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Strategic Approach to the Implementation of Article 6 of the Paris Agreement in the MENA Region

Sustainability Research Paper

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Since the adoption of the 'rulebook' for international carbon markets and non-market approaches under Article 6 in 2021, many countries have moved towards the implementation of international market-based cooperation. This can serve different objectives, including meeting and enhancing NDC targets, attracting investment for high-cost mitigation actions, facilitating technology transfer, and building capacities. Countries that want to benefit from market-based cooperation under Article 6 – sellers and buyers alike – need to become Article 6-ready. Who are the frontrunners in the MENA region with regards to climate transition policy? Will additional resources need to be deployed within the region to unlock the full potential of international carbon markets and non-market approaches?

SUSTAINABILITY RESEARCH PAPER

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03 EXECUTIVE SUMMARY

- The Middle East and North Africa (MENA) region holds significant potential for greenhouse gas mitigation through cooperative approaches under Article 6 of the Paris Agreement.
- Currently, nine bilateral agreements under Article 6.2 exist in the region, with countries such as Morocco, Saudi Arabia and Tunisia adopting a pure seller approach, while the UAE has adopted a mixed approach as both a buyer and a seller.
- Key activities of interest include renewable energy, energy efficiency, waste to energy, modal shift from private to public transport, electric vehicles, afforestation, reforestation and mangrove restoration projects, as well as industrial sector activities.
- Morocco is a frontrunner in the region, taking a proactive approach to develop an institutional framework suitable for cooperative approaches (currently conducting many pilot projects and has signed Memorandums of Understanding (MoU) with Switzerland and Singapore, making the country one of the most advanced worldwide).
- Institutional capacity in the region is overall rather weak, with most countries lacking comprehensive institutional and regulatory frameworks for the implementation of Article 6.
- Additional resources must be deployed within the region if the full potential of international carbon markets and non-market approaches is to be harnessed within the region.

Article 6 of the Paris Agreement provides for different options to voluntarily cooperate internationally to allow for higher ambition in NDCs both in terms of mitigation and adaptation to climate change while promoting sustainable development. However, countries that choose to make use of cooperation must meet certain requirements. Three key approaches are available: Articles 6.2 and 6.4 take the form of market-based approaches, while Article 6.8 outlines guidelines for non-market approaches.

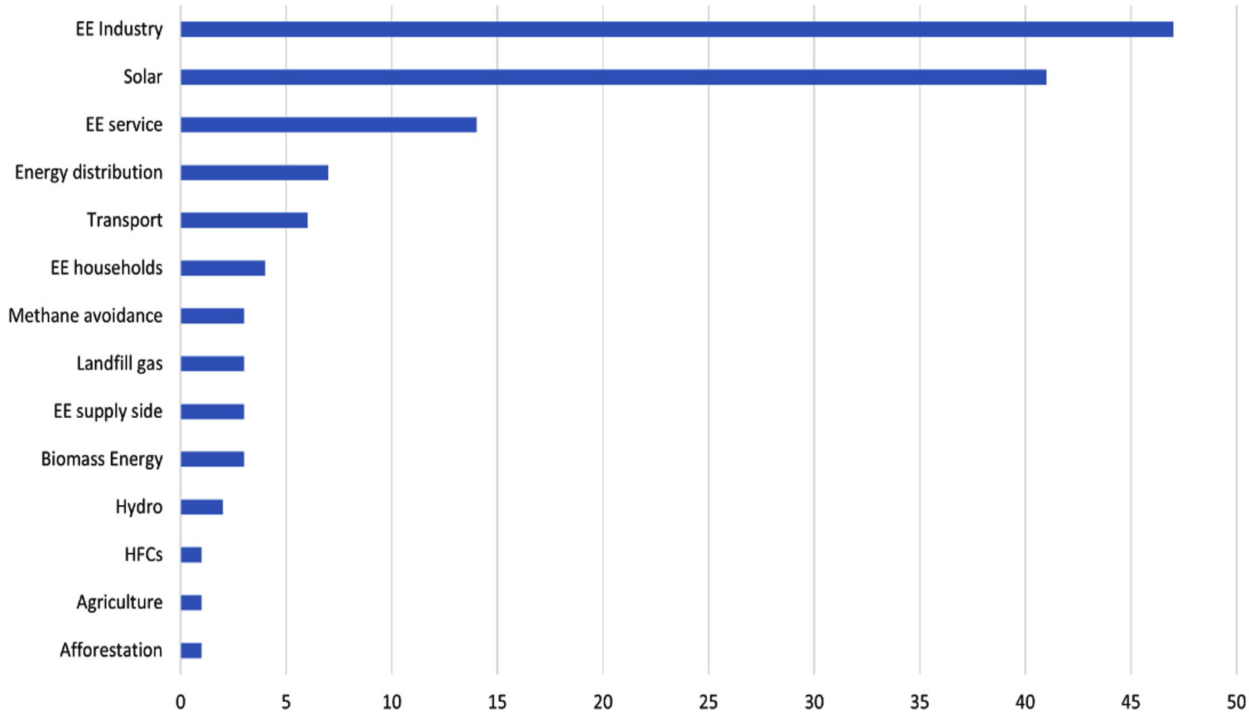
Article 6.2 provides a framework for bilateral and multilateral collaborative approaches involving the transfer of authorised mitigation outcomes, covering both emission reductions and removals, between buyers and a host country. Mitigation outcomes are either authorised for use towards another country's Nationally Determined Contribution (NDC) or other international mitigation purposes (OIMP) such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) or voluntary carbon markets. In order to prevent double counting, host countries must apply corresponding adjustments to their emissions balance for all ITMOs transferred.

