENGES POSED BY THEIR EXTERNALISATION

The ingredients of a successful externalisation of the EU green deal in the Southern Neighbourhood

- Internal and external EU policy decisions must be fine-tuned with climate ambitions, including climate dimension in all policies and sectors
- Equity should be placed at the forefront of climate cooperation, through both diplomatic efforts and technical and financial assistance
- The framework of interdependencies on water and energy matters among regional actors in the Middle East could be a political game changer for EU climate security in this region and should be fully exploited

Some foreseeable side effects on the Southern Mediterranean countries

The digestibility of the taxation on carbon-intensive activities may further strain the industries of Southern Mediterranean countries, with a risk of making them bear the costs of the EU's green transition

How should the EU decarbonisation toolkit be used to ensure an externalisation of the EU green deal?

- The Carbon Border Adjustment Mechanism (CBAM) should be digestible for carbon-intensive industries, deferring revenue to them and maximising investment in better technologies
- The EU's green taxonomy should provide a comprehensive long-term solution for natural gas producers, which mitigates the impact on their economies as the EU moves away from fossil fuel consumption
- Climate diplomacy in the Southern Neighbourhood should be paired with stronger green finance to manage the future of trade patterns in carbon-intensive industries, especially if asymmetries of climate efforts continue to exist

On energy producing countries, the EU diverting capital from fossil fuels to renewables will impact the Southern Mediterranean economies—both consumers and exporters—particularly with regards to gas

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HOW CAN THE EU ENSURE WIN-WIN OUTCOMES? KEY TAKEAWAYS OF THE STUDY

- Further mainstreaming the energy-water nexus into policy developments and programme design and implementation
- Promoting closer cooperation between EU Delegations on the ground and the Union for the Mediterranean, a key actor of regional political dialogue
- Increasing regional cooperation between EU Delegations and financial institutions such as the European Investment Bank
- Equipping EU Delegations with adequate scientific and climate expertise, together with necessary budgetary resources
- Strengthening existing green partnerships between the EU and its southern partner countries (via high-level political dialogue, roadmaps, policy learning and feedback)
- Establishing a green partner label of relations between the EU and its partners on the southern shore of the Mediterranean
- Creating a Mediterranean Renewable Energy Community to strengthen institutional support for the development of green energy and build new green electrical interconnections

For fossil fuel producing countries in the MENA region

EU should support a more diversified economy in neighbouring oil-exporting countries and use its domestic model of green technology leadership to deploy investment in large-scale solar and green hydrogen projects in countries such as Algeria

While GCC states have attained part of their economic diversification goals, petroleum products continue to represent over 40 % of GDP in most countries, except for the UAE (30 %) and Bahrain (18 %)

The border adjustment tax would create significant challenges for Gulf countries in a way that will rewrite the terms of the competitive landscape and international trade

Through green diplomacy

- Establishing a continuous high level political dialogue between EU and its partners on the southern shore
- Establishing a high level strategic committee between the two parties with the objective of developing a successful roadmap
- Setting up financial mechanisms to secure that roadmap
- Developing adequate expertise in green development and functioning channels of cooperation between the two parties
- Enabling policy learning and feedback loops

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Introduction

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A prosperous, greener and more stable Southern Neighbourhood (SN) is a strategic priority for SN countries themselves and the European Union (EU). In its Joint Communication on a Renewed Partnership with the Southern Neighbourhood released in February 2021, the European Commission (EC) sets out a new Agenda for a “green, digital, resilient and just recovery, guided by the 2030 Agenda for Sustainable Development, the Paris Agreement and the European Green Deal.”

Furthermore, the post-COVID-19 context urges us to rediscover the road to prosperity through the transition to a sustainable and green economic model.

However, despite the political will and initiatives put in place in the region, **the green transition on the southern shore of the Mediterranean has proven to be more challenging and complex than on its northern shore.** Decarbonisation policies and low-carbon technology advancements are currently undergoing structural transformation in the global energy architecture, and the SN,¹ endowed with half of the world’s known oil and gas reserves is particularly exposed to these changes. Indeed, the new global trade patterns risk destabilising those countries whose economies depend primarily on oil and gas exports. Furthermore, the Middle East region warms 20% faster than the rest of the world and the impacts of climate change, such as water scarcity and desertification, are already affecting regional stability (e.g., in Jordan, Syria and Palestine). Last but not least, global powers such as China have significantly increased their geo-strategic interests in the Medi-

terranean Sea, prompting the international community, including the EU, to address the geopolitical and geo-economic dimensions of the Green Deal, especially in the SN.

This EuroMeSCo Policy Study seeks to take stock of how Southern Mediterranean countries are reacting to the transformation of the global energy architecture, what opportunities are offered by the European Green Deal and, at the same time, what obstacles the green transition in the region is facing.

1. What are the policy implications of the EU Green Deal on relations with SN countries?
2. What options are available to mitigate the foreign policy side effects of the EU’s internal decision in the fields of energy policy, decarbonisation and climate finance? How can the EU and SN countries take advantage of the multiple channels of cooperation at their disposal – including trade negotiations, association agreements, and a variety of formal and informal ties – to collectively ensure a successful ecological transition in the Euro-Mediterranean region?
3. What is the impact of the EU Green Deal on the fossil fuel exporting countries in the Middle East and North Africa (MENA) region and how can the EU policies and actions be framed in order to alleviate possible negative impacts in these countries?
4. What role should the international community play in the Southern Mediterranean and what mitigation measures

¹ EU cooperation with the SN takes place in the framework of the European Neighborhood Policy (ENP) and includes ten partner countries: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia.

should it put in place to support a successful green transition in the region?

5. How do governance issues and technical barriers impede the development and implementation of green transition? How can sustainable agriculture be reconciled with the imperative of food security in the context of climate change and water scarcity? How can climate finance be used for a successful green transition?

The policy study seeks to answer these questions through four individual contributions, each on a specific area related to green transition, but all with the common goal of anticipating and mitigating its side effects in the SN region. Altogether they try to envisage a way forward for a successful green transition in the Euro-Mediterranean region. In all the chapters, semi-structured interviews, conducted remotely or in person when possible, complement the desk and field research.

How the EU Green Deal Shapes the Agenda for the Mediterranean

Laura Basagni

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Introduction

The European Union (EU) has set ambitious climate targets to reach in the span of the next 30 years, including a collective net greenhouse gas (GHG) emissions reduction target of at least 55% by 2030 (compared to 1990 levels) and the objective of a climate neutral Europe by 2050. The successful achievement of these goals requires an all-encompassing transformation of economic systems and structures: the [EU Green Deal](#) (EC, 2019) provides the policy framework for such transformation and the compass for all EU policies to be streamlined with its environmental and climate ambitions, while the proposed [Fit for 55](#) (EC, 2021b) strategy provides the implementation guidelines for the next 10-15 years.

The [Renewed Partnership with the Southern Neighbourhood, A New Agenda for the Mediterranean](#) (EC & EEAS, 2021), launched on 9 February 2021, sets “a new agenda for the Mediterranean” and includes the green transition as one of five priorities for cooperation. The communication identifies as pillars of the green transition: green growth and climate action; energy transition and energy security; resource efficiency, fight against pollution and protection of biodiversity; and sustainable food systems.

The goal of mainstreaming climate action across all funds is adequately reflected in the new framing of the EU Southern Neighbourhood (SN) strategy, as well as in the [Neighbourhood, Development, and International Cooperation Instrument](#) (NDICI), 30% of which is earmarked for green projects. However, this remains a relatively new field of cooperation, which is further complicated by the all-encompassing nature of the climate challenge and the different levels of

economic developments among Mediterranean countries.

While the level of coherence among traditional external policies has been explored by policy and academia alike, relatively less attention has been paid to the nexus between internal and external policy-making and the side effects of internal decisions on relationships with third countries. This is particularly relevant in the case of environmental policy and climate action, as climate change is driven by economic activities and market practices, and it has intense consequences for stability, security and migration patterns. The interconnections between policies are vast and many, therefore blurring the line between internal and external policy-making. The external dimension of EU climate policy will be the focus of this chapter, in particular the effects on countries of the SN. The research includes the analysis of relevant EU official documents as well as a series of semi-structured interviews with staff members of EU Delegations to the SN countries. The section on the Carbon Border Adjustment Mechanism (CBAM) also benefited from a series of consultations with stakeholders from the public sector, business and civil society in the EU and third countries that will be impacted by this policy measure.

For the Green Deal to provide a blueprint for the green transformation domestically and abroad the challenge is to streamline policy-making with climate ambitions across the board and ensure coherence between internal and external strategies. The EU walks a tightrope between the pursuit of its own decarbonisation and the risk of alienating its partners, while at the same time pushing them to be bolder in their green transformation. On a case-by-case basis, European diplomacy will play a fundamental role.

EU external environmental impact

As one of the world's biggest market economies, the EU has a strong, negative environmental impact beyond its borders. Developed economies including the EU have historically been responsible for a major share of global rise in temperatures, causing environmental degradation and climate change within and beyond their territories (Ritchie, 2019). The EU is also a significant consumer of imported resources, including energy, and as such its consumption patterns generate significantly higher environmental impact outside than inside the EU (Biedenkopf & Groen, 2021).

Similarly to other major economies, the EU has also had an unintentional negative environmental impact on third countries through policies that pursue goals that are inherently at odds with sustainability (Biedenkopf & Groen, 2021). Clear examples are in the domains of both competition policy – such as subsidising fossil fuel projects and unsustainable production practices in the agri-food industry – and trade policy. Traditional trade policies serve economic objectives that have not internalised environmental costs, and therefore can bear negative consequences for the environment and the climate. Trade agreements that increase the production for import of commodities like meat, fertilisers, palm oil, to name a few, are directly linked to deforestation, land degradation, and the increase of carbon emissions in exporter countries (Goldman et al., 2020). The European Commission (EC) is currently engaged in a review process of its trade and sustainable development strategy, and ongoing negotiations such as the EU-Mercosur trade deal negotiations

have the potential to mark a turning point for the integration of environmental concerns into the EU trade regime. Yet, the full integration of environmental objectives into internal and external policy areas has been recognised as something that still needs to be tackled fully (Biedenkopf & Groen, 2021).

On the other hand, the size and openness of the single market – the EU accounts for 14% of global trade in goods² – provides the EU with a strong power to exercise a positive influence externally through the market itself and through active climate diplomacy and technical cooperation to create convergence with third countries.

External effects of internal policy decisions

The EU decarbonisation process can potentially have significant positive side effects externally, including on the European neighbourhood. The EU leads by example by changing its own rules of production and consumption, regulating its own market and creating incentives to other countries globally to implement equivalent norms to keep access to the single market. This unintentional external effect of regulating the single market known as the “Brussels effect” (Bradford, 2020) gives the EU power to shape the international business environment and elevate its own standards globally. There are few global companies that can afford not to trade in the EU, and the price for accessing the single market is adjusting their conduct and production to EU standards, which are often the most stringent standards globally (Bradford, 2020). Examples of EU regulations with a global impact

As one of the world's biggest market economies, the EU has a strong, negative environmental impact beyond its borders

² More data available here: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_trade_in_goods#:~:text=The%20EU%20accounts%20for%20around,harder%20to%20trade%20across%20borders

include the 2016 General Data Protection Regulation (GDPR), the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), and the inclusion of the aviation sector in the EU Emissions Trading System (ETS), to name a few notable cases. By changing its market practices to be aligned with its climate ambitions, there is a strong potential for the Brussels effect to manifest and accelerate the green transition beyond the EU borders, as third countries and businesses might choose to adapt their own to EU rules to keep access to the single market.

As climate action becomes a priority internally, it also grows in importance externally. The EU is increasingly moving towards actively discouraging investments in polluting sectors, such as fossil fuels, as shown by the European Investment Bank (EIB)'s decision to become a "green bank" by ending all investments in fossil fuel energy by the end of 2021 (EIB, 2019); and the deal struck at the Conference of the Parties to the United Nations Convention on Climate Change (COP26) in Glasgow in November 2021, pledging to end public investments in fossil fuel energy extraction and production abroad by 2022. Several EU countries joined, including Belgium, Italy, France, Germany and Spain.³

The new framework of the European Neighbourhood Policy (ENP) includes climate action as one of the main priorities to drive the green transition and highlights how the Green Deal represents a unique opportunity for cooperation on strategic priorities under the broader umbrella of the Paris Agreement. The emphasis is put on climate governance and its link with public finances and fiscal initiatives; supporting carbon pricing initiatives in

line with the EU's own carbon market; technical assistance to support public administrations at all levels of governance to implement legislative changes; and education and awareness-raising around climate change. The EU also intends to help mobilise international public and private finance to attract the necessary investments in strategic infrastructure for the green transition, in particular energy, water and transport. The NDICI will be the main EU financial instrument to support the neighbourhood policy under the new budget cycle 2021-27, with 30% of the funds earmarked for green objectives. In addition, the recently unveiled Global Gateway – the EU connectivity strategy – plans to mobilise €300 billion between 2021-2027 for connectivity projects around the world, including in the fields of climate and energy (Tagliapietra, 2021).

The narrative in the New Agenda for the Mediterranean carefully frames the green transformation as an opportunity. This is important in the broader context of global climate negotiations between post-industrial and developing countries, as the principle of equity and the concepts of "common but differentiated responsibilities" and "respective capabilities" underpin the process (UNFCCC, 2015). Developing countries emphasise their need to pursue economic development and contribute a larger share of global carbon emissions, while post-industrial countries drastically cut back on their own (Ulgen, 2021). Fossil fuel exporting countries face particularly difficult challenges to diversify their economy and maintain energy security. In its narrative the EU acknowledges that but also emphasises the opportunities that climate action provides to "help mitigate risks to

The narrative in the New Agenda for the Mediterranean carefully frames the green transformation as an opportunity.³

³ The complete text and list of signatories are available here: <https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/>

human lives and livelihoods and promote sustainable development, job creation and transition to high value sectors" (EC & EEAS, 2021).

EU climate diplomacy

Beside regional frameworks like the ENP, the EU coordinates its external climate action through diplomatic efforts. The first [EU Climate Diplomacy Action Plan](#) was developed in 2015 and revisited last in 2018 (6125/18). A series of interviews with staff members of EU Delegations in the SN countries showed that the effect of the Green Deal on EU diplomacy will only be fully appreciated with time. Yet the new policy framework of the Green Deal has already reinforced the message that climate is a core interest for the EU, and climate action has shifted from being an element to mainstream across policies to one to prioritise. Technical and financial assistance in relations with neighbourhood countries is strongly tied to environmental standards and climate targets.

