

New Governance for the Environment in the Arab Region Series



EDA
INSIGHT

RESEARCH & ANALYSIS

NOVEMBER 2019

Advancing the Sustainable Energy Agenda: Governance and Cooperation in the Arab Region

Dr Deepti Mahajan Mittal

Disclaimer: The views expressed in this publication are solely those of the author(s) and do not necessarily reflect the views of the Emirates Diplomatic Academy, an autonomous federal entity, or the UAE Government. Copyright: Emirates Diplomatic Academy 2019.

Cover photo: Shutterstock, Alena Mozher.



Dr Deepti Mahajan Mittal
Programme Leader, Climate and Energy, at Emirates Nature-WWF

Dr Mittal is Programme Leader, Climate and Energy at Emirates Nature-WWF. She is leading the development and implementation of the organisation's climate and energy strategy, currently managing a portfolio of projects on renewable energy, sustainable transport and climate business engagement. Dr Mittal undertakes research and stakeholder engagement to support the development of science-based climate and energy policies. She also drives Emirates Nature-WWF's strategic partnerships with government and private entities. Dr Mittal earlier led the Centre for Research on Energy Security at The Energy and Resources Institute (TERI), India, where she worked with various clients, including UN-ESCAP, IUCN and DfID. *This paper has been written in the author's personal capacity. The views expressed herein do not necessarily reflect those of the author's employer.*

Executive Summary

◇ Achieving the energy goals enshrined in the 2030 Agenda for Sustainable Development calls for action across levels of jurisdiction. Regional governance and cooperation on sustainable energy (Sustainable Development Goal 7) plays an important role in ensuring universal access to affordable, reliable, sustainable and modern energy in the Arab region.

◇ Three key areas of intervention related to sustainable energy that are amenable to regional governance in the Arab world are energy access, renewable energy, and consumption efficiency.

◇ This EDA Insight explores the regional, sub-regional and cross-regional frameworks of governance that have been functional in the domain of sustainable energy governance to date. It finds that a multi-issue architecture of governance exists but it remains fragmented and patchy in its coverage of vital areas of action.

◇ Two key functions are currently served by the existing governance and cooperation frameworks: provision of a platform for dialogue and knowledge exchange, and provision of templates for domestic policy development. However, lack of clearly articulated targets and strategies, limited focus on tangible projects and inadequate political will, hamper further progress.

◇ The Insight argues that a two-pronged approach is needed to enhance regional governance of sustainable energy: expanding and deepening the scope of 'issues' and the strengthening of governance 'processes'. The

former requires countries to work through regional governance institutions to: further energy data and information management; co-develop infrastructure projects; and cooperate on technology research and development, and sustainable technology finance. The latter calls for increased accountability as well as consideration of diverse energy constituencies.

◇ Regional sustainable energy governance in the Arab region can be made more effective, efficient and inclusive. This paper argues that member states need to:

- Define the scope of existing regional energy institutions in order to bring order and accountability to the governance landscape, and consolidate functions, if needed;
- Require institutions to define and announce public pledges/targets that are implementable;
- Explore regional/sub-regional policymaking, particularly on energy efficiency;
- Create a regional data and policy information repository;
- Invest in regional governance for technology and green finance;
- Overcome barriers to development and operationalisation of regional infrastructure;
- Recognise diversity of actors and interests; and
- Review best practices and draw lessons from other regional initiatives.

The Issue

Providing clean, affordable and reliable energy to all without compromising planetary limits and while achieving climate and sustainability goals requires a concerted global effort. The required scale of energy transformations calls for effective governance and cooperation across jurisdictions, including across regions. The regional level can play a critical role in achieving the targets that comprise Sustainable Development Goal 7 (ensure access to affordable, reliable, sustainable and modern energy to all) with a focus on energy access, renewable energy and energy efficiency.

In the Arab world, while the contours of a regional sustainable energy governance architecture can be discerned from existing institutions, the regional governance platform remains underutilised and fragmented. This EDA Insight seeks to map out the institutions that currently form the nodes of this architecture, review their scope and achievements, identify gaps and define possible enhancements of regional governance.

The paper starts with identifying the Sustainable Development Goal (SDG) 7-related energy issues that present themselves for regional engagement in the Arab world, followed by a review of existing institutions and cooperation mechanisms. It then goes on to identify how regional governance can be enhanced through a focus on both 'issues' of governance as well as 'processes'. The paper concludes with a set of policy recommendations that set out an actionable agenda.