Article 6.4 establishes an international baseline and credit mechanism, known as the Article 6.4 Mechanism (A6.4M), seen as the successor to the Kyoto Protocol's Clean Development Mechanism (CDM). An Article 6.4 Supervisory Body (A6.4SB) oversees the Article 6.4 mechanism. According to rules set by the A6.4SB, Article 6.4 Emission Reductions (A6.4ERs) – comprising emission reductions and removals – are generated by mitigation activities. If authorised by the host country, A6.4ERs become ITMOs and will need to follow the Article 6.2 guidance.

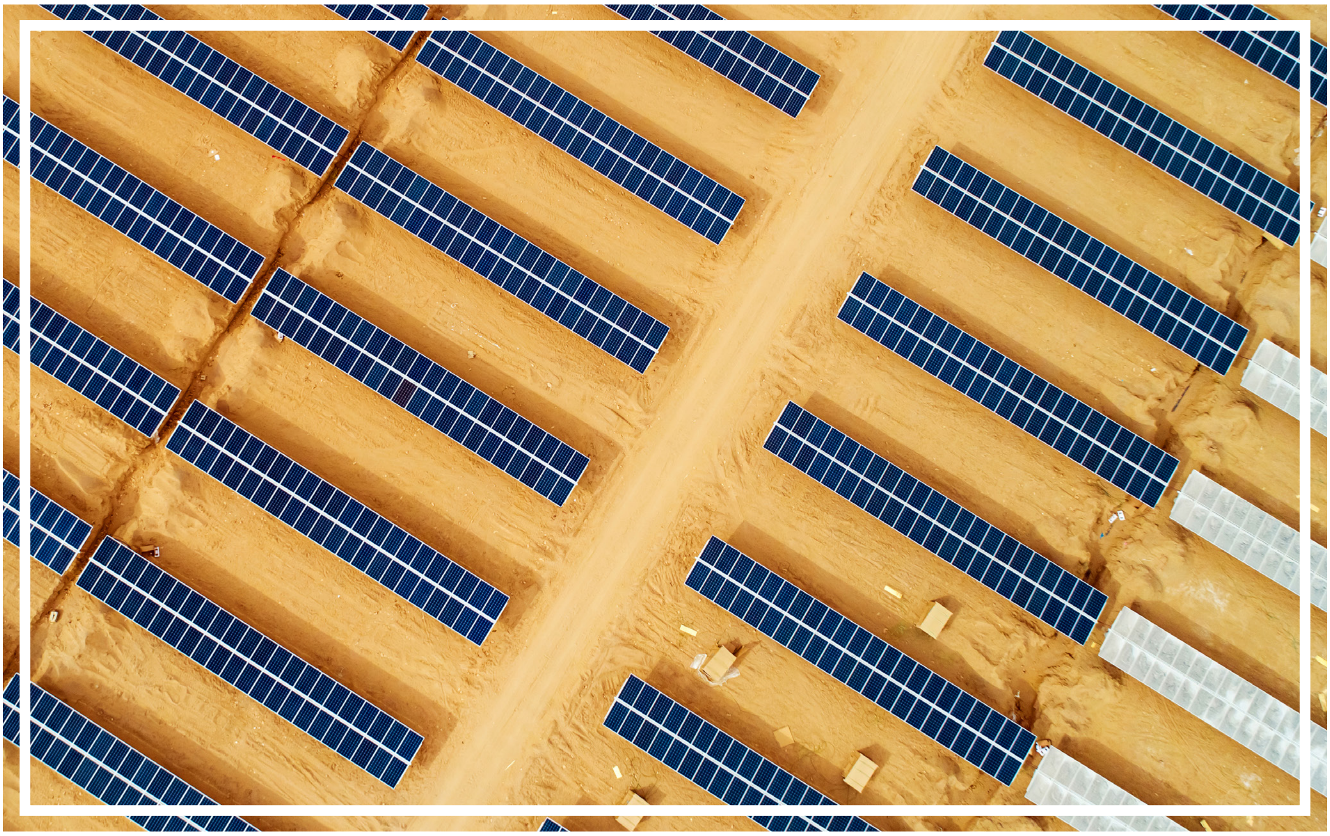
Authorised A6.4ERs can thus also be used by another Party to fulfil its NDCs or for OIMP. A6.4ERs that are not authorised, so-called mitigation contribution A6.4ERs can be used in the domestic context or for climate finance purposes ('contribution claims').