That said, the extent to which climate cooperation is pursued with each Southern Mediterranean country varies on a case-by-case basis. This is particularly due to the levels of stability and security in each country, and climate cooperation is perceived as less of a priority in crisis-prone environments, like Lebanon and Palestine. The energy mix – in particular, to what extent the country relies on its own reserves of fossil fuel energy, and to what extent capacity for renewable energy production has been developed – and the maturity of the energy sector in terms of transparency and efficiency are also important elements to shape bilateral climate goals. The political priorities in each country and the degree of domestic support for climate action also play a role. Public opinion in the region is not fully engaged with climate and environmental issues. Despite the Mediterranean

region being one of the most severely affected by climate change in the world, with temperatures rising at a much faster pace than the global average, and devastating consequences for key sectors such as tourism, agriculture and public health (MedECC, 2020), the link with climate action is not fully appreciated by citizens and politicians alike, and environment ministries are often underfunded, making it difficult for the implementation of national climate targets to succeed.

The role of EU Delegations is also important, and it varies depending on the quality and intensity of relations with Brussels-based institutions, the expertise of each Delegation's staff members, and the host country context (Biedenkopf & Petri, 2019). They can play a key role in implementing EU climate diplomacy through outreach activities – especially around global summits and international negotiations – by sharing the EU experience and advocating for climate as a policy priority *vis-à-vis* foreign governments. But they also play a key role in providing Brussels with first-hand analysis of the local context and political perception that can feed into headquarters' policies and strategies. There is a strong potential to nurture useful feedback loops. Individual entrepreneurship and initiative by Delegation staff have a strong role in determining the degree to which Delegations are active players in shaping EU climate policy externally (Biedenkopf & Petri, 2019). This is coherent with the difficulty to coordinate multiple actors around shared goals, a problem that the EU experiences both internally and externally.

The Carbon Border Adjustment Mechanism

The CBAM (EC, 2021b) is one of the climate measures included in the *Fit for 55* strategy. The proposed mechanism would

Climate action has shifted from being an element to mainstream across policies to one to prioritise

impose a cost on import of carbon-intensive products, specifically – to start – cement, aluminium, iron and steel, fertiliser and electricity. These industries will be taxed more heavily for their carbon emissions under the reformed ETS, and, in time, they will not benefit from free allowances anymore. Instead, they will be protected by the border adjustment mechanism.

Previously, the regime of free allowances gave European companies vulnerable to carbon leakage free carbon allowances to guarantee their competitiveness in the global market. Carbon leakage refers to the situation that may occur if businesses facing costs due to stricter climate policies decide to transfer their production elsewhere to countries with lower or no costs associated with carbon emissions. It also refers to the switch in demand of domestic products to cheaper imported products whose lower price reflects the absence of environmental and climate measures in the country of origin. Vulnerability to carbon leakage is the principal reason behind the proposal of CBAM, as carbon pricing in the EU is raised.

CBAM is seen as a necessary measure domestically to gain support for the Green Deal. At the same time, it will have an impact beyond the EU's border: in the SN, imports from Morocco, Algeria and Egypt will be impacted by the measure, mainly in the fertiliser market.⁴ Furthermore, ongoing negotiations of the Commission's proposal among the EU institutions do not exclude the possibility to further expand CBAM to additional sectors such as organic chemicals, hydrogen and polymers, which would further increase its impact on imports (Taylor, 2022). Medi-

terranean countries have not been vocal about CBAM, and official requests for consultation on this specific measure have not been filed to the EU institutions. Critiques against CBAM have instead been led by the BASIC countries (Brazil, South Africa, India, and China). They focus on the fact that the CBAM is inherently in violation of the system of differentiated responsibilities that underpins the United Nations Framework Convention on Climate Change (UNFCCC). Moreover, experts fear a World Trade Organization (WTO) dispute around CBAM would further shake the global trade architecture, already under considerable strain (Dadush, 2021).

The EU sees CBAM as a necessary step to drive its own decarbonisation process domestically. It is also the natural consequence of the system of differentiated responsibilities, as the asymmetry of climate efforts around the world persists, with the EU showing a lot more concrete ambition than most of its main trading partners (ERCST, 2021). CBAM is also seen as a way of encouraging other parties to the Paris Agreement to move to the same level of ambitions as the EU. By adapting to the same EU norms to keep access to the single market – the Brussels effect in practice – countries would need to speed up their own decarbonisation process. For instance, Turkey's climate envoy declared before COP26 that the prospect of an EU border adjustment mechanism had influenced his country's decision to step up its climate ambitions and join the Paris Agreement (Weise, 2021).

In order to make the measure non-discriminatory, CBAM targets products from

The EU sees CBAM as a necessary step to drive its own decarbonisation process domestically

⁴ The following data describe trade flows with the SN in the sectors covered by CBAM, in percentage of total EU imports: fertilisers: Egypt (8.8%), Algeria (7.7%), Morocco (7.4%); electricity: Morocco (0.2%). Data source: ERCST, 2021.

individual production plants, not countries; sets the price as the difference between the EU carbon price and the carbon price paid in the producing country – if any; and applies to all countries regardless of their level of development, as *it is not in the interest of the EU nor partner countries to foster growth in carbon-intensive industries* (Chase & Pinkert, 2021). It is still to be decided how the EU is going to allocate revenues from CBAM. To make the measure more digestible for trading partners, the EU could consider sending the money back to them to maximise investments in better technology and disincentives against polluting business models (Basagni & Chase, 2021).

Climate diplomacy, paired with green finance, will be key to managing the future of trade patterns in carbon-intensive industries if asymmetries of climate efforts continue to exist. The EU should use diplomacy to prevent the narrative around CBAM from becoming one of European countries dumping the costs of their green transformation onto developing ones. This would feed conspiracy theories and promote disinformation against climate action and the EU itself (Basagni & Chase, 2021).

Morocco, for instance, has been selected by the EU to intensify cooperation on climate and environment as a Green Partner – under the EU framework of Green Alliances and Partnerships.⁵ Joint work around climate and trade could be included in the cooperation programme, and technical assistance and financial support (potentially driven from the CBAM revenues) channelled to encourage convergence of decarbonisation efforts. In this regard, the director of Morocco's Agency for Energy Efficiency declared in May of 2021 the intention of preparing a Moroccan regulation recognised at the European level to evaluate the carbon

intensity of Moroccan production processes, and the intention to collaborate with the EU to set appropriate criteria (Industries.ma, 2021). While this is just a declaration and additional information about further developments have not been found, it suggests space for bilateral engagement around the challenge of carbon pricing.

Energy in the Green Taxonomy

The EU Green Taxonomy (Regulation [EU] 2020/852) is another important tool for the implementation of the Green Deal. The Taxonomy will be a classification of sustainable economic activities. By sustainable, the EU defines activities that contribute substantially to climate mitigation and climate adaptation and respect the principle of do-no-harm to the other four environmental objectives set by the regulation: namely, the sustainable use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems. These activities will be granted a green label by the EU to provide a signal to the market that indicates what constitutes a sustainable investment. The EU taxonomy will be the first attempt to assemble a comprehensive classification of this kind: it aims to provide a transparent and easily applicable tool to direct investments towards decarbonisation and channel the necessary public and private financing to the Green Deal. It is expected to provide a benchmark in the field of sustainable investment globally, therefore investors inside and outside of the EU are following the evolution of the taxonomy very closely.

Energy is a controversial chapter in the taxonomy. On 2 February 2022, the Commission approved in principle a Complementary Climate Delegated Act including,

⁵ https://ec.europa.eu/international-partnerships/topics/green-deal_en

under strict conditions, specific nuclear and gas energy activities in the list of economic activities covered by the EU taxonomy (EC, 2022). Nuclear energy and gas are currently at the core of the debate on the adoption of an ad-hoc complementary delegated act. Given the nature of energy trade flows in the Mediterranean region, this chapter will limit itself to the debate around provisions concerning natural gas. The taxonomy defines the threshold for sustainable energy activities at 100g CO₂ e/kWh lifecycle emissions. According to these criteria, natural gas is not green: most existing gas production today would even fall above the significant harm threshold for climate change mitigation, which has been set at 270g CO₂ e/kWh. However, the EU acknowledges that natural gas will play a pivotal role in the energy transition, especially throughout the next decade. Gas will be needed to phase out other more polluting fossil fuels and support the economy, while renewable energy sources are further expanded to adequately satisfy demand. Europe's pro-gas member states in the south and east are putting pressure on the EU institutions to not penalise technologies they consider vital in securing the transition to net-zero emissions (Khan & Fleming, 2021). At the same time, non-governmental organizations (NGOs) and investors alike are pressuring the EU to make sure the taxonomy sets clear standards that are evidence-based and grounded in science (Ainger & Marsh, 2021). The debate is still open, yet the Commission has opted for including gas in the taxonomy as a transitional fuel "to recognise and support the financing of certain economic activities [...] that contribute to reducing greenhouse gas emissions in a way that supports the transition towards climate neutrality throughout the current decade" (EC, 2021b).

Moving beyond the debate on whether or not this was the right decision in building the EU taxonomy, the fact that gas is designed as a resource with a limited time span in the European energy mix has had implications for the Mediterranean. While the taxonomy does not create a ban on investing in fossil fuel, it reflects the EU's desire to divert capital from fossil fuels to renewables. That is ultimately the goal of the taxonomy: to provide a clear signal to the market to support a strategy of green growth, such as the Green Deal, away from carbon-intensive economic activities. The taxonomy will have extra-territorial reach, as anyone offering financial products in the EU will need to abide by the disclosure obligations as per Article 8 of the taxonomy regulation. To encourage dialogue and potentially coordination around the development of taxonomies, the EU has set up the International Platform on Sustainable Finance (IPSF) in which Morocco has participated since its launch in 2019. More importantly, though, the taxonomy is likely to have international influence beyond its extra-territorial reach and despite there being no formal mechanism to bind third countries to share the EU sustainability criteria. While it does not create a ban on investing in fossil fuel, it reflects the EU's desire to divert capital from fossil fuels to renewables. That is ultimately the goal of the taxonomy: to provide a clear signal to the market to support a strategy of green growth, such as the Green Deal, away from carbon-intensive economic activities.

In the Mediterranean, gas plays an important role in the energy mix and in regional geopolitics, with both important consumers (Egypt, Jordan, Italy, France and Turkey) and producers (Algeria, Egypt and Israel) present in the region.⁶ In the 2000s and 2010s field discoveries in the Eastern

⁶ Data available at http://www.medreg-regulators.org/Portals/_default/Skede/Allegati/Skeda4506-512-2021.2.23/MED20-30GA.pdf?IDUNI=4vd5nilby2kziyrysgccorwq9187

Mediterranean have made gas more available, and a combination of economic factors – favourable prices – and political factors – less carbon emissions compared to oil and coal – made investments in gas palatable. Mediterranean gas was strategically seen as a tool to diversify energy supply to increase energy security, including by the EU *vis-à-vis* Russia and the weaponisation of its gas supply in the conflict with Ukraine. Moreover, gas has been a venue for regional integration with multiple investment projects already in the pipeline in interconnection and storage.⁷ Yet, so far, gas has failed to provide the avenue for cooperation that many politicians and commentators had hoped for: gas discoveries have become a source of division that overlaps with existing regional conflicts in Cyprus, Palestine and Libya, rather than an opportunity for cooperation and peace-building (Ibish, 2020).

With gas consumption in Europe set to sharply decline after 2030, and a general realisation that gas will only play a transitional role in the decarbonisation process as reflected by the taxonomy debate, the new avenue for cooperation is planning the region's phase out of fossil fuels, including gas, in accordance with the recommendations of international institutions.⁸ The development of infrastructure for the production, storage and transport of renewable energy for consumption in the region and towards Europe, as well as investments to make pipelines fit to re-

convert for future transportation of green hydrogen,⁹ will be key avenues for cooperation in the Mediterranean, making the Green Deal an historic opportunity for cooperation in the region (Grigoriadis & Levoyannis, 2021).

Bilateral cooperation in the energy field will advance at different speeds according to each partner's priorities. Some examples follow:

- In countries like **Jordan** and **Morocco**, where the process of cooperation and dialogue with the EU around renewable energy development started as long as 10 years ago, the partnership can be more ambitious. Morocco was chosen as one of the EU's "green partners" and delegation staff reports that the Green Deal has had a substantial impact on the programming for financial and technical cooperation over the next 7 years.
- Energy insecurity is currently high in **Lebanon**, and the energy sector presents challenges both in terms of transparency and efficiency. Technical cooperation to improve market practices was identified as a necessary first step before tackling the energy transition.
- **Algeria** currently provides 8% of EU gas imports, and bilateral cooperation on energy is strong. A sub-committee on environment, energy and transport convenes once a year; in addition, a platform

Bilateral cooperation in the energy field will advance at different speeds according to each partner's priorities

⁷ A detailed map of gas infrastructure in the Mediterranean is available from the MED17-24GA -5.4.2 FINAL REPORT, available online: http://www.medreg-regulators.org/Portals/_default/Skede/Allegati/Skeda4506-254-2018.4.27/MEDREG_Gas_Infrastructure_Map_April_2018.pdf?IDUNI=fm2sq3k2hhieekm4ygbk10u5272

⁸ Research on net-zero by 2050 pathways for the energy sector, including the recent IEA World Energy Outlook, stresses that there is no remaining carbon budget for new gas investments and that existing gas-fired power plants will have to be phased out by 2035 in the Organisation for Economic Co-operation and Development (OECD) and 2040 globally.

⁹ The EU Hydrogen Strategy refers to the objective of developing 2x40 GW of renewable hydrogen by 2030: 40 GW in Europe and 40 GW in Ukraine and Northern Africa.

for dialogue was established in 2015 to allow for frequent exchange and deeper cooperation on energy. Algeria shows interest in streamlining its own regulation and practices with those of the EU: technical cooperation is focusing on increasing energy efficiency; developing renewable energy sources (solar and wind power); the production of hydrogen; and preparing for a future independent of natural gas production.

Conclusions

The EU has a strong, external environmental impact due to its market size and complexity, and the high degree of interdependence with other economies. In the past, unsustainable market practices, but also policies inherently at odds with environmental goals, contributed to pollution and climate change globally. The Green Deal set out to reverse this pattern and turn Europe into the first climate neutral continent. For the Green Deal to be successful in driving the green transition domestically and globally, policy coherence needs to be pursued by streamlining internal and external policy decisions with climate ambitions. Climate action is all-encompassing across policies and sectors. Therefore, climate diplomacy should become the cornerstone of EU external policy in this decade.