Regional Governance in Support of SDG 7: Focus Areas

Energy is critically important for human development. At the same time, countries have diverse resource profiles and technology capabilities. International collaboration is, therefore, crucial to ensure that communities and citizens across the world are not denied their basic energy needs.

When energy security is viewed with this lens, engagement and governance at the regional level stands out as particularly significant. As a starting point, the ease of trade and infrastructure development due to geographical proximity 'make the "region" an optimal policy space' for energy governance.¹ The Arab region is no exception to this, and the varied energy and development country contexts in the region only underscore the need for regional dialogue. The region is marked by energy exporters and importers, and its countries are at different stages in the spectrum of sustainable energy uptake.

The 2030 Agenda for Sustainable Development includes a focus on ensuring universal access to affordable, reliable, sustainable and modern energy. Enshrined in SDG 7 (see Box 1), this ambition is tied closely with other global development objectives, including those on poverty alleviation, education, health, water, air quality, gender equality and climate change. For instance, a continued move away from the use of traditional biomass for cooking in countries such as Egypt, Syria or Jordan will have positive implications for health (through improvements in indoor air quality) and women's empowerment (with women largely responsible for firewood collection).

Box 1: Sustainable Development Goal 7, *Ensure access to affordable, reliable, sustainable and modern energy for all*

The centrality of energy to development and well-being is reflected in the 2030 Agenda for Sustainable Development in the form of SDG 7 on affordable and clean energy. Adopted by all member states of the United Nations in 2015, the 17 SDGs agreed as part of the Agenda provide a globally recognised blueprint for the provision of a better and more sustainable future for all. SDG 7 encompasses ensuring access to affordable, reliable, sustainable and modern energy and includes five targets:

- 7.1** By 2030, ensure universal access to affordable, reliable and modern energy services
- 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix
- 7.3** By 2030, double the global rate of improvement in energy efficiency
- 7.a** By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- 7.b** By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support²

The energy sector objectives articulated in SDG 7 bring into view three key areas of intervention related to sustainable energy that are amenable to regional governance in the Arab world: energy access; renewable energy; and demand-side management.

Energy Access

The Arab region is seeing an increase in energy demand as economies grow and populations rise. In the lesser-developed countries of the region, rising population numbers and urbanisation are leading to increased pressure on the energy supply and delivery infrastructure that is expected to ensure uninterrupted access to energy for all. Government programmes have been adopted across countries to advance electrification through grid expansion and off-grid solutions, and subsidies and relevant delivery services have been put in place to replace traditional cooking fuels, such as biomass and kerosene, with liquefied petroleum gas which is a cleaner fuel.

About 87% of the region's population has access to electricity.³ There is near-universal access to power, and clean cooking fuels and technologies, in the countries of the Arabian Gulf and most parts of the Mashreq and North Africa.⁴ However, the Arab Least Developed Countries (LDCs), including Djibouti, Mauritania, Somalia, Sudan and Yemen, exhibit low levels of access to modern energy.^{5 6} Nearly two-thirds of people without access to electricity in the region live in Sudan and one-fifth live in Yemen.⁷ It is notable also that a number of urban centres and rural areas characterised as having access to electricity experience regular power black-outs.⁸

Subsidy reforms in countries such as Egypt, Jordan, Saudi Arabia and Tunisia have left poor, vulnerable communities unprotected from rising energy prices even while relieving pressure on the government exchequer.⁹ Meeting SDG 7, therefore, calls for the implementation of targeted access solutions, particularly in the Arab LDCs, and can benefit from regional technology cooperation, interconnected power grids, and regional effort towards expanding decentralised energy solutions.

Renewable Energy

Most Arab countries fall in the high solar insolation belt, receiving insolation as high as 6.5 kWh/m² per day.¹⁰ With the falling prices of solar technologies, Arab countries have seen advances in renewable energy. Morocco, Jordan, Egypt and the Gulf countries are seen to be leading in capitalising abundant solar energy, and renewable energy targets have been established across these countries. The UAE's *National Energy Plan*

2050 sets a target to achieve 44% of renewables-based installed electricity capacity by 2050. UAE power projects have made global headlines with record low bids for both solar photovoltaic and concentrated solar power.

Despite region-wide adoption of targets and policies, however, a lot remains to be done to harness the abundance of renewable energy in the region. Established targets often leave scope for higher ambition and need to be strengthened with clear implementation plans. In 2014, renewable energy made up about 4% of the region's final energy consumption.¹¹ It is notable that this share continues to be dominated by the use of biomass in Arab LDCs even though modern renewable energy technologies such as wind and solar are witness to progressively higher deployment rates. Today, about 5% of the power output in the region comes from renewables.