The centralised framework for the issuance of A6.4ERs under Article 6.4 contrasts with the decentralised framework under Article 6.2 of the Paris Agreement, under which countries tailor their own bilateral arrangements for transferring ITMOs. The Article 6.4 rules specify more detailed methodology requirements, e.g., encouraging ambition over time or baseline being below business-as-usual and being aligned with the long-term goal of the Paris Agreement. The A6.4SB is in the process of developing recommendations for operationalising the requirements and many other aspects. CDM activities can transition to the A6.4M by requesting this to the respective host country no later than December 31st, 2023. The transition must be approved by the A6.4SB and the activity must fulfil all relevant A6.4M requirements (as well as requirements on corresponding adjustments in case of mitigation outcomes authorised under Article 6.2) no later than December 31st, 2025. The activity can use the methodology that was approved under the CDM until either the end of its crediting period or 31 December 2025 – whichever happens earlier. Crediting period lengths are pre-defined at five years, renewable twice, or 10 years with no option to renew. Activities that involve removals get 15-year crediting periods, renewable twice. The renewal would be subject to approval by the A6.4SB. The host Party must approve the updates and can determine shorter crediting periods.[1]

Figure 1: Number of Pilot Projects by type (Including JCM)



EE = Energy Efficiency HFCs = Hydrofluorocarbons



As of September 2023, there are 61 Article 6.2 bilateral agreements between 6 different buyer and 39 host countries. A total of 136 pilot projects have been recorded, out of which 113 belong to Japan's Joint Crediting Mechanism (JCM). Out of 136 pilot projects, three already have Authorization Statements. Out of 136 pilot projects, 76% of pilot projects are in Asia, 13% in Africa and 6% in the Americas.[2] Figure 1 depicts the total number of Pilot projects associated with different sectors.[3]

The A6.4M is not yet fully operational. By August 2023, 55 Parties had communicated their Designated National Authority (DNA) for the A6.4M to the UNFCCC Secretariat. 40% of DNA submissions are from countries in Africa, followed by Asia (27%) and the Americas (18%). The A6.4SB met in Singapore in the second week of September 2023 to progress work on standards and procedures to operationalise a robust carbon credit mechanism from the start of next year. During this seventh meeting, the A6.4SB finished its consideration of the key framework document that will regulate the cycle of submission and consideration of project activities under the A 6.4M. It will open this framework document to final public consultation with stakeholders, including potential project proponents, market experts, and Indigenous Peoples and local communities before adoption, to ensure its robustness, appropriateness, and ability to uphold the highest environmental integrity standards for its users. The A6.4SB made considerable progress in deliberations of recommendations to the Parties of the Paris Agreement (CMA) related to development and assessment of Article 6.4 methodologies and the treatment of activities involving removals.[4]

Several countries in the MENA region have stated their intent to utilize cooperative approaches under Article 6. According to their NDCs, Egypt, Jordan, Morocco, Tunisia, Oman, Saudi Arabia, and the UAE intend to use Article 6 to meet national development and climate policy objectives, in particular to finance contributions conditional on obtaining international financial support. Saudi Arabia goes so far as to state that the Party considers voluntary cooperation and approaches referred to in Article 6.2 and Article 6.4 as essential for international climate goals.

Israel, Bahrain, and Lebanon have not yet clearly stated an intention to participate, but express that they are considering Article 6 cooperative approaches as a potential NDC implementation option.

While Qatar and Kuwait do not explicitly flag their intention to participate in Article 6, they express their support for the approaches in achieving additional emission reductions, driving sustainable development, and facilitating technology transfer in a cost-effective manner.[5]

Non-mentioned countries have not yet made a statement in their NDCs on their intended participation in Article 6.

Several countries in the Middle East and Northern Africa have already reached bilateral agreements or MoUs with other countries. An overview of existing agreements is provided in Table 1 below.

Morocco, Saudi Arabia and Tunisia have adopted a pure seller approach, signing MoUs with Singapore, Japan, and Switzerland. Palestine, Egypt, and Jordan will likely also adopt a pure seller approach.