Despite its recent adoption, this research shows that the Green Deal is already playing a key role in shaping the EU's relations with third countries, including the agenda for cooperation in the Mediterranean region. The cooperation programme set out for the next seven years under the new framework of the European Neighbourhood Policy (ENP) South reflects the prioritisation of climate action in Euro-

pean politics, both in terms of thematic priorities and allocation of finances. Moreover, policies like CBAM and the Green Taxonomy will have an impact on partner countries in the Mediterranean. The EU should not lower its ambitions to decarbonise its economy due to the system of differentiated responsibilities. Instead, the external impact of its decision-making should be carefully monitored, and equity restored in climate action through diplomatic efforts and technical and financial assistance, leading to win-win outcomes.

The EU has already overcome the conflict between climate and growth-oriented policies by framing the green transition as an economic opportunity, and the Green Deal itself as a strategy for growth. Next steps should make sure that the systems and structures that implement the Green Deal do not alienate partner countries, while pushing them to raise their climate ambitions. Climate finance will be the crucial next step. CBAM is a case in point and careful deliberation is needed to decide how to allocate revenues in a way that is grounded in climate justice. Meeting climate finance pledges also remains a priority to manage decarbonisation in the context of relations between developed and developing countries.

Finally, the role of EU Delegations in climate diplomacy is powerful. They are a key resource in enabling policy learning and feedback loops and facilitating cooperation at both bilateral and regional levels. Making sure that Delegations are equipped with adequate expertise and resources and functioning channels of cooperation with Brussels-based institutions and with each other should be considered a priority in developing the external dimension of the EU Green Deal.

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A Framework of Water-Energy Interdependence Among Regional Actors: A Necessary Step Toward a Successful Green Transition in the Middle East and for the EU's Climate Security Beyond its Borders

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Introduction

In the Middle East, population growth and climate change challenges are increasing water and energy demand, putting further strain on water and energy systems as well as access to natural resources. A successful green transition in this region calls for a better coordination of sectoral policies and enhanced regional cooperation in the fields of energy, water and sustainability.

For several years now, EcoPeace Middle East, a unique transnational organisation that brings together Jordanian, Palestinian and Israeli environmentalists, has been promoting a regional water-energy nexus to address the climate crisis and manage its geopolitical repercussions. In their 2020 report entitled "The Green Blue Deal for the Middle East", the organisation indeed proposed a framework of interdependencies in the Middle East to utilise climate change as an opportunity for creating cooperation in the region. In particular, the report outlines the economic, technical and geopolitical benefits of using Jordanian solar-based energy and Israeli and Palestinian desalinated seawater, offering a solution to mitigate the growing impact of climate change and its regional and national security consequences.

On 22 November 2021, the signing of the Declaration of Intent between the Hashemite Kingdom of Jordan, the State of Israel and the United Arab Emirates marked the beginning of a new chapter in the Middle East region, where political goodwill among the relevant actors could pave the way for the expansion of existing regional cooperation on water- and energy-

related initiatives with climate and security advantages. However, the absence of the Palestinians is regrettable.

The European Union (EU) should support initiatives, like the one proposed by EcoPeace Middle East for regional integration on climate and water issues in the region, to meet its ambitious goal of externalising the European Green Deal beyond its borders. The framework of interdependencies on water and energy matters among regional actors in the Middle East could be a political game changer for EU climate security in this region.

Yet, the political willingness of the regional actors involved is a *conditio sine qua non* for any cross-border initiative to effectively materialise. In this context, the present study focuses on the analysis of the current political situation regarding regional cooperation on energy and water issues. Semi-structured interviews conducted remotely or in person when possible, complement the desk field research.¹⁰ Understanding the willingness of the regional actors to establish a transboundary water-renewables nexus will enable EU policy-makers to reach informed decisions on how to better articulate bilateral and regional approaches in the Middle East to guarantee the externalisation of the EU Green Deal in this region.

The climate crisis in Jordan, Israel and Palestine and the relative advantages of each country in the solar energy and water sector

¹⁰ Public declarations by regional relevant stakeholders, newspaper publications, think tank analysis as well as in-person interviews have been used to find the political will to strengthen regional cooperation on water and energy matters. Furthermore, EU delegates in Tel-Aviv, Amman and East Jerusalem were also contacted to capture how EU Delegations are supporting regional actors to address the climate crisis and move toward a successful green transition.

A successful green transition in the Middle East is expected to be challenging. Water and energy insecurity are extremely prevalent throughout the Middle East and have already fuelled some of the long-running conflicts in the region. The demographic growth and the climate crisis are expected to worsen the current situation (UN, 2020),¹¹ putting further strain on water and energy demand as well as natural resources access. Indeed, the Eastern Mediterranean warms up more severely than anywhere else in the world and has already experienced a 2° Celsius increase in temperature since 1990 (1.5° Celsius in the rest of the world); by the end of the 21st century a further 4° Celsius rise in temperature is expected (Hochman et al., 2018). Furthermore, under the current conditions, the length of the summer season is predicted to increase by 25% in the mid-21st century and by 49% at the end of the century with a concomitant significant decrease of rainfall making many areas inhospitable and uninhabitable and fuelling conflicts (Hochman et al., 2018).

Jordan, Israel and Palestine are working on climate-resilient strategies for water and renewable energy in order to move toward more sustainable development at the national level.

Jordan, for instance, aims at exploiting its enormous solar energy potential

(Alrwashdeh et al., 2018)¹² to cope with environmental challenges and its significant trade deficit (della Ragione, 2021a). In this respect, the Hashemite Kingdom of Jordan committed to fully develop its renewable energy sector, planning to generate 50% of electricity from renewables by 2030.¹³ The expansion of this sector, which is already attracting international investments from financial institutions such as the European Bank for Reconstruction and Development (EBRD)¹⁴ and the European Investment Bank (EIB),¹⁵ could allow Jordan to become the solar-based electricity hub for the region, supplying clean energy to its neighbourhoods, such as Israel and Palestine. Yet, the development of the renewable-based energy sector will not be enough to solve Jordan's water crisis. According to United Nations Children's Fund (UNICEF), Jordan is considered the second most water scarce country in the world in terms of per capita availability of renewable water resources,¹⁶ and climate change will lead to more water shortages. In fact, due to the side effects of climate change, while treated wastewater remains too expensive, surface water is declining and groundwater extraction will soon become unsustainable. Jordanian communities suffer from water shortages¹⁷ and are forced to buy water from private tankers at very high prices, leading to an economic disparity in water

The Eastern Mediterranean warms up more severely than anywhere else in the world

¹¹ Global water use has increased by a factor of six over the past 100 years and continues to grow steadily at a rate of about 1% per year.

¹² Jordan lies within the solar belt of the world, with average solar radiation between 4 and 8 kWh/m², which implies a potential of 1400-2300 GWh per year (Alrwashdeh et al., 2018).

¹³ Jordan targets 50% of renewables in power mix by 2030 (Enerdata, 2021).

¹⁴ So far over USD 350 million for a total of 392 MW of utility-scale wind and solar projects in the country. See EBRD's website <https://www.ebrd.com/work-with-us/project-finance/project-summary-documents.html?1=1&filterCountry=Jordan>

¹⁵ "CVDB- Municipal Energy Efficiency Programme", Jordan EIB supported project, 23 May 2019. See EIB's website <https://www.eib.org/en/projects/pipelines/all/20180615>

¹⁶ <https://www.aljazeera.com/news/2021/11/2/experts-warn-of-catastrophe-facing-jordans-water-sector>

¹⁷ Jordanians receive their water supply from the government anything from twice a week to once every two weeks, with the water being stored in tanks on roofs or in garages for use until the next delivery. <https://www.aljazeera.com/news/2021/11/2/experts-warn-of-catastrophe-facing-jordans-water-sector>

access.¹⁸ In addition, while Jordan is planning to desalinate more seawater in Aqaba (Arab News, 2021), the cost of pumping and distribution of water to the more populated Amman region would still be very high due to its geographic remoteness and the height difference between the two regions. However, as Omar Salameh, the official spokesman of the Ministry of Water and Irrigation clarified, the national water carrier is only planned for 2027 and its materialisation is necessary to transport desalinated water from the Red Sea to the country's orates. Finally, the water trade between Jordan and Israel, which has recently been increased,¹⁹ is still insufficient to mitigate the Jordanian water deficit and, most importantly, creates dependency from Jordan to Israel rather than interdependency between the two parties. The expected increase in population growth is likely to exacerbate the water crisis in the country.

Palestine suffers from both water scarcity and energy insecurity. With regard to water (Aviram et al., 2020), its distribution from Israel is governed by Article 40 on Water of the 1995 Oslo II Agreement (Government of Israel & PLO, 1995). However, the water supply for many Palestinian communities in the West Bank and Gaza is still insufficient. The latter still suffer from intermittent water supply and still depend on water tankers, especially in the hot summer seasons. And in Gaza the water crisis has become a hu-

manitarian emergency since 97% of the aquifers are not suitable for human consumption anymore (UN OCHA, 2016). The development of a water-sea desalination plan in the Gaza Strip could mitigate the water emergency, but its development is affected by political constraints with Israel and by the fact that the Palestinian leadership remains deeply divided.²⁰

Israel has committed to an unconditional absolute greenhouse gas (GHG) emissions reduction goal of 27% for 2030 (relative to 2015),²¹ which, translated in its Intended Nationally Determined Contribution (INDC), accounts for a reduction of GHG emission to 58 MtCO₂ by the same year.²² Still, in 2020, the production of electricity from renewable energy (mainly solar photovoltaic) amounted to only 6.1% (Surkes, 2021), and increasing this percentage may involve some challenges. First, Israel has no access to a number of widely used low-carbon sources of energy such as nuclear, hydroelectric and geothermal power. Second, the country has a limited area available for large-scale energy installations which is economically counterproductive (Jewish News Syndicate, 2021). Indeed, the Negev, which looks like a vast desert area, is actually unavailable for the installation of large scale solar plants, due to the fact that half of it is a military training ground while the other half is declared a natural reserve. Last, but not least, the amount of

¹⁸ Middle-wage workers interviewed in Aqaba in December 2021 claimed that about 20% of their wages are wasted by buying water from privates, as the water provided by the government only once a week for a few hours is insufficient for their needs.

¹⁹ In July 2021, Israel and Jordan agreed then that Israel would sell 50 million cubic metres of water a year to Jordan, doubling what it already supplies. On 12 October 2021, Israel's Minister of Energy, Karine Elharrar, and Jordanian Minister of Water and Irrigation, Mohammed Al-Najjar, met in Jordan for the signing of the water agreement for the Joint Water Committee. The deal comes as an extension of the two countries' existing water agreement, which was established as part of the 1994 Israel-Jordan peace treaty.

²⁰ The militant group Hamas, rather than the Palestinian Authority, controls Gaza, affecting the construction of a desalination plant in the Gaza Strip.

²¹ Decision 171 entitled "Transition to a Low Carbon Economy", passed by the Israel Government on 25 July 2021.

²² Update of Israel's Nationally Determined Contribution under the Paris Agreement submitted July 2021, UNFCCC.

land required to enjoy the desired economies of scale still seems disproportionate; not only would the production of a single cubic metre of water (1000L) per day require an area of up to 28 m² (Shahzad, 2017) but even if energy efficiency were to increase further, the price of Israeli coastal land is still so high that it is not economically viable to install solar panels.²³

As far as water demand is concerned, the rapid development of the desalination sector during the last decades has enabled Israel to overcome its water shortage and to become by far the world leader in wastewater reclamation (about 93% of Israel's wastewater is purified). Israel has a significant capacity to produce desalinated water from the Mediterranean Sea and with its five principal desalination plants – Sorek A, Hadera, Ashkelon, Palmachim, and Ashdod – plus approximately 30 smaller plants, produces more than 700 million cubic metres of desalinated water per year (702 million m³/year). A sixth desalination plant, the Sorek B facility, is currently under construction and will supply an estimated additional 227 million m³/year, bringing the desalinated water up to 85-90% of the Israeli annual consumption (della Razione, 2021a). However, the expansion of its desalination sector, which is powered by electricity generated mainly from natural gas, raises questions about its environmental sustainability (della Razione, 2021a). The carbon footprint of a cubic metre of water produced by the current Israeli seawater reverse osmosis desalination plants is estimated between 1.4 and 1.8 kg of CO₂. In addition, Israel desalination already accounts for about 5% of the energy demand,²⁴ and the latter is expected to grow rapidly in response to the country's population growth at the rate of 2% per year and the increasing standards of living (Tal,

2018). While the expansion of Israel's desalination infrastructures may become necessary to meet increasing national water demand, its environmental sustainability requires the integration of renewables in supplying the electricity of desalination plants.

Water-energy nexus between Jordan-Israel and Palestine

Interdependency for regional stability and sustainable green transition

At COP26 in November 2021, EcoPeace Middle East presented their “The Green Blue Deal for the Middle East” (Bromberg et al., 2020). Meeting with some EU delegates, Gidon Bromberg, the non-governmental organization (NGO)'s Israel Co-Director, highlighted how a framework of interdependence between Palestine, Jordan and Israel, which uses climate change as an opportunity to establish cooperation on strategic sectors such as water and energy, can not only contribute to sustainable development for regional actors but can improve the prospects for peace and security throughout the region (Officials of the EU Delegation to Israel, personal communication, November 2021). As explained by EcoPeace Middle East, the regional water-energy nexus will benefit all partners involved. Jordan could obtain additional desalinated water from Israel, mitigating its water crisis, and could become the regional hub for renewable energy production, the latter reducing its dependency on Israel's gas. Palestine could get renewable energy from Jordan, diversifying its energy sources, and could benefit with extra amounts of water in both the West Bank and Gaza Strip, while allowing Gaza

As far as water demand is concerned, the rapid development of the desalination sector during the last decades has enabled Israel to overcome its water shortage

²³ It would take 64 million solar panels for Israel to reach 30% renewable capacity.

²⁴ Israel Electric Company. Available online: <http://www.globes.co.il/news/article.aspx?did=1001121812>.

The new Israeli government has publicly acknowledged its need to increase its renewable share of the energy mix

desalinated seawater to be exchanged for Jordanian solar-based energy. This arrangement will decrease Palestine's dependence on Israel and increase its integration in the Arab World. For Israel, the water-renewable energy arrangement could allow the country to diversify its energy sector and to progressively decarbonise at a relatively cheaper price, as Israel does not have the land for mass production of renewable energy. Last but not least, the plan serves the interest of the region's long-term ecological viability (G. Bromberg, personal communication, November 2021).

EcoPeace Middle East is certainly correct in advocating a regional approach to climate change challenges whose environmental consequences and geopolitical repercussions are regional in scope. Indeed, to ensure a smooth green transition in the Middle East, national climate resilience strategies need to be complemented by regional initiatives, leveraging the comparative advantages of each stakeholder and creating interdependency among them.