Renewable energy uptake and the move away from fossil fuels are among the most important responses to climate change. Also, the energy co-benefits of renewables are significant: distributed renewable energy generation can emerge as an important tool to enhance energy access; and for countries reliant on energy exports, renewable energy development can help reduce export dependence. Thus, the need for improved community-level access in LDCs, the motivation to increase reliance on indigenous resources and the ambition to move to cleaner resources all bring renewable energy further into focus for the Arab region. Hydrocarbon economies in the region are also looking to diversify their energy portfolio with alternative forms, in line with the agenda of economic diversification. The renewable energy sector is key to this transition as a domestic energy supplier and as a generator of jobs and revenue.

Regional governance frameworks can play an important role in expanding renewables' uptake through facilitation of regional power interconnections and thus the development of dynamic power markets, as well as the creation and disbursement of regional energy funds. In order to optimally utilise the potential of power trade, it is critical to draw out long-term plans for region-wide power capacity additions and lay down cross-border transmission lines.

Demand Side Management

The scope for efficiency improvements is vast and not tapping into the 'invisible fuel' offered by energy efficiency would be a missed opportunity for the Arab world. The World Bank estimates suggest that in the Middle East and North Africa (MENA) region,

the potential for savings from efficiency stands at 21% of projected total primary energy supply by 2025. Approximately three-quarters of these savings would come from efficiency improvements in end-use sectors.¹²

During the period 2000–2014, while global energy intensity decreased by about 1% annually between 2000 and 2010 and by 2% between 2010 and 2014, the average intensity in Arab countries increased by about 1% per year in 2000–2010 and has stayed largely stagnant since then.¹³ Energy demand side management needs to be a priority across the Arab world – potential for savings from efficiency have led to efficiency being characterised as the ‘first fuel’. As the Arab countries continue to grow and an increased number of citizens adopt modern lifestyles, managing energy intensity of economic activity and lifestyles will need to be a priority for effective energy systems management.

Traditionally, lack of adequate regulation and enforcement, pricing regimes marked by subsidies and low awareness have led to reduced motivation to address demand side management. This has begun to change in the backdrop of uncertainty in global oil markets and related price volatility, and countries in the region have begun setting efficiency policies and implementing price reforms. According to the Egypt-based RCREEE’s ‘Arab Future Energy Index – Energy Efficiency’, Tunisia, Jordan, Morocco and the UAE are in the lead on efficiency improvements.¹⁴

SDG Target 7.3, ‘by 2030, double the global rate of improvement in energy efficiency’, is a quantitative target set for the global community to pursue, providing intent and direction to relevant stakeholders. Regional governance, particularly on technology uptake and transfer, and the setting of technology standards, can play an important role in assisting the Arab region in improving the efficiency of both energy use and supply.

Within the ambit of the energy objectives articulated in SDG 7, it is expected that each country defines its own priorities. Every aspect of sustainable energy provision is tied with the other. Addressing access issues without an eye on sustainability and health can lock communities in regressive energy consumption patterns; in the same vein, a focus on clean and modern energy aids the resolution of access issues. Policy frameworks must recognise these interlinkages to draw on synergies but also take into account externalities of one target area on another, for instance, protecting poor and vulnerable communities’ interests while ensuring the provision of clean and modern energy to all.¹⁵ This interdependence must inform regional energy governance in the Arab world too. The following sections of this paper, while

reviewing the current regional efforts in these areas, serve to identify further opportunities for engagement on all three aspects.

Current Architecture of Regional Sustainable Energy Governance

The critical importance of energy issues makes it imperative that Arab countries build and advance regional governance mechanisms to simultaneously address three issues: energy access; efficiency of energy supply, distribution and use; and renewable energy expansion. A review of the current governance landscape reveals that a region-wide endeavour – though piecemeal – has been underway and has registered initial successes that can provide a springboard for further action.

Below, a mapping of current governance frameworks that include sustainable energy in their mandate and activities is presented. In addition to mechanisms specifically focused on energy, some institutions with a larger political mandate often cover energy as one area of governance amongst other defined sectoral areas of focus. Table 1 (on the next page) provides a snapshot of these regional institutions.