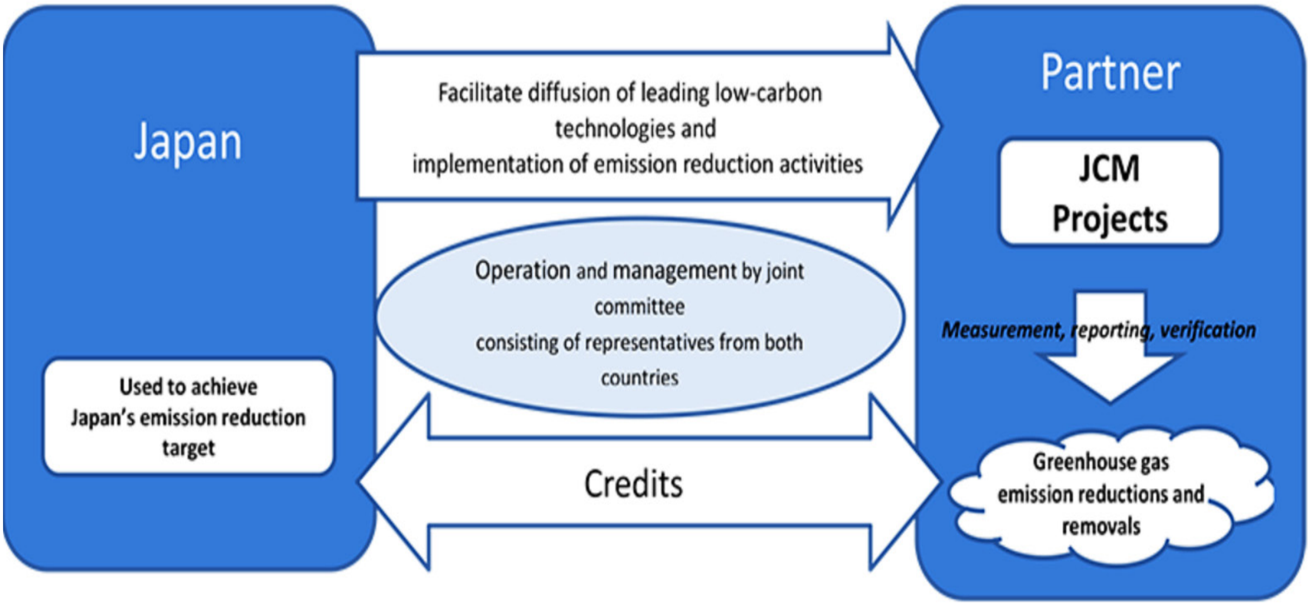
The United Arab Emirates is unique in the region as the only actor with a mixed strategy, acting as both a buyer and seller country.

Table 1: Overview of Article 6.2 bilateral agreements / MoUs in the MENA region [6]

		Buyer countries			
		UAE	*Singapore*	*Japan*	*Switzerland*
Seller countries	*Morocco*		X		X
	Saudi Arabia			X	
	Tunisia			X	
	UAE			X	
	Liberia	X			
	Tanzania	X			
	Zambia	X			
	Zimbabwe	X			

Note: MENA countries are highlighted in blue.

Figure 2: Process of Joint Crediting Mechanism – Japan



An MoU was signed with the Government of Zimbabwe to purchase ITMOs from activities in the Agriculture, Forestry, and Other Land Use (AFOLU) sector. Similar deals have also been established with Liberia, Tanzania, and Zambia.[7] As a seller country, the UAE also has an MoU with Japan through the JCM.

Internationally, one of the most advanced Article 6 implementation initiatives is Japan's Joint Crediting Mechanism (JCM), set up by the Japanese government in 2010 to promote decarbonisation and sustainable development in developing countries through cooperative mitigation efforts. As of August 2023, the scheme had signed bilateral agreements with 27 partner countries, including Saudi Arabia, Tunisia, and the United Arab Emirates.[8] Figure 2 illustrates the bilateral agreement between Japan (buyer country) and host countries through Joint Crediting Mechanism.[9]

Though bilateral agreements are gradually being undertaken in the MENA region, the potential is much greater, and many countries could benefit from implementing cooperative approaches either as a buyer or a seller.

09 ACTIVITIES AND SECTORS OF INTEREST

The use of Article 6 should focus on additional initiatives with high mitigation potential in order to leverage real mitigation for ambition raising while maximising funding and impact. For projects to align with the implementation and achievement of a country's NDC, it is crucial that nations determine early on which types of projects they will promote and subsequently authorise within the scope of their national Article 6 strategy. Projects with high mitigation potential can vary greatly in the MENA region due to a combination of factors, including the diverse ecosystems, the resources, and the energy mix of the region, along with the level of economic development and unique environmental and societal challenges.

Historically, the MENA region has relied heavily on fossil fuels, particularly oil and natural gas, for its energy needs and economic revenues. As such, in many countries, expanding renewable energy (RE) generation and energy efficiency measures are highly relevant to mitigation activities, with some market opportunities opening by virtue of Article 6 of the Paris Agreement. In recent years, however, due to a variety of factors, the cost of renewable energy projects has significantly fallen in several MENA countries, thus calling into question the additionality of new RE projects.[1,10] Energy efficiency projects are subject to the same additionality concern. However, in some cases, both activities could still bring additional emission reductions in the region.