On 22 November 2021, Jordan, Israel and the United Arab Emirates (UAE) signed a declaration of intent to supply Jordanian renewable energy to Israel in exchange for desalinated water from the latter. The agreement signed is a good example of a renewed dialogue between the political leadership in Jordan and Israel, a result most likely made possible by the political changes that have occurred in the region since the normalisation of Israel's ties with two Gulf states, Bahrain and the UAE, and

the emergence of the new Israeli government (della Ragione & Eran, 2021).

Indeed, on several occasions in recent months, the new Israeli government has publicly acknowledged its need to increase its renewable share of the energy mix in order to respond effectively to the climate crisis, identifying Jordan's purchase of renewable energy as one strategy to achieve this goal.²⁵ In addition, the new Israeli government seems to understand that cross-border water-energy cooperation with Jordan could contribute to regional stability while avoiding the geopolitical repercussions of climate change (Officials of the Israel Ministry of Energy and Ministry of Environment, personal communication, December 2021). In a meeting with the EU Delegation to Israel, the Minister of Environmental Protection, Ms. Tamar Zandberg, appreciated the EU Delegation's initiative to promote the cooperation between Israel and its neighbouring countries on environmental, energy and water matters, highlighting the interest of the entire region. Furthermore, she emphasised the importance of achieving more ambitious goals on renewable energies through a closer cooperation with Jordan on desalinated seawater and solar energy (Officials of the EU Delegation to Israel, personal communication, October 2021).

As for Jordan, improving relations with Israel's new government, after years of strained relations under Netanyahu, had already been illustrated by the water agreement signed on 12 October 2021.²⁶ The latter was the result of negotiations and

²⁵ Public statements highlighting the importance of Israel-Jordan ties and their cooperation on energy and water were made by Israeli Government in the last months:

For declarations made by the Israeli Minister of Energy Karine Elharrar, see Bassist (2021).

For declarations made by the Israel Foreign Ministry Yair Lapid, see Tapzit News Agency (2021) and Spiro & Boxerman (2021).

²⁶ Israel and Jordan agreed on a plan for Israel to double the quantity of fresh water it provides to Jordan, According to this agreement, signed by the Energy Minister Karine Elharrar and her counterpart, the Jordanian Minister of Water and Irrigation Mohammed Al-Najjar, Israel will provide Jordan with additional 50 million cubic metres of water for 2021, with an option to continue similarly for the next two years.

meetings between the two parties that began as early as July 2021, although these events were mainly publicised by the Israeli side, at least in terms of public declarations by its leadership and national press coverage.²⁷ The less outspoken events by Jordan's media and leadership, however, should not be read as a diminished interest in achieving cooperation with Israel on water and energy matters. The current development is rather in line with the decision-making process in Jordan, which is very top-down and palace-driven. The Jordanian leadership is certainly keen to address its water crisis through the purchase of Israeli desalinated water and to supply its own renewable energy. Negotiations between the parties and the private sectors, which have already been taking place for several months, do indeed reflect the willingness from both sides to materialise the agreement within a relatively short timeframe (G. Bromberg, personal communication, November 2021).

The declaration of intent between the Hashemite Kingdom of Jordan, the State of Israel and the UAE marks the beginning of a new chapter in the Middle East region, where political goodwill among the relevant actors could pave the way for the expansion of existing regional cooperation on water and energy-related initiatives with climate and security advantages. However, the absence of the Palestinians remains regrettable. The short distances between the possible routes of the solar power grid from Jordan to Israel and the water conveyor from the Mediterranean to Jordan and to the West Bank make the connection relatively simple

and inexpensive. The inclusion of Palestine in the regional deal could mitigate the energy and water insecurity of the latter, advancing on a very complex Israeli-Palestinian conflict waiting to be resolved and contributing to the green transition in the entire Middle East region (della Ragione & Eran, 2021).

Where does the European Union stand on regional cooperation between Israel, Jordan and Palestine on energy and water matters?

The mediation of the United States (USA) in the regional agreement, signed between the Hashemite Kingdom of Jordan, the State of Israel and the UAE, seems to suggest that the involvement of the international community is still very relevant in advancing similar partnerships between actors who, otherwise, would be unlikely to cooperate (della Ragione, 2021b).

The EU has not yet fully seized the opportunity of this regional opening for its greater involvement in support of regional initiatives, aiming at closer cooperation on climate and water issues among other Middle East parties. Yet, the latter is in line with its ambitious goal of externalising the EU Green Deal beyond its borders and accompanying its Southern Neighbourhood (SN) partners in their green transition (EC, 2019).²⁸ In this respect, as stated in its Joint Communication on a

²⁷ Most of the meetings between Israeli and Jordanian policy-makers, which took place between July and December 2021, were covered primarily by the Israeli press such as the *Jerusalem Post*, *The Times of Israel* and *Haaretz*. For more information, please see: Staff, T. (2021) and The Jerusalem Post (2021).

²⁸ The European Green Deal is the new EU growth strategy to fight climate change and to transform the Union into a modern, resource-efficient and competitive economy. By 2050, the EU aims to have no net greenhouse gas emissions, decouple economic growth from resource use, and "leave no one behind." See https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

Renewed Partnership with the Southern Neighbourhood, the European Commission (EC) has already proposed mobilising 7 billion euros in green investments to foster sustainable development of the region, mainly through the Neighbourhood, Development and International Cooperation Instrument (NDICI), which foresees both bilateral and regional initiatives (EC & EEAS, 2021).

Although the EU is committed to enhance its diplomatic engagement on water (Council of the EU, 2018), is supporting multilateral solutions on water (Marques Ruiz, 2020) and has reaffirmed its will to enhance the regional cooperation on energy (UfM, 2021a) as well as on environment and climate actions (UfM, 2021b), its concrete involvement in regional initiatives promoting cross-border climate resilient solutions remains limited.

This is because, although there is already an EU policy framework in place to support regional initiatives, approaches to the energy-water nexus have yet to be mainstreamed into policy developments and programme design and implementation. The latter is encouraged by the EC.²⁹

What arguably still needs to be clarified by the EU internally is how to ensure the operationalisation of regional cooperation. According to an informal feedback received by the EU delegation in Israel and the Office of the European Union Representative (West Bank and Gaza Strip), part of this concerns political constraints and tech-

nical-legal-administrative challenges in cross-border engagements. Furthermore, while the design and implementation of regional programmes in different thematic areas is managed by the EC (at the Directorate General for Neighbourhood and Enlargement Negotiations [DG NEAR] B2), the EU Delegations on the ground, which could be the EU's arm to operationalise its multi-year regional programme, deal mainly with bilateral cooperation. The regional policy dialogue on different thematic areas is rather articulated through the Union for the Mediterranean (UfM). The compartmentalisation of responsibilities in geographically distinct locations (Brussels from one side and EU Delegations from the other side) therefore has an impact on the optimal declination of bilateral and regional cooperation.³⁰

Finally, regional initiatives which could be potentially identified and implemented by the EU Delegations working on the ground could hardly materialise without a specific budget allocated for that purpose. The EU Delegation to the State of Israel has implemented a series of workshops on climate change, energy transition, desertification and water desalination, bringing together scientists and practitioners from Israel, the Palestinian Authority, Jordan, the UAE, Egypt and Morocco, in an attempt to find shared solutions to common challenges.³¹ The initiative, which uses science diplomacy as a leverage to advance peaceful and prosperous relations between the regional actors, is unique in the Middle East region³² and is expected to have a significant

Approaches to the energy-water nexus have yet to be mainstreamed into policy developments and programme design and implementation

²⁹ Informal discussions and exchanges with relevant actors in the European Commission Services, dealing with regional and bilateral cooperation in the region (e.g., DG NEAR), October 2021.

³⁰ Informal discussions and feedback in response to questions formulated to the EU Delegations to Israel in Tel-Aviv and in Jerusalem East, October-November 2021.

³¹ Feedback by the Research and Innovation Section, in response to questions formulated to the EU Delegation to Israel, 2 November 2021.

³² According to the feedback received from the EU Delegations and the EC service NEAR B2 Unit, there is no EU funded project that brings together Israel, Palestine Authority, Jordan, the UAE, Egypt and Morocco on environmental, water and energy issues.

impact, highlighting the role of the EU in promoting and contributing to the normalisation process in the Middle East and North Africa (MENA) region. However, without a dedicated budget, its follow-up is difficult to envision.

Policy recommendations and conclusions

EU climate security beyond its borders: what remains to be done in the Middle East

To overcome the intrinsic complexity in the Middle East, the EU should have a stronger high-level political drive focusing on big scale and ambitious projects which address climate change. Radical changes in the Middle East region are possible, and the framework of water and energy interdependencies among regional actors could be a political game changer for EU climate security. Nonetheless, the complexity of the region requires the mobilisation of the right incentives to attract leading green investments and mitigate the political risk.

Externalising the EU Green Deal beyond its borders calls for the EU to accompany its SN partners in their green transition by supporting climate-resilient initiatives that reflect the specific policy content of its sub-regions, such as that of the Middle East.

As far as Palestine is concerned, the EU should support its integration into the regional deal between Jordan and Israel. The latter could pave the way for greater EU involvement in revamping the Israeli-Palestinian peace process not based on the ineffective “land for peace” formula but on a new “cross-border climate and water solutions for peace” formula. Conducting a feasibility study to connect the Jordanian-Palestinian-Israeli solar electric grid to Eu-

rope would signal Europe’s interest in supporting a concrete project and certainly could positively influence the construction of the grid (della Ragione & Eran, 2021). In this respect, the EU could support the increased access to financial support, technology and technical know-how exchange to develop Israel-Jordan and Israel-Palestine power electricity grid interconnections to enable the implementation of climate-resilient energy nexus solutions in the region, like the one proposed by EcoPeace Middle East.

Moreover, the enabling environment for investment in sustainable water-related infrastructure and services must be improved. This needs to be complemented by a tailor-made and stronger policy dialogue between the EU and the regional actors with the goal of aligning national water and energy sectoral policies and implementation of integrated water and energy resources management. In addition, the EU delegations should cooperate more closely on climate-related initiatives, and facilitate the involvement of the European Investment Bank with local stakeholders, leveraging its possible financial support in regional green projects. EU delegation in the Gulf countries could be also part of this attempt of regional cooperation since the Gulf countries could bring great investment to support climate-related projects in the Middle East, in line with the externalisation of the Green Deal.

Finally, more use needs to be made of blending mechanisms and guarantees to leverage more investments in water and renewable infrastructures. The EU should better explore the relatively new dimension of articulating the bilateral envelopes (focused on supporting policies) with the financing instruments mobilised through the banking system (giving it the leverage for the necessary impact at scale).

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Is the National Sustainable Development Strategy Responding to a Successful Green Transition? The Case of Morocco

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Introduction

The first World Conference on the Environment in Stockholm in 1972 put ecological issues on the international agenda (UNEP, 1973). The issue of unlimited growth in a world of finite resources is still relevant today and outlines the features of a new society that enjoys sustainable economic growth. In this perspective, the European Union (EU) in its new Green Deal aims to transform the EU into a modern, resource-efficient and competitive economy that guarantees the end of net greenhouse gas (GHG) emissions by 2050 (EC, 2021).

With a view to converging sectoral strategies and establishing a sustainable development dynamic, Morocco has drawn up its National Sustainable Development Strategy (NSDS). The objectives of this strategy are to improve the living environment of the citizens, strengthen the sustainable management of natural resources and promote environmentally-friendly economic activities (MTEDD, 2021a). Institutional, regulatory, financial reforms and incentive policies have been implemented to achieve these objectives. However, despite these efforts, environmental constraints (water stress, soil degradation, high energy dependency, vulnerability to climate change, various types of pollution) and the limited impact of economic growth and social development policies, in terms of employment and the reduction of social and territorial disparities, require a re-orientation of the economic model towards a green and inclusive economy.

In this direction, the new development model³³ adopted by Morocco advocates for a sustainable Morocco, where it is

necessary to strengthen the protection of natural resources and biodiversity and to reform the water sector in favour of uses reflecting the scarcity of this vital resource (CSMD, 2021). This chapter focuses on a successful transition to a green economy for Morocco by addressing the following questions: How could Morocco implement its new development model in its socio-ecological context? How can sustainable agriculture be reconciled with the imperative of food security in the context of climate change and water scarcity? How can climate finance be used for a successful green transition to help small and medium-sized enterprises (SMEs) and micro, small and medium-sized enterprises (MSMEs) use clean energy? What mode of governance for a successful green transition in Morocco?

It will analyse the stakeholders' perceptions on the implementation of the NSDS in terms of legal reforms undertaken, funding, governance, territorialising of the strategy and partnership between the state, private sector and civil society. In addition, it will identify the side effects and their mitigation measures for two main economic sectors: agriculture and renewable energies, given the vast experience that Morocco has accumulated in these sectors. More specifically, it will highlight the challenge of ensuring food security in a context marked by Morocco's vulnerability to climate change, and examine the risks and obstacles that could affect the success of green hydrogen strategies for both Morocco and the EU. The chapter will conclude by proposing policy recommendations for a successful green transition in Morocco in the framework of the Euro-Mediterranean Partnership (EMP).

³³ Morocco set up a new development model in April 2021, where a sustainable Morocco with preserved natural resources in all territories is among its strategic directions.

Besides the literature review of the research topic, a qualitative approach is pursued, using semi-directive interviews conducted remotely or in person when possible. The interviews involved eleven policy-makers from the Departments of Agriculture, Industry, Energy, Spatial Planning and Sustainable Development as well as from the private sector, such as the Cherifian Office of Phosphates (OCP) group and SMEs, and from civil society, such as the National Association of Land Improvements, Irrigation and Drainage.

Main deficits of implementation of the National Sustainable Development Strategy

At the legal level, Morocco now has a fairly well-developed body of environmental legislation and regulations³⁴ compared with similar countries. Nevertheless, this legal framework suffers, on the one hand, from a lack of effectiveness and compliance of economic operators with its requirements, and, on the other, several environmental areas are not covered by legislative and regulatory measures³⁵. As for financing, Morocco has set up several funds dedicated to various economic sectors concerned with sustainable development (see Table 1)³⁶.

The multiplication of these funds and their granting mechanisms, which differ from one fund to another, are not adapted to the financial capacities of MSMEs, and do not encourage them to use green technologies in their production process. Stakeholders point out that they are not the main beneficiaries of these funds. This is mainly due to their low self-financing capacity and low ability to put together bankable projects.

The state has set up three main measures to address this issue. The first measure is a programme³⁷ that aims to support industrial SMEs/MSMEs in green technology. The second measure is the Energy Service Company (ESCO)³⁸ and the latter is a multi-stakeholder initiative called Warm Room Green Economy for the promotion of green projects. However, these measures require an effort to raise awareness and information and a financial effort of the state to benefit a large number of SMEs/MEMEs that make up the Moroccan industrial fabric.

In terms of governance of the NSDS, the state has put in place a steering mechanism federating all the ministerial departments around the objectives of the strategy. This governance mechanism is composed of two committees: a national committee and a monitoring committee. The majority of the actors interviewed highlighted the delay in the implementation

At the legal level, Morocco now has a fairly well-developed body of environmental legislation and regulations

³⁴ Framework Law no. 99-12 on the National Charter for the Environment and Sustainable Development, Law no. 49-17 on Environmental Assessment, Law no. 13-09 on Renewable Energies, Law no. 47-09 on Energy Efficiency, Law no. 13-03 on Air Pollution Control, Law no. 36-15 on Water, Law no. 28-00 on Waste Management, Law no. 22-07 on Protected Areas, and so on.

³⁵ Interview with two policymakers from the Department of Sustainable Development.

³⁶ Most of the information on the main funds related to sustainable development was collected from <https://www.fellah-trade.com/fr/developpement-durable/fond-developpement-durable>

³⁷ This programme called Tatwir Green Growth covers support for investment, innovation, creativity, advice, and expertise for the green transformation of industrial SMEs/MSMEs.

³⁸ This service is governed by Decree No. 2-186165, which makes it possible to finance energy efficiency measures through anticipated saving, which limits the initial investment to be made by the project owner and reduces the need for capital guarantees when external funds are mobilised.

Table 1. Main funds for sustainable development in Morocco

Funds	Areas	Consistence
National Environment Fund	Domestic and industrial water treatment, air pollution, solid waste management, and so on	The National Environment Fund is an incentive financial instrument instituted in 2004 by Law 11-03 on the protection and development of the environment. Its purpose is to contribute to the financing of environmental and experimental projects.
Industrial Depollution Fund	Water, Energy and Industry	The Industrial Depollution Fund created in 2003 is an incentive instrument that encourages environmental upgrading through technical and financial support for industrial or craft enterprises. It finances projects involving the installation of facilities for the reduction and elimination of all forms of liquid, solid or gaseous pollution. It contributes to the realisation of projects ensuring the economy of resources, notably water and energy, through the change of processes and the use of clean technologies.
National Upgrading Fund	Industry	Created by the state in 2003, the National Upgrading Fund is intended to support SMEs in their upgrading efforts. The aim is to provide financial support to companies for their modernisation needs.
Guarantee Fund for Efficiency and Renewable Energy	Renewable Energy and Efficiency Energy	The Renewable Energy and Efficiency Guarantee Fund is intended to guarantee investment credits granted by credit institutions to Moroccan companies and operators wishing to invest in Renewable Energy (RE) and Energy Efficiency (EE).
Energy Development Fund	Renewable Energy	Created in 2009, this fund will strengthen and secure existing production capacity, and provide financial support for energy efficiency projects and energy service companies.
Agricultural Development Fund	Agriculture	A fund dedicated to the granting of state aid, which aims to support private investment and the development of sustainable agriculture.
National Forestry Fund	Forests	The National Forestry Fund was established in 1949 and is partly financed by a tax on forestry products. It aims to support sustainable forest management.

of the commitments of the ministerial departments in their action plans for sus-

tainable development as well as the weak involvement of the private sector and civil

society in the monitoring of the implementation of the NSDS. Some state actors have pointed out the lack of continuity in the feeding of the NSDS monitoring indicators by the sectoral ministerial departments.

Concerning the partnership between state actors, the private sector and civil society, all the actors interviewed stressed the strategic importance of the partnership between these three categories for the success of the green transition. Better involvement and synergy between the three actors in terms of the action plan and commitment are still needed. At the territorial level, although the Regional Spatial Planning Scheme (RSPS) sets out the guidelines for the sustainable development of the territory and is implemented within the framework of Regional Development Plans (RDP), the partnership with the private sector and civil society remains very limited, with the exception of certain large companies that are present in certain territories.³⁹

Sustainable agriculture for Morocco's green transition

The importance of developing sustainable agriculture has been highlighted by policy-makers interviewed from the Department of Agriculture as an alternative to climate change, but it is subject to the challenge of food security in a context of climate change and the scarcity of water resources. The main side effects of a green transition in the agricultural sector revolve around the non-integration of environmental and climatic risks prior to the review of agricultural policies, the long diffusion of green technologies, particularly

for small farmers, limited financing of agricultural research and innovation, and the genesis of high green transition costs.

How can sustainable agriculture and food security issues be reconciled in Morocco?

The climate issue is taken into account by the new agricultural strategy called Green Generation through its resilient and eco-efficient agriculture axis. It aims to encourage and subsidise agro-ecological systems, including direct seeding systems, organic farming, digital farming, agroforestry, and innovative irrigation efficient systems (MAPMDREF, 2021b). Although this strategy has given particular importance to the ecological transition, it is essential that it creates a dynamic of change centred on regenerative, climate-smart agriculture and helps to establish complementarities between production basins to ensure the pillars of food security and mitigate the effects of climate change and the volatility of market factors.⁴⁰

In terms of food security, the annual availability per capita has evolved between 2008 and 2018 by a rate varying from 16% for cereals to 43% for white meats, with the exception of sugar, which has experienced a reduction of 6% (HCP, 2020). It is true that Morocco is not food insecure. It has maintained the prevalence of undernourishment at a level of 5% since 1990-1992, but it remains vulnerable to climate change in case of recurrence of drought and external shocks (Toumi, 2016). To succeed in this challenge, solutions exist, and Morocco does not lack assets that must be exploited in a clear integrated and sustainable vision.

³⁹ Interview with a policymaker from the Department of Spatial Planning.

⁴⁰ Interview with an expert in climate change and food systems from the Department of Agriculture.

The sustainable intensification of production systems is an alternative that requires the implementation of conservation agriculture and agro-ecology techniques. Indeed, the National Institute of Agronomic Research has shown that conservation and pluvial agriculture via direct sowing allows on average a carbon sequestration from 1 to 4 tonnes of CO₂/ha, reduces energy consumption by 70%, and increases yields by 30 to 40%, and water productivity by 60% (FARM, 2015). Although considerable progress is possible in terms of water productivity, soil conservation, lower costs and resilience of production systems, and therefore sustainability and food security, the integration of innovations into the local development process is largely lacking. At this level, the role of scientific and agronomic research has a great contribution to make in guiding agricultural production in a sustainable vision and allowing healthy foods. Morocco must also continue its efforts⁴¹ in the preservation of genetic diversity of seeds, crops and livestock, as well as in the conservation, characterisation and evaluation of genetic resources, promotion of research, training, and technology transfer.

One of the strategic themes for the development of sustainable agriculture is the massive reduction of fertiliser use by farmers

One of the strategic themes for the development of sustainable agriculture is the massive reduction of fertiliser use by farmers. With reference to the launch of the 2021-2022 agricultural season, the availability of fertilisers shows a stock of 500,000 tonnes, of which 450,000 tonnes are generally used, i.e., a utilisation rate of 90%.⁴²

A strategy of reasoned and optimal fertilisation is an alternative to promote the efficiency of fertiliser use by farmers and

reduce its use. The interview with the coordinator of the AI Moutmir programme of the OCP emphasised the importance of this programme, which aims to provide farmers with mobile laboratories to deliver the right fertiliser, in the right quantity, at the right time and in the right place with the greatest precision. It provides training in sustainable fertilisation practices via dedicated digital platforms, but only performs 20,000 soil analyses per year for farmers. Certainly, farmers' use of soil analysis remains low, although the state subsidises the use of soil analysis under the Agricultural Development Fund.

Based on these observations, it is highly recommended to promote both agroforestry in cropping systems at the farm level and agro-ecological intensification to increase the productivity of agricultural waters and the resilience of agro-sylvo-pastoral, rainfed and irrigated systems. Moreover, it is more desirable to increase the awareness of small farming about the issues of food security and climate change through the training of farmers, farmer leaders and territorial animation, and provide them with support to use digital technology for better management of their sustainable agricultural production systems.

Within the framework of a strategic partnership between the state and OCP, it would help generalise on a large scale reasoned and optimised fertilisation to small farmers. Ultimately, increasing support for national agricultural research on the sustainable use and conservation of biodiversity for food and agriculture and

⁴¹ Morocco is one of the first countries to have ratified several conventions, including the Convention on Biological Diversity, the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture, and the International Treaty on Plant Genetic Resources for Food and Agriculture.

⁴² This data was taken from a PowerPoint presentation by the Ministry of Agriculture on the launch of the 2021-2022 agricultural season. It should be noted that the state does not subsidise fertilisers but ensures that prices are stabilised by guaranteeing the supply of fertilisers to the market.

providing the necessary funding may be of assistance.

Role of efficient and rational use of water resources

Water resources⁴³ are the main factor limiting the development of irrigation of agricultural lands. To manage this situation, the water control and management policy within the framework of the Morocco Green Plan has made it possible to carry out hydro-agricultural developments in an area of nearly 800,000 ha under irrigation in 2019 for the benefit of 220,000 farms as well as a water saving of 2 billion m³ of water annually and a reduction of the over-exploitation of the water table through the recourse to alternatives of desalination of seawater and the reuse of wastewater (MAPMDREF, 2021a).

The interview conducted with the officials and experts of the Department of Agriculture in water resources has identified the secondary effects likely to impact these alternatives. The desalination of seawater poses a problem of environmental pollution, since the salt released from the water, which will be used for irrigation purposes and drinking water consumption, is deposited without any recovery. As for the reuse of wastewater, it also poses the problem of depositing solid waste from the reused water, which is polluting the environment. To mitigate these environmental impacts, research studies should be carried out for the recovery of solid waste and reused water as well as for the salt released from desalinated water.

Moreover, one of the negative points raised in the interview is the absence of modelling studies of the water balance at the level of the hydraulic basins and sub-basins in

order to control the flows of water in and out in the medium and long term. This brings into play the role of agricultural water productivity, which remains a major challenge to be overcome in Morocco. Thus, improving knowledge of agricultural water productivity and the water losses that can be observed should be considered a priority for any policy aimed at increasing agricultural water productivity. Similarly, rainwater harvesting and the efficient and rational use of water should be encouraged and developed among farmers who maintain irrigation techniques and practices that lead to water losses.

Renewable energies: a pillar for the development of the green transition in Morocco

The development of renewable energies in Morocco is at the heart of the National Energy Strategy, which is oriented towards a diversification of energy supply sources by increasing the participation of green energies to 52% of the total installed electrical power by 2030 (MTEDD, 2021b). In order to reduce its energy bill, Morocco has adopted a national energy efficiency strategy that aims to achieve energy savings of around 25% by 2030 through better use of energy in all areas of economic and social activity (AMEE, 2014).

Main side effects of the energy transition and their mitigation measures

In the irrigation sector, the use of clean energy is not yet widespread because

⁴³ Per capita, water resources are tending to decrease due to population growth and climate drying. By 2030, the country will be at the threshold of scarcity (500 m³/inhabitant/year) (Laouina, 2006).

subsidies for farmers are not yet provided for under the Agricultural Development Fund. Indeed, according to the study on the structuring of the development of solar pumping in Morocco, realised by the GEF-solar pumping project⁴⁴ in 2018, there is a risk of creating an imbalance in the market between, on the one hand, big farmers able to invest in photovoltaic technology and thus reduce their production prices by reducing their energy bills, and, on the other, small farmers unable to acquire a photovoltaic pumping system and consequently see their competitiveness affected by the energy bill. Hence the need for public policies to provide a model for access to photovoltaic technology based on innovative financial products and support for small farmers to balance the market. This is even more necessary given that the competitive cost of solar water pumping compared to conventional energy sources is very competitive (0.44 dirhams per cubic metre of water compared to 0.76 dirhams for subsidised butane and 1.67 dirhams for diesel) (MTEDD, 2021c).

Another side effect linked to solar pumping irrigation is the risk of over-exploitation of the water table as a result of applying the solar irrigation subsidy, which encourages farmers not to limit pumping. This observation was confirmed by the aforementioned study where photovoltaic installations are oversized in relation to the water needs of the crops and their low energy costs can lead to excessive water use. To avoid this risk, a good dimensioning of the photovoltaic pumping system in relation to the water needs is essential. Also noted during the interviews were the environmental problem related to the non-recycling of piping and materials used in irrigation as well as the damaging effect of the subsidy of butane

gas used in irrigation, which may compromise the competitiveness of solar irrigation. For the first effect, a solution is needed for the recycling and recovery of plastic equipment and to increase farmers' awareness to obtain materials with a better environmental footprint. With regard to the second effect, it is essential to gradually eradicate this gas subsidy, which is also valid for the energy and industry sectors.

Regarding the green transition of industrial SMEs/MSMEs, which unfortunately is not yet generalised in Morocco, the main side effects consist of reluctance and lack of knowledge of SMEs/MSMEs to install clean equipment due to its high cost and the return on investment for green energy is long compared to thermal energy. In addition, the actors interviewed mentioned the need for MSMEs to take control of the technical feasibility studies required for the installation of clean equipment. They proposed the following mitigation measures:

- State incentives for SMEs/MSMEs to move towards the installation of clean equipment in their production process through the granting of subsidies within the framework of funds dedicated to energy development or loans at very low rates or premiums for investment in clean technologies.
- Rescheduling the cost of the investment in the medium and long term (5 to 7 years) within the framework of an agreement between SMEs/MSMEs and engineering firms specialising in the installation of clean equipment.
- Raising awareness among SMEs/MSMEs to take advantage of the Vocational Training Tax in order to benefit from

⁴⁴ The GEF-Solar Pumping project was launched by the Moroccan Agency for Energy Efficiency in partnership with the United Nations Development Programme (UNDP), and aims to promote the development of photovoltaic systems for irrigation.

training and development expertise in the installation of clean equipment, their control and maintenance follow-up.

- Capacity-building of SMEs/MSMEs in the reception, technical feasibility studies, their control, and follow-up.

The potential of green hydrogen in Morocco: issues and challenges

Recognising the global strategic importance of green hydrogen as a renewable energy storage vector and its role in accelerating the de-carbonisation of industry, Morocco has developed its national green hydrogen strategy for the period 2020-2050 (MTEDD, 2021d). For the EU, hydrogen is an investment priority to stimulate economic growth, create local jobs and strengthen the EU's global leadership. Its Hydrogen Strategy Roadmap considers North Africa a potential supplier of renewable hydrogen at a competitive price for the EU requiring that the deployment of renewable energy production in North African countries be strongly accelerated (EC, 2020).