Waste is also a priority sector for many countries. Several countries in the MENA region may consider the reduction of methane emissions from landfills to be an interesting opportunity. The suitability of landfill methane capture projects does vary depending on factors such as the size of the waste sector, landfill infrastructure, and regulatory frameworks. However, countries that already plan to reduce emissions from landfills could further develop waste-to-energy (WtE) projects. In such cases, capturing methane from landfills can be a part of a broader strategy to address waste and energy needs. For example, the UAE and Saudi Arabia, two countries who generate a substantial amount of municipal waste, are now exploring several avenues as part of their sustainability and climate mitigation efforts. The city of Dubai will have the largest plant in the Middle East to convert WtE, while Saudi Arabia signed an agreement to develop a sustainable industrial WtE facility.[11,12]

Furthermore, projects related to modal shift from private to public transport and the adoption of electric vehicles (EVs) are also increasingly relevant in various cities and countries across the MENA region. Some of these initiatives could be further leveraged through Article 6 cooperative market-based approaches. Cities like Dubai and Abu Dhabi (UAE) have been at the forefront of promoting EV adoption and sustainable transportation alternatives. Saudi Arabia has also expressed interest in EV adoption as part of its Vision 2030 plan for economic diversification, and Riyadh and Jeddah are among the cities exploring EV deployment and public transport improvements[13] . Large capitals like Amman (Jordan), Cairo (Egypt), Tunis (Tunisia) and Rabat (Morocco) are also working on expanding and modernising their public transportation system and could be incentivised to harness ongoing and planned sustainable developments activities in the transport sector by means of Article 6.

Additionally, afforestation, reforestation, and mangrove restoration projects also present opportunities in the MENA region, and are already ongoing in Iran, Jordan, Egypt, and Saudi Arabia outside of the context of Article 6. Under the A6.4M, the role that removal activities will play is currently contested and at the forefront of international negotiations. In the context of Article 6.2, the elaboration of a national carbon market framework can help specify which types of activities and methodologies a given country will seek to authorise in their territory, including nature-based solutions. Guidance on the topic, however, remains crucial to ensure that the risks of leakage, reversals, and considerations regarding the permanence of projects are properly addressed so that activities in the region offer tangible environmental and socioeconomic benefits.

Lastly, other sectors may be of national interest, based on national circumstances. For instance, the growing stone and marble industry and cement production are of particular importance in Palestine, presenting high mitigation potential. The state has the option to either harness emission reductions from such activities using Article 6.2 or delay this option to Article 6.4 as activity development and methodology use in the industrial processes and product use sector is relatively nascent.

Within the MENA region, Morocco is a clear frontrunner due to its continuous Article 6 readiness efforts. Memorandums of Understanding (MoU) have recently been signed with Singapore[14] and Switzerland[15] with several pilots underway. The first mitigation action design documents (MADDs) have been developed presenting full-scale implementable Article 6 collaborations, and Morocco is also in the process of setting up an institutional framework relevant to oversee Article 6 activities.

In its 2021 updated NDC, Morocco significantly strengthened both its conditional and unconditional emissions reduction targets.[16] Morocco's overall revised target represents a 45.5% reduction in its economy's GHG emissions by 2030, including an unconditional target of 18.3% compared with the reference scenario, which corresponds to a business-as-usual (BAU) emissions trend. The mitigation scenario leading to the overall target is based on 34 unconditional measures and 27 measures conditional on international financing. To implement its NDC, Morocco explicitly states that it "considers it essential to set up market mechanisms to encourage cooperation between the Parties, as provided for in Article 6 of the Paris Agreement, notably by reducing the total costs of achieving the objective of limiting the rise in temperatures" (p.6).[17]

In addition, a draft decree on the monitoring and evaluation framework for national climate action is being finalised to implement the MRV criteria and report called for by the transparency framework. Along with this, sectoral focal points are being trained to monitor the execution of respective climate-related measures.

Morocco also plans to use its experience gained in developing and managing projects under the CDM for its participation in Article 6 mechanisms.[18]

Capacity building programmes are ongoing in the country. In 2019, the Global Green Growth Institute (GGGI) with the Norwegian Ministry of Climate and Environment as funding partner launched the Designing Article 6 Policy Approaches (DAPA) program to carry out ITMO transactions based on regulatory approaches. The program offers comprehensive support from designing policy approaches to establishing validation procedures, including assistance to set up customised MRV systems, institutional arrangements for policy implementation, facilitating engagement of buyer and seller countries and providing recommendations on purchasing agreements. Through DAPA, GGGI is also developing a technical toolbox to support Morocco in the identification and design of policy approaches.[19]

Morocco's first bilateral agreement was signed with Switzerland in November 2022.[20] The agreement outlines the legal framework for cooperation between the two countries, with the transfer of emission reductions achieved through Swiss funding to support Switzerland in meeting its emission reduction target under the Paris Agreement.

Under this agreement, two Article 6 pilot activities are currently underway in Morocco in two key priority sectors: the African Energy Efficiency Fund (AEEF) and the Organic Waste to Energy program (OW2E).[21] The AEEF seeks to remove barriers preventing the deployment of energy efficiency solutions in the tertiary and industrial sectors, while the OW2E program supports individual biomass projects that produce electricity and heat. The KliK

Foundation recently launched the "Morocco Platform" to organize and support climate mitigation activities carried out under the bilateral agreement with Switzerland.