The analysis of the two green hydrogen strategies of Morocco and the EU converges towards the need for more cooperation and partnership for both parties in green hydrogen in order to achieve their respective objectives. The new Morocco-EU Green Partnership has been developed from this perspective to trigger a real paradigm shift towards a prosperous and resilient economic system for both parties. Thus, the main question is what

risks and obstacles could have an impact on the success of these strategies in the framework of this green partnership?

For the Moroccan context, the ambition to export green hydrogen to Europe requires, on the one hand, higher production of electricity from renewable sources than currently produced and, on the other, the availability of sufficient water for the production of green hydrogen. Though Morocco aims to obtain the necessary fresh water from seawater desalination, it would mean that even more energy would have to be produced from renewable sources (Lamrani & Bauman, 2021) and will require more funds and Foreign Direct Investment (FDI) (Bennis, 2021).

In order to ensure financing for its green hydrogen strategy, Morocco has already concluded partnerships, notably with Germany⁴⁵ and Portugal, and is seeking to diversify its partnership with other countries outside the EU, notably China, Great Britain, India and the USA. For China, its technical expertise associated with its huge investment potential allows it to offer governments around the world extremely attractive packages and can compete with the EU in implementing its green hydrogen strategy with countries like Morocco. Europe has put in place the financial instruments⁴⁶ to promote its green agenda and can maximise its advantage over China in the area by ensuring that these instruments combine to form an attractive whole and draw on its diplomacy with partner countries under the guidance of the European Green Deal. In this perspective, the EU has recently set up the Global Gateway initiative to

For the EU, hydrogen is an investment priority to stimulate economic growth, create local jobs and strengthen the EU's global leadership

⁴⁵ With the resumption of diplomatic relations between Morocco and Germany, the cooperation agreement concluded in June 2020 on the production of 100 MW of hydrogen energy by 2025 should be continued.

⁴⁶ In 2018 the European Commission (EC) proposed EFSD+, whose budget stands at €89.2 billion, of which 30% is to be allocated to climate-related objectives (Bennis, 2021).

The introduction of an obligation for exporting countries to pay a carbon tax at the borders to Europe could be an obstacle to the establishment of green electrical connectivity partnerships between Morocco and the EU

strengthen sustainable links around the world. This initiative aims to mobilise up to €300 billion in investments between 2021 and 2027 to underpin a lasting global recovery, taking into account our partners' needs and the EU's interests (EC, 2022).

Furthermore, the introduction of an obligation for exporting countries to pay a carbon tax at the borders to Europe could be an obstacle to the establishment of green electrical connectivity partnerships between Morocco and the EU, especially with countries in close geographical proximity, such as Spain and Portugal. This measure will affect the amount of electricity Morocco can export to Europe, as exports would have to comply with the EU's climate neutrality policy (Bennis, 2021).

Additionally, the export of hydrogen from Morocco to the EU can be transported through the port of Nador West Med, which is currently under construction and offers large storage facilities (Bennis, 2021) or through the development of a new pipeline running from Morocco via Spain to Europe. These alternatives will replace existing infrastructures, such as the Maghreb-Europe Gas Pipeline, which transits via Algeria and whose contract is not renewed due to the current political crisis between Morocco and Algeria.

The role of international climate finance in Morocco's green transition

Morocco has set ambitious climate targets for 2030 in its Nationally Determined Contribution (NDC). It has increased the

targets of the first version of the NDC by presenting an overall mitigation target of 45.5% by 2030, including an unconditional target of 18.3%. Moreover, Morocco's commitment to its updated NDC will require a green investment of \$38.8 billion for the global mitigation target of 45.5% and \$17.3 billion for the unconditional target of 18% (MTEDD, 2021e).

The mobilisation of international funds to meet this priority remains a major challenge for Morocco. Even though Morocco is among the main beneficiary countries in the Middle East and North Africa (MENA) region with an amount of \$293.8 million in 2020, the funding received is nowhere near capable of achieving the country's climate change mitigation and adaptation ambitions. Indeed, climate change adaptation projects represent only 4% of the funding received compared to 96% for the projects to reduce GHG emissions⁴⁷. Thus, in order to increase the international financial effort and improve the distribution of funds between mitigation and adaptation through a more balanced arbitration, Morocco, as a country highly vulnerable to climate change, needs to develop more impactful and inclusive adaptation projects.

One of the main reasons for this observation is that Morocco does not have a national strategy for international climate finance to mobilise significant funds to finance its climate objectives, knowing that the sectoral departments lack specialised technical skills in mobilising international climate funds in terms of presenting bankable projects that meet the complex and diversified mechanisms of these funds. For example, the Green Climate Fund accredits only two national structures in Morocco: the National Agency for Agricultural Development and the Moroccan Foreign Trade Bank.

⁴⁷ Data is retrieved from the site of CFU <https://climatefundsupdate.org/>

Conclusion and recommendations

In conclusion, the analysis of the perception of the actors concerned with the green transition in Morocco was rich in lessons and allowed identification of policy recommendations to effectively achieve the successful green transition. The integration of these recommendations in the implementation of the NSDS will make it possible to respond to the strategic orientations of Morocco's new development model in preserving its natural resources. Briefly, these policy recommendations are summarised as:

Ensure effectiveness of the environmental regulation

To ensure the effectiveness of the environmental regulation in force, it is advisable to strengthen the means and prerogatives of monitoring and control of compliance with environmental regulations, particularly those of the environmental and water policy. For good measure, it is recommended to carry out impact studies of law and decree projects related to the environment before their adoption in order to evaluate the means and prerequisites for their successful implementation. In addition, it is important to accelerate the preparation of the implementing texts of these laws and decrees and to expand coverage of natural environments through national environmental legislation, such as the soil act, access to the environmental information act, environmental liability, and environmental crime.

A new governance mode for a successful Moroccan green transition

On the basis of the deficits of governance raised, it is strongly recommended to mainstream the issue of a successful

transition to a green economy of the NSDS into national thematic committees led by institutions. In other words, each committee is steered by the ministerial department concerned, which reports to the national and monitoring committees. This new organisation mechanism will strengthen the necessary institutional linkages between all the existing committees. It will also reinforce coordination and collaboration between actors, and create synergies and convergences between sectoral departments to avoid duplication in terms of both state funding and technical objectives.

It will develop a partnership between the state, the private sector, and non-governmental organizations (NGOs) in the promotion and development of the green transition in Morocco. From here, it is essential to seize the opportunity of translating the new development model into a national charter for development to integrate the transition to a resilient and carbon-neutral green economy in the resulting national pact via clear and contractual commitments around the green transition.

Territorial governance requires the creation of a national committee of sustainable regions in charge of the territorialisation of the NSDS, and to develop methodological tools, according to a pilot region. The role of this committee is to develop RSPSs and RDPs that integrate the principles, orientations and challenges of the NSDS in their design, validation, monitoring and follow-up processes of their implementation.

Reinforce inclusive finance of the green transition

To overcome the funding constraint linked to the multiplication of funds and their granting mechanisms, it is recommended

Territorial governance requires the creation of a national committee of sustainable regions in charge of the territorialisation of the NSDS

to reform the National Environment Fund towards a sustainable development fund with an inclusive financial and economic model of supply and expenditure. This model defines the modalities of governance and granting of loans, donations, participation, according to the specificities of the sectors, the categories of enterprises notably SMEs/MSMEs, and their self-financing capacity. This new fund must be correlated with a clear and fair environmental tax incentive.

A campaign to raise awareness and inform SMEs/MSMEs about funding and support opportunities offered by the state is more desirable for effective promotion of the green transition of these companies. Correspondingly, it is advisable to introduce an eco-label as environmentally-responsible enterprises to encourage them to promote their clean products, strengthen their brand image, increase their profits through certified credibility, and develop strategic partnerships.

Strengthen the green partnership between Morocco and the EU

A recent study by the Organisation for Economic Co-operation and Development (OECD)⁴⁸ in 2021 entitled "Regional Integration in the Union for the Mediterranean: Progress Report" concluded that some countries, such as Morocco, Tunisia, and Egypt, have succeeded in diversifying their economies and integrating them into regional value chains, but the EU remains totally dominant as the origin or destination of intra-Mediterranean trade. In order to make regional integration possible in the Euro-Mediterranean area, regional governance and multilateral cooperation bases

are more than necessary and go beyond market forces alone (OECD, 2021).

In this respect and taking into account the rich experience of cooperation between Morocco and the EU in the field of green development, the green partnership can be a model to be followed by the other countries of the southern shore of the Mediterranean while taking into consideration the following axis in order to make a success of the green transition in Morocco:

On the financial side

EU support for Morocco is recommended through the sectoral departments concerned with the green transition in the development of a national climate finance strategy and to train a pool of national experts in the technical and financial set-up of adaptation and mitigation projects. In the same vein, it is preferable to use bilateral cooperation institutions in the Euro-Mediterranean area that are accredited by international climate funds such as the French Agency of Development and the European Bank for Reconstruction and Development (EBRD) support Morocco in developing national expertise in terms of presenting NDC projects eligible for international climate finance criteria. The same goes for leading EU climate action institutions such as the European Investment Bank (EIB)⁴⁹. Having acquired this expertise, Morocco can serve as a regional hub for strengthening African triangular cooperation on environment, climate and sustainable development issues and thus reinforce its proactive commitment to South-South cooperation in these areas.

⁴⁸ It is a study commissioned by the UfM to the OECD to analyse economic integration in the Mediterranean.

⁴⁹ The EIB Group Climate Bank Roadmap 2021-2025 outlines the EU's goals for climate finance that supports the European Green Deal and helps make Europe carbon-neutral by 2050 (<https://www.eib.org/fr/publications/the-eib-group-climate-bank-roadmap>)

As regards the Green Deal for Europe, it is strongly recommended to exploit the financial mechanisms set up by this green pact in order to put at the disposal of Morocco funds within the framework of grants, technical assistance, and/or loan agreements. It will encourage the SMEs/MSMEs to become eco-responsible and to reduce the limiting factors, in particular related to the accessibility of the green technology whose cost is very high to their financial capacities. It is also recommended through these EU financial mechanisms to encourage European enterprises willing to invest in renewable energies in Morocco in order to transfer its green technology to Morocco and consequently address the root causes of irregular migration and forced displacement (Bennis, 2021). In addition, the investments of the Green Deal funds could directly create jobs in renewable energy in Morocco and help nascent local renewable energy industries to develop by involving local developers, subcontractors and workers.

According to a 2012 study by the Mediterranean Forum of Economic Sciences Institutes entitled "Renewable Energies and Sustainable Development in the Mediterranean: Morocco and the Mediterranean Solar Plan (MSP)", the renewable energy sector in Morocco could generate between 265,000 and 482,000 jobs in the country by 2040 (Lorca & De Arce, 2012).

On the technical side related to the green transition

Among the technical areas requiring EU technical support and assistance for Morocco, the following should be mentioned:

- Support in setting up the basis for an integrated and territorialised green tax and a national carbon market.
- Reinforcement of the capacities of the SMEs/MSMEs in terms of reception,

validation of the technical feasibility studies of the clean equipment, control, and follow-up of maintenance of the installations related to clean energy. This capacity-building should analyse the real costs of these installations and the costs of profitability related to the climate and environmental studies.

- Strengthening cooperation in agricultural research and innovation.
- Implementation of clean technologies in manufacturing processes and material flows, allowing a rational use of raw materials and the reduction of the quantity of effluents polluting the environment.
- Consulting and technical expertise services, including energy audits and diagnostics.

On policies related to the Green Deal for Europe

The establishment of a green partner label of relations between the EU and its partners on the southern shore of the Mediterranean will facilitate access to and association with EU initiatives, political dialogue and funding. It will promote the EU's leadership in the Euro-Mediterranean area *vis-à-vis* its competitors, particularly China, and will attract other third countries, such as those in sub-Saharan Africa (Bennis, 2021).

In order to overcome the challenges and obstacles mentioned above on green hydrogen for both Morocco and the EU, the green partnership between the two parties should contribute to the conclusion of a strategic green hydrogen alliance based on an integrated approach to these challenges and a continuous high-level political dialogue in order to achieve successful green diplomacy that takes care of the political and economic interests of each party.

The renewable energy sector in Morocco could generate between 265,000 and 482,000 jobs in the country by 2040

Concretely, it is suggested that a high-level strategic committee be established between the two parties with the objective of developing a roadmap based on an in-depth analysis of the opportunities and constraints for a successful green hydrogen strategic alliance and capitalising on Morocco's cooperation projects with EU countries in this field. In addition, it is preferable to secure this alliance by setting up specific financial mechanisms according to the win-win partnership, specifying the contributions of each party and affecting all the links in the green hydrogen chain.

In this regard, the EU should ensure the creation of a Mediterranean Renewable Energy Community to strengthen institutional support for the development of green energy and build new green elec-

trical interconnections to increase energy interdependence between the EU and geographically close countries, such as Morocco. This would help facilitate the export of green electricity to EU countries, such as Spain and Portugal (Bennis, 2021).

Given the role that research and innovation can play in accelerating and orienting Morocco towards the green transition, cooperation between Morocco and the EU should be further strengthened in green technologies. Through its Horizon⁵⁰ programme of funding for research and innovation, the EU can support Morocco in acquiring cutting-edge technology in specific sectors, such as renewable energy, and thus make the Morocco-EU green partnership more successful.

⁵⁰ Horizon Europe is the EU's key funding programme 2021-2027 for research and innovation with a budget of €95.5 billion. It is one of the main tools to implement Europe's strategy for international cooperation. In https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_fr

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Is Green MENA Possible? Prospects for Oil Producing Countries

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Introduction

Addressing climate change and encouraging rigorous climate action are at the heart of the European Union (EU)'s external relations efforts (Patrick, 2021). Although the EU produces only about 8% of current international green gas emissions, in terms of cumulative contribution to greenhouse gas (GHG) emissions the EU is the second largest emitter with 17% following the United States of America (USA) with 20% (Rocha et al., 2015).

But as a huge market that accounts for around 14% of the global trade in goods (Eurostat, 2021), the EU holds regulatory powers and harnesses technological advances that can lead to a carbon-neutral economy (Erlanger & Sengupta, 2021). In 2019, the EU announced its promising, yet challenging, EU Green Deal as a roadmap to curb the continent's carbon emissions to at least 55% below 1990s levels by 2030 and achieve a "net-zero" or climate-neutral continent by 2050 (Bennis, 2021). Another vital goal of the European Green Deal is to enforce the EU's global leadership and to use its geoeconomics and regulatory tools in order to address the geopolitical spillover effects of its decarbonisation schemes, particularly in the neighbouring countries (Bennis, 2021; Goldthau, 2021). One of these spillover effects is the decreasing need for oil and gas from the EU suppliers in the MENA region, which rely heavily on fossil fuel revenues (Leonard et al., 2021).

Actually, while the oil production within the EU has declined by 46% since 2000, the overall demand for oil over the same period has stabilised and the EU will continue to rely on imports to meet this demand at least for the next few decades (Cambridge Econometrics, 2020).

On average, hydrocarbon exports still

make up almost two thirds of total Middle East and North Africa (MENA) exports and around 40% of GDP, particularly in the oil-exporting countries (Bianco, 2021; Dabrowski & Domínguez-Jiménez, 2021). For example, the Saudi economy is heavily reliant on the oil industry (Abdulwahab, 2021) as oil exports accounted for 77% of total Saudi exports in 2019, and 68% of its exports in 2020. The oil revenues represented 24.4% and 20.5% of the gross domestic product (GDP) in Saudi Arabia in 2019 and 2020, respectively (World Bank, 2021).

The United Arab Emirates (UAE) has less hydrocarbon reserves than Saudi Arabia and a more diversified economy, but 30% of its economic revenues is still directly linked to petroleum products (Whiteaker, 2021). Therefore, there is a strong correlation between oil price change and the fiscal balances in the Gulf Cooperation Council (GCC) which has caused inconsistent and volatile economic growth over the past few decades (Sim, 2020).

The same applies for major natural gas exporters like Qatar and Algeria, whose natural gas exports formed a significant part of their GDP in 2014. These numbers have barely changed in the wake of the 2014-2016 oil price collapse (Al Shamali et al., 2019). Similarly, in spite of COVID-19 and the related economic recession and shrinking hydrocarbon sector (Dabrowski & Domínguez-Jiménez, 2021), the hydrocarbon sector continued to account for 94% of export earnings in Algeria in 2019 and 82% of export earnings in Qatar in 2020 (World Bank, 2021).

In these rentier states, the social contract is based on "no taxation and no representation" (Woertz, 2021), where the role of the government becomes providing private favours through the ruler's benevolence and the political legitimacy is en-

Table 1. Hydrocarbon production in the MENA countries by the end of 2020

Country	Oil (thousand barrels per day)	Country	Natural gas (billion cubic metres per year)
Saudi Arabia	11,039	Iran	250.8
Iran	3,084	Qatar	171.3
Iraq	4,114	Saudi Arabia	112.1
United Arab Emirates	3,657	United Arab Emirates	55.4
Kuwait	2,686	Algeria	81.5
Qatar	1,809	Oman	58.5
Algeria	1,332	Egypt	36.9
Oman	951	Baharin	16.4
Libya	390	Kuwait	15.0
Egypt	616	Libya	13.3
Tunisia	36	Iraq	10.5
Total regional production	27,664	Total regional production	686.6

Source: Compiled by the author based on data from BP (2021)

sured with public sector jobs and social welfare programmes (Tagliapietra, 2018). In this regard, hydrocarbon revenues have been typically employed to finance jobs for citizens, and more than half of them are working in the public sector in the GCC states compared to an international rate of 10-20% (Sim, 2020). In addition, in light

of the pro-cyclical fiscal policies in the rentier states and the heavy reliance of the private sector on state spending (Sim, 2020), the private agents usually invest in either the rentier or non-rentier sector based on expected profitability and the ruler's approval, which hinder economic diversification (Kaya et al., 2019).

Table 2. Oil rents in MENA countries from 2014 to 2019

Country	2014	2015	2016	2017	2018	2019
Algeria	24.4	15.9	12	14.5	15.6	14.4
Bahrain	8.6	5.1	3.2	3.5	2.4	2.2
Egypt	8.2	3.7	2.7	4.8	5.6	4.0
Iran	26.3	15.6	12.9	17	20.4	20.4
Iraq	45.6	35.1	31.4	38	44.8	39.6
Kuwait	55.2	38	32.1	37.1	44.1	42.1
Libya	42	28.5	22.3	38.4	42.5	43.9
Oman	39.6	23.8	19.7	23.4	26.7	24.9
Qatar	30.5	19.9	15.3	18	17.3	16.9
Saudi Arabia	41.2	24.2	19.9	23.7	28.9	24.2
United Arab Emirates	24.2	14	11.3	13.7	16.6	16.2

Source: World Bank (2021)

The degree to which fossil fuel-exporting countries in the MENA region will be affected by the EU Green Deal will be different according to multiple factors

The degree to which fossil fuel-exporting countries in the MENA region will be affected by the EU Green Deal will be different according to multiple factors, such as countries' break-even oil price, the EU market share in their fossil fuel exports, and the available oil and gas infrastructure (Quadri, 2021).

The EU Green Deal does not imply that oil and gas will be immediately phased out. It is expected that – even with following the most stringent decarbonisation paths – fossil fuel will continue to be part of the global energy mix at least for the next few decades, albeit at a lower level than current demand trends (Johnston et al., 2020). According to the International Energy Agency (IEA) (2021), the Sustainable Development Scenario (SDS) foresees that advanced economies will reach net-zero emissions by 2050, China by 2060, and all other countries by 2070 at the latest. However, oil demand in the SDS increases within the coming few years and then declines to about 50 million barrels per day (mb/d) in 2050 in comparison with 97 mb/d today. This means that overall oil demand declines by 2% every year between 2018 and 2050 (IEA, 2019). Demand for natural gas flutters around 4,000 billion cubic metres by the end of 2030s, and then significantly declines. Coal demand will be almost phased out from the energy mix to reach only 8% of the total energy use by 2050 (IEA, 2019).

According to the scenario described above, it is expected that global energy demand will continue to increase by 1% per year until 2040. This growth is triggered by an increasing population (9 billion people by 2040), robust economic activities, and an estimated increase in the global GDP by 3.5% per year (Evans, 2019). However, the growth rate of energy demand until 2040 will be around half the average rate

of 2% achieved since the 2000s, and almost half of the demand growth will be met by renewables (Evans, 2019). This shift in energy demand is associated with efficiency improvements, electrification, investment in renewables and new low-carbon technologies and shifts towards less energy-intensive industries (EIA, 2019). The likelihood of these shifts in the global energy sector, on the one hand, is not a mere question of technology but is closely related to the governments' willingness to provide policy frameworks that enable an accelerated energy transition and facilitate more diversified economies, particularly in the oil-exporting countries, such as those in the MENA region (Leonard et al., 2021). On the other hand, the EU's energy diplomacy will need to address the wide and profound geo-economic and geopolitical ramifications resulting from the energy transition. In this regard, the EU should review the existing set of priorities in concert with the emerging challenges and diversify its instrument toolbox, avoiding a normative-ideological perspective in favour of a realistic and country-tailored approach (Pastukhova et al., 2020).

This chapter addresses the impacts of the EU Green Deal on the fossil fuel exporting countries in the MENA region, focusing on Algeria, Saudi Arabia, the United Arab Emirates (UAE) and Qatar. In particular it examines two main issues: the EU Green Deal's repercussions for these countries and how the EU policies and actions can be framed in order to alleviate possible negative impacts in these countries.

Algeria

Algeria has the 10th largest known natural gas reserves, is the world's sixth-largest gas exporter, and has the world's third-largest untapped shale gas resources (ITA, 2021). In 2020, Algeria flared some 9.3bcm, making it the fifth largest flarer

in the world, and exported 35% of its total crude oil production to the EU (Capterio, 2021). Hydrocarbon revenues represent 95% of its exports by value, accounting for 60% of its GDP, and the country is reliant on the EU for its hydrocarbon revenues (Leonard et al., 2021). The expected decline in oil and gas exports to the EU and the related reduced hydrocarbon revenues represent a serious threat to the economic stability and social resilience of the country (Grigorjeva, 2016) and a critical challenge for the foreign policy aspect of the Green Deal (Teevan et al., 2021). According to a respondent from the Algerian Energy Ministry, given Algeria's hydrocarbon resources, developing downstream hydrocarbon products is a viable and promising way to diversify the economy. In addition, electrification is one of the EU Green Deal aspects and there is a huge potential for solar and wind electricity imports from Algeria to Europe. Given the anticipated challenges and decarbonisation process underway, the focus of energy security will revolve around electricity and low and carbon-neutral fuels, as well as the raw materials central for the manufacture of storage and renewable energy technologies (Pastukhova et al., 2020). According to Teevan et al. (2021), the EU will need to support a more diversified economy in Algeria, as well as using its own domestic model of green technology leadership to deploy investment in large-scale solar and green hydrogen projects in Algeria.

The EU's efforts to facilitate energy transition in its Southern Mediterranean neighbour countries including Algeria are emphasised by multiple bilateral and multilateral instruments to promote strategic energy partnerships and advance energy efficiency and renewables (Weber, 2014). Examples of these multilateral initiatives include the Euro-Mediterranean Energy

Forum in the framework of the Euro-Mediterranean Partnership (EMP), the Association of Mediterranean Energy Regulators (Medreg), the Union for the Mediterranean (UfM), the Association of the Mediterranean Transmission System Operators (TSOs) for electricity, and the Mediterranean Solar Plan (MSP) (Prontera, 2019). These initiatives shared the common goals of promoting the EU regulatory framework and advance energy infrastructure and technologies between the two shores of the Mediterranean in a way that strengthens energy diplomacy capacities (Goldthau & Sitter, 2015)

Another important political tool is the EU's financial assistance, which is channelled through various mechanisms, such as bilateral financial assistance, Neighbourhood Investment Facility Programmes, and Twinning and Thematic Programmes (Tichý et al., 2020). From 2014-2020, the European Neighbourhood and Partnership Instrument (ENPI) provided €241.3 million to Algeria, where energy and climate action projects were allocated a central portion of this funding (EC, 2021). As of 2017, the European Investment Bank (EIB) has invested €2.1 billion in Algeria in support of projects in the energy, water, road transport and industry sectors (EIB, 2017). For instance, the Maghreb-Europe gas pipeline project, inaugurated in 1996, was constructed with the assistance of \$1.1 billion from the EIB to transport gas from Algeria to Spain and Portugal, passing through Morocco (Goff, 2021).

Despite the great potential of Algeria for energy partnership with the EU, previous attempts to establish a renewable energy partnership failed. For example, the Desertec Industrial Initiative (DII) was launched in 2009 as new megatechnic EU-MENA renewable energy with the purpose of meeting about 20% of Eu-

Given Algeria's hydrocarbon resources, developing downstream hydrocarbon products is a viable and promising way to diversify the economy

Algeria will be a critical test case for the EU climate objectives, particularly with the approval of the national plan for the production of green hydrogen

rope's electricity needs by 2050 through a network of solar and wind farms extending through the MENA region and to contribute to its electricity self-sufficiency (Schmitt, 2018). However, the DII was perceived as an asymmetrical project that aimed to provide for the energy needs of the EU by ensuring the flow of cheap energy resources from the Global South to the rich industrialised North, while maintaining a profoundly unjust international division of labour (Hamouchene, 2015). According to Allan et al., (2021), the DII failed not only because of its financial infeasibility but also because it was perceived negatively. In this regard, Hamouchene (2015) stated:

“This was a genuine concern given the language used in different articles and publications describing the potential of the Sahara in powering the whole world. The Sahara is described as a vast empty land, sparsely populated; constituting a golden opportunity to provide Europe with electricity so it can continue its extravagant consumerist lifestyle and profligate energy consumption.”

In addition, the DII did not perceive the local community in the Sahara as an active actor in the decision-making process; rather they were addressed as passive consultees. Furthermore, the unintended environmental impacts of the DII raised significant concerns, particularly in relation to using water in an already water-scarce region to cool solar power plants (Allan et al., 2021). In this regard, Algeria has been criticising the Eurocentricity and unilaterality of EU initiatives in relation to energy partnerships, perceiving this kind of partnership as a way of taking advantage of its cheap natural resources, rather than being perceived as a win-win situation (Tichy et al., 2020).

Algeria will be a critical test case for the EU climate objectives, particularly with

the approval of the national plan for the production of green hydrogen by the Algerian government in May 2021. The plan aims to export green hydrogen instead of natural gas to Spain and Italy starting in 2030 (Cherif, 2021). This hydrogen transition has the potential to achieve the dual goals of the EU Green Deal, to advance climate action and to help fossil fuel-exporting neighbouring countries including Algeria to diversify their economy and revenue sources (Wijk et al., 2020). According to one of the respondents who work at the Ministry of Energy and Mining in Algeria, a different approach is needed to realise sustainable and strategic energy collaboration between the EU and North Africa, an approach that is not only facilitating cheaper and feasible energy systems but also a reliable and fair one. He added: “The EU-North Africa partnership in clean energy production should counter any neo-colonialism accusations. The cooperation needs to be based on mutual benefits, ensuring that electricity will be available for the people of North Africa before exporting the energy to Europe. In addition, there is a pressing need to ensure the flow of know-how and diffusion of low carbon technologies between the EU and North Africa in order to replicate successful models of clean energy systems and integrate them into local technologies.”

Gulf Region

The GCC countries – Bahrain, Kuwait, Oman, Qatar, the UAE and Saudi Arabia – own half of the proven oil reserves in the world and are among the world's largest oil-exporting countries (Bolanos, 2016). Despite the decarbonisation process and anticipated shrinking demand for oil and gas, the Gulf region is expected to continue providing a third of daily oil demand, particularly for markets such as India

and China, at least for the next few decades (Calabrese, 2021).

This means that the Gulf region will continue to play a significant role in global energy security (VOA, 2021). The importance of the region is also reflected in the political and economic leverage practised by major powers such as Saudi Arabia, the UAE and Qatar over other countries, such as Yemen, Libya and Iraq (Quadri, 2021). Furthermore, the recession of petroleum exports and related anticipated reduced revenues can potentially fracture the state's legitimacy, possibly creating social upheavals and political instability. These manifestations will have ripple effects that could spill across national borders with consequences for the EU ranging from terrorism, proxy wars and migration (IRENA, 2019).

According to one of the respondents who work at the GCC: "The Gulf countries differ in their levels of willingness and preparedness to initiate and pursue energy transition." He added: "The UAE and Saudi Arabia have been the most proactive states in the region, formulating policies to adopt renewables and engaging with international and interregional climate change negotiations." Saudi Arabia committed to adopt nature-based initiatives to offset carbon emissions, including the Saudi Arabia Green Initiative and the Middle East Green Initiative (Kennedy, 2021). The latter aims to offset the region's carbon emission by 60% by 2030 and the two afforestation schemes aim to plant 10 billion trees in Saudi Arabia and 40 million trees across the region, respectively (Neve, 2021).