Similarly, Singapore signed an MoU with Morocco on July 4th, 2022.[22] outlining a Global Government-to-Government (G2G) Framework for cooperation on carbon credits. The envisaged implementation agreement includes important details such as scope of cooperation, governance structure, environmental integrity principles, and processes for registration, MRV, exchange of ITMOs, corresponding adjustments and reporting. Additionally, it covers ITMOs pre-authorisation and transfer authorisation, fees, and renewal/termination of the cooperative approach. Carbon credit projects could be developed and implemented through private sector-driven modalities, public-private partnerships involving either or both governments, or through registration with a standard such as Verra or Gold Standard.

In terms of institutional setup, the Ministry of Energy Transition and Sustainable Development (METSD) is responsible for laying the groundwork for most Article 6 activities. The government has developed a climate governance architecture for adoption and implementation of climate policies and regulations and has nominated the General Secretariat of the METSD as the Designated National Authority (DNA) of the country for the A6.4M.[23] Nevertheless, although significant progress has been made in Morocco in recent years to enhance Article 6 preparedness in the country, some challenges are notable, particularly in the areas of institutional and governance structures and capacities. Governance arrangements remain fragmented, with overlapping and competing roles across ministries, and a relatively weak human capacity of the METSD.

Though Morocco is certainly the most advanced MENA country in terms of Article 6 readiness, although further capacity-building work is required on several fronts – especially for steering policies and to provide confidence to investors and interested parties. Further training on Article 6 rules is needed to guide project developers and relevant government ministries. Governance capacity could also be strengthened through the development of templates such as a model mitigation outcome purchase agreement to steer the nation further on a concrete implementation pathway.

INSTITUTIONAL SETUP AND CAPACITY-BUILDING INITIATIVES

A strong institutional setup and internal capacity is key for meaningful engagement in Article 6.2 cooperative approaches and the A6.4M. The steps laid out in Figure 3 can be taken as a roadmap for developing the needed guidance and frameworks in a country:

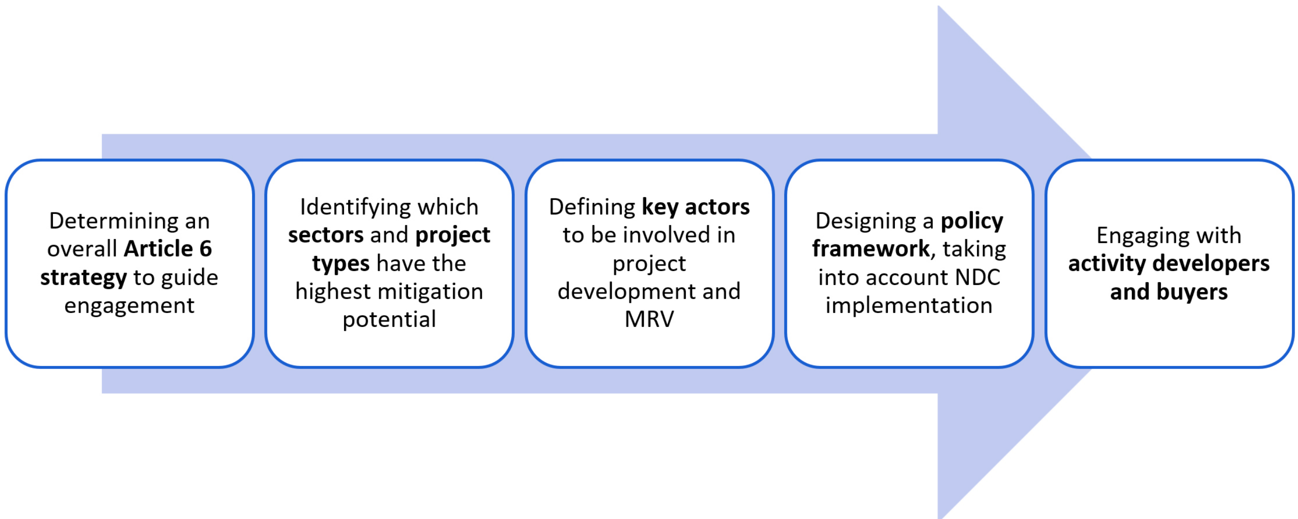
First, an overall Article 6 strategy must be developed, determining the role Article 6 will play in the country's NDC, long-term low emissions development strategy (LT-LEDS), and sustainable development strategies (e.g., contributing to the NDC, attracting finance, etc.), as well as laying out the national conditions for the type of activities eligible under Article 6 and the share of mitigation outcomes that shall remain in the host country (i.e., to avoid overselling). The Article 6 strategy is also necessary to communicate political willingness to engage in Article 6 to national stakeholders and international buyers or sellers.

Next, the country must establish priority sectors and activities, based on considerations such as NDC coverage, technical feasibility, and mitigation cost, as well as the key actors to be involved.