Saudi Arabia

Saudi Arabia committed to become carbon-neutral in its domestic production by 2060, deriving 50% of its electricity from renewables by 2030 and eliminating its

carbon emissions by using clean hydrocarbon by 278 MT per year by 2030 (Rathi, 2021). According to one of the respondents from the Saudi Ministry of Energy: "Other actions targeting zero-emissions goal include the establishment of Saudi Arabia's first wind farm, Dumat al-Jandal, with a capacity of 400MW, which is planned to provide electricity to 70,000 Saudi homes, and the inauguration of the 300MW solar project that was connected to Dubai's grid. The project will power 27,000 homes and remove 1.8 million tonnes of CO₂ per year; and the declaration of the Saudi Aramco Power Company to develop 1.5 GW Sudair Solar Plant. Once completed in 2022, the Sudair plant provides power to 185,000 households, offsetting 2.9 MT of CO₂." Saudi Arabia is increasing its hydrogen capacity, aiming to produce 29m tonnes of blue and green hydrogen annually by 2030. In this regard, Saudi Arabia is planning to operationalise the green hydrogen initiative in NEOM, the mega-city development initiative in north-western Saudi Arabia, generating 4GW of wind and solar power by 2025 (Kossaify, 2021; Bianco, 2021).

The UAE

The UAE is another regional leader of the energy transition, both domestically and in its efforts to rethink the ways in which it engages with the global energy system (Seznec & Mosis, 2021). The UAE has been diversifying its energy mix since the late 2000s. In 2006, the UAE launched Masdar, a renewable energy company that has triggered low-carbon energy solutions and climate investments (Alterman, 2021). However, the government failed to fulfil its plan to build the world's first zero-carbon city, Masdar city, by 2016 (Bianco, 2021). The UAE has become the first Gulf country to commit to net-zero emissions in three decades, as set

out in the UAE Energy Strategy 2050 (Azari, 2020). The 2050 strategy is in alignment with the UAE's broader strategy for economic diversification and advancement of renewables, generating 44% of power from renewables, 6% from nuclear, 12% from clean coal and the rest from natural gas, and reducing the country's carbon footprint from power generation by 70% by 2050 (Saad, 2021). According to one of the respondents from the Abu Dhabi Department of Energy: "Despite all these positive initiatives to accelerate the use of renewables, the UAE will continue relying on oil exports revenues as a way to stabilise its economy, meet its public finances during the foreseen transition and to send a message that the UAE will continue playing a key role in the dynamics of the global oil market, even when the oil demand will decline in some parts of the world." In this regard, the UAE aims to target markets in emerging economies where demand for oil is expected to increase in the next few years, targeting production of 5 million barrels of oil a day by 2030, instead of 3.5 million in 2018 (Krane, 2021).

Qatar

Qatar has been taking steps preparing for a net-zero emission future, aiming to establish the largest carbon storage plant in the region to capture over five million tons of CO₂ per year (Al-Khater, 2020). State-owned giant Qatar Petroleum (QP) is among the first Gulf oil and gas giants to rebrand itself into a diversified energy company, emphasising its plan to reduce carbon emissions intensity of its liquefied natural gas (LNG) facilities by 25% by 2030 (Ugal, 2021). In order to accelerate decarbonisation efforts, Qatar joined Saudi Arabia, Norway and the USA to inaugurate the "Net-Zero Producers Forum" to develop net-zero emission strategies, including methane abatement and the

carbon capture, utilisation and storage (CCUS) technologies (Neve, 2021). As a part of its commitment to diversify its economy, Qatar founded the "One Planet" Global Sovereign Wealth Fund as a way to encourage green investment and to incorporate sustainability considerations into economic activities and investments (Al-Khater, 2020).

Other GCC countries

Other GCC oil producers announced several green initiatives in response to green transition obligations and climate change. A new nationally determined contribution (NDC) under the Paris Climate Agreement was declared by Oman to reduce its CO₂ emissions by 7% from business as usual by 2030 (Lo, 2021). Iraq, the Organization of Petroleum Exporting Countries (OPEC)'s second-largest oil producer, ratified the Paris Agreement, aiming to reduce its CO₂ emission by 1-2% (UNDP, 2021). Non-oil diversification is a major issue in the GCC. A number of GCC countries have been actively engaged in creating new economic sectors that complement and eventually can replace those carbon intensive economic activities (Mishrif, 2018). For example, the UAE has built diversified economies that are already flourishing away from fossil fuel revenues (Krane, 2021). Other initiatives to diversify GCC economies include the establishment of agencies that support the development and the finance of small and medium-sized enterprises (SME), such as Oman's Riyada and Qatar Development Bank (Kabbani & Mimoune, 2021). In addition, the GCC declared free trade zones and special economic zones that have their own regulations and bylaws away from the regulatory distortion of the private sector (Kabbani & Mimoune, 2021), creating a business climate that is able to attract and stimulate national and international investment (Tagliapietra, 2018).

The UAE aims to target markets in emerging economies where demand for oil is expected to increase in the next few years

In this regard, as of 2018, the UAE had 46 free trade zones (FTZ) and was closely followed by Saudi Arabia with 28 zones in the GCC (Puri-Mirza, 2021).

While GCC states have attained part of their economic diversification goals, petroleum products continue to represent over 40% of GDP in most GCC countries, except for the UAE (30%) and Bahrain (18%) (Kabbani & Mimoune, 2021). In other oil exporter countries, such as Qatar, Algeria and Bahrain, activities in the non-oil sector are closely related to the oil and gas sectors. The fossil fuel-based industries and linked value chains tend to include refinery, chemical and other extractive industries, while some non-oil sectors, such as construction and infrastructure, are heavily funded from oil and gas revenues (Tagliapietra, 2018). Even in countries like Bahrain, where oil reserves have largely been depleted and do not represent a big share of GDP, oil still finances the economy indirectly through money transfers of workers in neighbouring oil rich countries (Kabbani & Mimoune, 2021). Therefore, the largest hurdle to diversification is the heavy reliance on economic rents derived from the oil and gas sectors in the GCC (Krane, 2021).

Under this premise, pursuing diversification has short-term risks and challenges, notably in relation to employment, fiscal revenues and GDP (Robinson et al., 2021). These problems are further exacerbated by the fact that fossil fuel export revenues are usually allocated politically via patronage to finance paid public sector jobs and in the form of inefficient subsidies rather than financially supporting diversified economic growth (Peszko et al., 2021). The International Energy Agency (IEA) predicts that economies that rely on oil and gas could lose \$7 trillion by 2040 with the decline in the oil price (Tänzler & Gordon, 2020).

According to one of the respondents from the Saudi Investment Ministry: “Even with full substitution of the fossil fuel and related industries with non-oil industries, significant fiscal deficit in the GCC governments’ budgets will persist. Therefore, GCC countries should introduce structural reforms in two main areas: first is the composition of the national energy mix and second is the carbon-intensity of their hydrocarbon sectors.”

Even though many oil rich GCC states are investing in low-carbon technologies in order to reduce the carbon intensity of their petroleum products, the sheer size of petroleum exports of the Gulf states remains at the same level as their counterparts of international and oil and gas companies (Seznec & Mosis, 2021), given the plan of the EU to impose a Carbon Border Adjustment Mechanism (CBAM). Simply put, it is a levy that would add the carbon emission costs to imports of goods when they cross the borders into the EU (Appunn, 2021). This tax would create significant challenges for oil exports and other industries with a large carbon footprint (Tänzler & Gordon, 2020). Importantly, the carbon border tax will rewrite the terms of the competitive landscape, putting more constraints on the carbon-intensive petroleum imports, representing a new source of disruption to a global trading system already roiled by tariff wars, renegotiated trade agreements and rising protectionism (Aylor et al., 2020). Solutions to this challenge include innovative collaborative mechanisms, such as wellhead taxes and preferential trade agreements and technology transfers (Peszko et al., 2020). These organised and coherent approaches to domestic energy transitions could incentivise businesses to reduce their CO₂ emissions, and also provide for a more comprehensive structural and just transition, particularly in oil-dependent states in the Gulf region

The sheer size of petroleum exports of the Gulf states remains at the same level as their counterparts of international and oil and gas companies

– rather than a retail, patchy and project-based approach (Peszko et al., 2020).

Policy recommendation and the way forward

The energy transition will drastically reduce hydrocarbon revenues, particularly in the fossil fuel-exporting countries in the MENA region after 2030. Accordingly, there will be knock-on effects on the economies and politics of rentier states in the MENA region, which may lead to social unrest, political instability, or even state failure. The latter could result in violence and/or migration waves to neighbouring countries in the EU (Bartuska et al., 2019). However, it is unlikely that the increasing deployment of low-carbon energy projects in the Gulf will enable it to counteract the adverse impacts of reduced hydrocarbon revenues on jobs, economic growth and the private sector (Sim, 2019). As not all fossil fuel exporting countries will be affected in the same way and they have reached different levels in their pursuits towards carbon-neutral development, the EU will need explicit, country-specific policies and analyses for each state to anticipate and prepare for possible risks (Bartuska et al., 2019).

The EU already has plenty of internal mechanisms to promote green innovation in research and development among the EU states. For example, the EU Innovation Fund provides finance across all member states to support innovation in low-carbon technologies and processes.⁵¹

However, these mechanisms could be used to give external support for non-European partners in the areas of regulatory and technological innovation. For example, France could build a partnership

with Algeria developing photovoltaic technology to generate solar energy (Dennison et al., 2020). Given the ambitious plans of the industry association Hydrogen Europe to import the hydrogen equivalent of 40 GW of electrolyzers by 2030 (Erbach & Jensen, 2021), the GCC countries hold great potential as a cheap green hydrogen exporter to the EU (Qamar Energy, 2020). However, a collaborative regulatory framework for green hydrogen trade and other policy measures related to technology transfer, financing and certification should be negotiated to facilitate bilateral trading agreements followed by a liquid market between the major EU and non-European H₂ exporters.

As mentioned, the EU plans to impose the CBAM on carbon-intensive imports as a way to internalise the costs of climate change into prices of goods and services (Prazeres & Xie, 2021). The CBAM is considered a climate policy measure that aims to ensure that climate action in Europe does not lead to carbon leakages (PwC, 2021). Carbon leakages occur when domestic industries push their carbon-intensive activities to regions with lax emission rules or when formerly domestically-produced goods are replaced by more carbon-intensive imports (Appunn, 2021). When the tax is fully implemented in January 2026, one of its biggest impacts will be on the fossil fuel exporting countries in the MENA region that will potentially target other markets with lower ambitions for emissions reduction (Ianchovichina & Onder, 2021).

In order to ensure the CBAM as a way to boost climate action, more efforts are needed to design one that works for all countries. For example, border taxes should be accompanied by other incentives, such as equivalent reduction in

⁵¹ https://ec.europa.eu/clima/eu-action/funding-climate-action/innovation-fund_fr

other tariffs or nontariff trade barriers particularly for low-intensive carbon products or industries (Ianchovichina & Onder, 2021). In addition, the EU could adopt other measures, such as clean technology transfer, capacity-building or financial support for low-intensive industries, particularly in the least developed countries (Langrand, 2021).

The EU has a key role in advancing green energy technologies in areas of green hydrogen transportation, batteries and storage technologies, carbon capture, low-carbon transport, digitised energy systems, cross-border power grid interconnections and new “grid communities”, and new industrial revolution (industry 4.0) (Pastukhova et al., 2020; Clark et al., 2020). However, until today, technology transfer and the dissemination of innovation have been dominated by linear models rather than being approached through systematic holistic modes of knowledge sharing. The persistent use of the term “technology transfer” instead of “technology sharing” reflects the gap between “technology innovators” in the Global North and “technology consumers” in the Global South (Urama et al., 2012).

In order to adopt a model of knowledge sharing between EU and its neighbourhood countries in the Global South, it is essential to ensure not only hardware exchange, but also how to enable the recipient countries to utilise, maintain and replicate this technology (Kirchherr & Urban, 2018). In this regard, there are aspects that need attention: assess and prioritise technology needs in the recipient countries; build the capacity of the local labour force to use, disseminate and maintain these green technologies; and develop the policy frameworks and market conditions for the investment in and utilisation and regulation of technology (Urama et al., 2021). Knowledge sharing requires strategic partnerships to be built with the different stakeholders in the value chain, starting from technology designation through development and deployment, ending with evaluation and readjustment. In addition, there is a need to take into consideration the potential climate change mitigation technologies in the neighbouring countries’ local communities and integrate them with technological advances and innovation in the Global North (Urama et al., 2021).

The persistent use of the term “technology transfer” instead of “technology sharing” reflects the gap between “technology innovators” in the Global North and “technology consumers” in the Global South

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List of acronyms and abbreviations



AMEE	Moroccan Agency for Energy Efficiency
CBAM	Carbon Border Adjustment Mechanism
CCUS	Carbon Capture, Utilisation and Storage
CSMD	Ad-hoc Committee on the Development Model
DG NEAR	Directorate General for Neighbourhood and Enlargement Negotiations
DII	Desertec Industrial Initiative
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EE	Energy efficiency
EEAS	European External Action Service
EIB	European Investment Bank
EMP	Euro-Mediterranean Partnership
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood and Partnership Instrument
ESCO	Energy Service Company
ETS	Emissions Trading Scheme
EU	European Union
FARM	Foundation for World Agriculture and Rurality
FTZ	Free Trade Zone
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GHG	Greenhouse gas
HCP	Higher Planning Commission [Morocco]
IEA	International Energy Agency
INDC	Intended Nationally Determined Contribution
IPSF	International Platform on Sustainable Finance
IRENA	International Renewable Energy Agency
ITA	International Trade Administration
LNG	Liquefied Natural Gas
MAPMDREF	Ministry of Agriculture, Maritime Fisheries, Rural Development and Water and Forests [Morocco]
Medreg	Association of Mediterranean Energy Regulators
MENA	Middle East and North Africa
MSME	Micro, Small and Medium-Sized Enterprise
MSP	Mediterranean Solar Plan
MTEDD	Ministry of Energy Transition and Sustainable Development [Morocco]
NDC	Nationally Determined Contribution
NDICI	Neighbourhood, Development, and International Cooperation Instrument
NGO	Non Governmental Organization
NSDS	National Sustainable Development Strategy
OCF	Cherifian Office of Phosphates
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
QP	Qatar Petroleum
RDP	Regional Development Plans

RE	Renewable energy
RSPS	Regional Spatial Planning Scheme
SME	Small and Medium-Sized Enterprise
SN	Southern Neighbourhood
SDS	Sustainable Development Scenario
TSO	Transmission System Operator
UAE	United Arab Emirates
UfM	Union for the Mediterranean
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children’s Fund
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
USA	United States of America
WTO	World Trade Organization

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Policy Study