Based on these decisions, a policy framework can be drafted, creating regulatory texts on procedure for authorisation of Article 6 activities and eligibility conditions, a functioning MRV system and national registry and allocating responsibility for formal processes under Article 6 to government institutions. With these key building blocks in place, necessary stability is provided for activity developers and private sector actors to begin taking action, as well as for engagement and outreach to international buyers or sellers.

Overall, lack of capacity is a major barrier in the MENA region. Though many countries have expressed interest in engaging in Article 6, most Parties in the region are lacking necessary strategic development, as well as the institutional frameworks and regulatory infrastructure to underpin this. The UAE, Tunisia, Egypt, and Jordan are second tier countries regarding Article 6 readiness. In contrast to other countries, the UAE's engagement is coming primarily through private sector players. The carbon market project developer Blue Carbon was set up in October 2022 by a member of the ruling family of Dubai, Sheikh Ahmed Dalmook Al Maktoum. The company has scouted aggressively for huge forestry projects in poor

Figure 3: Relevant steps for capacity building.



countries in Africa and Asia. Reportedly the area of forestland covered by its MoUs reaches 15 million ha, 20% of the area of Zimbabwe, 10% of Liberia and Zambia and 8% of Tanzania. Blue Carbon alone will have the right to sell carbon credits from the forests included in the 30-year deal with Liberia and will get 70% of the sale price of carbon credits, with 30% left for Liberia. Blue Carbon has partnered with Singapore's ACX to sell its credits on that exchange. Furthermore, the UAE Independent Climate Change Accelerators (UICCA) group of private companies including the Mubadala sovereign wealth fund, renewable energy company Masdar and the UAE's largest lender, First Abu Dhabi Bank indicated its intention to buy USD 450 million worth of carbon credits generated in Africa by 2030 at the African Climate Summit in Nairobi in September 2023. The Abu Dhabi Global Market is developing a carbon market trading platform.

Tunisia has been supported by various bi- and multilateral donors, including GIZ and UNDP to build Article 6 capacity. However, so far neither bilateral agreement has been signed nor a pilot activity been implemented to date.

As evidenced in Egypt's NDC and interviews with local stakeholders, there is a clear willingness to further develop the capacity to engage in Article 6. Though the country is still in the initial stages of capacity development, some important strides have been made, including the identification of potential buyer countries for ITMOs and the development of an MRV framework.[24] With Egypt's successful CDM experience, carbon project developers in Egypt have a good starting point to engage in Article 6 activities. To benefit from existing knowledge and capacities, as well as understand stakeholders' needs, a committee on Article 6 has been formed to consult national stakeholders before engaging in Article 6 collaboration to ensure Egypt's needs, compliance requirements and national ambition under the NDC framework are respected.

Jordan is in a similar position, beginning initial activities to create institutional frameworks. An MRV and GHG registry system has been developed to track emissions from key sectors, supported by the World Bank's Partnership for Market Readiness (PMR). This activity makes Jordan the first developing country to put in place a state-of-the-art digital infrastructure to track and trade GHG emissions, a prerequisite for carbon market engagement.[25] In discussions with Jordanian stakeholders, capacity building and financial constraints were highlighted as the main challenges to achieving Article 6 readiness.[26,27]

Palestine has also undertaken efforts to design an Article 6 action plan, assisted by the NDC Partnership. Other Parties, such as Bahrain and Qatar, are still in need of further capacity building to reach Article 6 readiness.

Both government and private sector stakeholders need to have a better understanding of their requirements and of the processes of Article 6 to become further involved in carbon market activities. Further resources (both financial and in terms of human capacity) need to be deployed to address the general lack of resources in the region.

Market opportunities in the MENA region are potentially significant, but whether they can be harnessed depends on the level of engagement of government in mitigation and on the willingness of private sector players to pursue ambitious mitigation activities if receiving revenues from ITMO sales. Political buy-in is crucial in generating the motivation to further capacity building and design the structures needed to promote Article 6 activities in the MENA region.

Several capacity building initiatives and ongoing research projects are currently taking place in the region to assist countries within the MENA region to advance and elevate their levels of Article 6 readiness and gain from market-based approaches. In terms of research, the King Abdullah Petroleum Studies and Research Center (KAPSARC), a think tank located in Riyadh (Saudi Arabia), initiated a project called "Carbon markets and Agreement Article 6". [28] The aim is to assist Saudi Arabia in engaging in and participating in domestic and international carbon markets while contributing to raising awareness and expanding knowledge in the greater Gulf Cooperation Council (GCC) area. Notably, the organisation focuses on studying the lessons learned from Saudi Arabia and Gulf region's experience with carbon markets that are helpful for the post-2020 era, the difficulties and the opportunities associated with the international carbon market evolving landscape and ways in which Saudi Arabia can best utilise voluntary carbon market strategies and tools to its advantage.[29]

The Paris Agreement Article 6 Implementation (AP6IP) initiative aims to facilitate understanding of Article 6 rules and linkages with NDCs, promote joint efforts in building capacity, and avoid duplication of efforts, serving several countries of the MENA region such as Jordan, Morocco, Pakistan, Saudi Arabia, Tunisia, and the UAE.[30] Aside from the 63 countries involved, participants include international organisations, research institutes and private sector actors.

Similarly, Supporting Preparedness for Article 6 Cooperation (SPAR6C) is a program supporting participating countries in building their capacity to engage in Article 6 approaches.[31] However, at the moment, the focus is only on a total of four countries dispersed in various region, with none in the MENA region.

When it comes to initiatives specifically geared for MENA countries, the Regional Collaboration Centre Dubai (RCC Dubai), serves as a hub for promoting and facilitating climate action. Established in February 2019, it is part of the UNFCCC efforts to focus on enhancing cooperation and collaboration among countries and stakeholders in the region to address climate change challenges. While its mandate is not limited to Article 6, the RCC is a common point of contact for Article 6-related concerns.

In addition, the NDC Partnership has been active in multiple countries in the MENA region to address capacity building needs and efforts to support various nations in implementing climate action and achieving country's climate goals. Following governments submission of support requests, the NDC Partnership offers a tailored package of expertise, technical assistance, and funding. Morocco, Palestine, and Jordan have benefited from in-country engagement in the form of roadmaps for NDC implementation[32], Article 6 capacity building, and assessment of priority actions.[33]

Overall, there is demonstrable interest in leveraging Article 6 cooperative approaches in the MENA region, as evidenced by the statements of multiple parties in their most recent NDCs and the signature of multiple MoUs throughout the region. Potential to leverage finance for activities in multiple sectors exists, with Morocco demonstrating the initial steps Parties must take to establish necessary frameworks and the UAE leading as an engaged buyer and seller.

Though work on preliminary frameworks has begun in some countries, there is overall lack of financial and human capacity for carbon market engagement in the region. Numerous initiatives and resources exist to close this capacity gap and should be utilised to their full potential.

If understood and used adequately, engagement through Article 6.2 and/or Article 6.4 cooperative approaches can present broad-ranging opportunities for Parties located in the MENA region to address emissions from various sectors, while promoting sustainable development.

APPENDIX

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Contributing Authors:

- Erin Danford
- Arnav Trivedi
- Annika Wallengren
- Juliana Kessler

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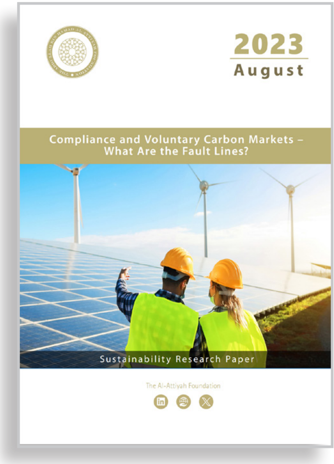

August – 2023

Compliance and Voluntary Carbon Markets – What Are the Fault Lines?

A carbon credit is a tradable unit that represents one metric tonne of real, additional, and permanent greenhouse gas emission reductions or removals issued by a carbon crediting programme and recorded in a carbon registry.

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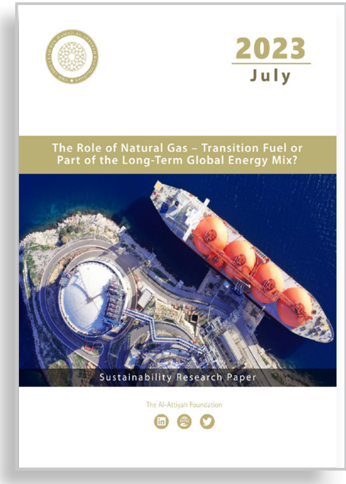

July – 2023

The Role of Natural Gas – Transition Fuel or Part of the Long-Term Global Energy Mix?

Natural gas has seen a rapid expansion since the 1970s as it has many attractive characteristics, including a low direct greenhouse gas emissions intensity. Many analysts have therefore seen it as a key "bridge fuel" to cushion the energy transition from coal and oil to renewables over the next decades.

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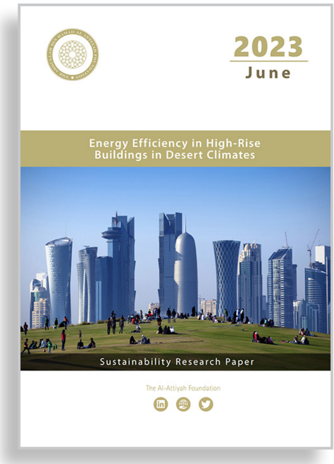

June – 2023

Energy Efficiency in High-Rise Buildings in Desert Climates

The Gulf region has witnessed a significant increase in its number of skyscrapers over the past few decades. This trend of high-rise buildings in the Middle East can be mainly divided into two distinct phases.

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The Al-Attiyah Foundation

Tel: +(974) 4042 8000,
Fax: +(974) 4042 8099
www.abhafoundation.org

Barzan Tower, 4th Floor,
West Bay.
PO Box 1916 Doha, Qatar

AlAttiyahFndn
The Al-Attiyah Foundation
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