Regional Governance Entities

At the regional level, three energy governance entities stand out: the League of Arab States (LAS), with long-standing and institutionalised engagements on sustainable energy, provides one of the main umbrellas for inter-governmental dialogue and regional energy governance amongst the 22 Arab countries; the Arab Union of Electricity focuses on the power sector; and the UN Economic and Social Commission for Western Asia (UNESCWA) has advanced regional engagements on sustainable energy management.

The League of Arab States established the Arab Ministerial Council of Electricity (AMCE) in 1993. This council was mandated to address issues related to the production, transmission and distribution of power, as well as renewable energy and energy efficiency, and promote cooperation and alignment of policies amongst member states in these areas. With the growing importance of sustainable energy, an expert committee dedicated to renewables and efficiency was established by the Council.

The Council has been successful in advancing regional dialogue and securing consensus on a number of initiatives including: the ‘Arab Ministerial Declaration

Table 1. Regional Sustainable Energy Governance in the Arab Region: List of Key Institutions

Sources: Compiled by the author

Institution	Geographical scope/Type	Year of establishment	Members	Energy mandate
League of Arab States	Regional/intergovernmental	1945	22 member states: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the UAE, Yemen and 5 observer states	Considering the general affairs and interests of the Arab countries and building stronger ties amongst them; coordinating cooperation on power sector development (LAS established Arab Ministerial Council of Electricity in 1993; developed a pan-Arab renewable energy strategy)
Regional Centre for Renewable Energy and Energy Efficiency	Regional/intergovernmental	2010	17 member states: Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Palestine, Somalia, Sudan, Syria, Tunisia and Yemen	Enabling and increasing the adoption of renewable energy and energy efficiency practices in the Arab region
Arab Union of Electricity	Regional/intergovernmental	1987	19 members: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, the UAE and Yemen	Improving and developing the electricity sector in the Arab countries
United Nations Economic and Social Commission for Western Asia	Regional/intergovernmental	1973	18 member countries: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, State of Palestine, Qatar, Saudi Arabia, the Sudan, the Syrian Arab Republic, Tunisia, the UAE and Yemen	Supporting economic and social development in member countries, and promoting cooperation; supporting member countries in including social concerns in energy plans; providing training on energy management; promoting regional energy cooperation including expansion of power grids and gas networks
GCC Interconnection Authority	Sub-regional/joint stock company	2001	Bahrain, Kuwait, Oman, Saudi Arabia and the UAE	Expanding cooperation in the areas of power trade and services
UN Economic Commission for Africa - Office for North Africa	Sub-regional/intergovernmental	1958	Algeria, Egypt, Libya, Mauritania, Morocco, Sudan and Tunisia	Contributing to structural transformation and balanced development; ensuring sustainable growth (UNECA/SRO-NA has been engaged in regional renewable energy assessments and identification of enablers)
EU-GCC Clean Energy Technology Network	Cross-regional/non-governmental	2010	GCC and EU Member States	Networking and fostering of partnership between EU and GCC institutions on clean energy topics and opportunities
Mediterranean Renewable Energy Centre	Cross-regional/intergovernmental	2004	Algeria, Egypt, Libya, Morocco and Tunisia, with engagement from Italy	Developing regional competencies through transfer of technologies, training of experts, and dissemination of information in the field of renewables and energy efficiency (MEDREC is the hub for all RE related projects undertaken in the Maghreb region by the Ministries of Foreign Affairs of Italy and Tunisia)
Organisation for Islamic Cooperation	Cross-regional/intergovernmental	1969	57 member states	Safeguarding the interests of the Muslim world in the spirit of promoting international peace and harmony; prioritising science and technology, and climate and sustainability topics amongst others (OIC has established a centre of excellence on renewable energy)
Islamic Development Bank	Cross-regional/intergovernmental	1975	57 shareholding member states	Serves the functions of a multilateral development financial institution focused on OIC membership and principles of Islamic finance; allocates finance for development projects including energy projects

on the Vision to Exploit Solar Energy'; 'Arab Energy Guidelines for Improving Efficiency and Rationalising Energy Consumption'; 'Guidelines on Technical Requirements to Integrating Renewable Energy Projects into Grids'; and institutionalisation of 21 May as the Arab Day of Energy Efficiency.¹⁶

One of the most notable milestones under the LAS has been the adoption of the 'Pan-Arab Strategy for the Development of Renewable Energy 2010–2030' at the third Arab Economic and Social Development Summit in 2013. While setting long-term targets for electricity production from renewables, the strategy also articulates the regional aim to advance renewables in end-use sectors such as desalination, transport and space conditioning.¹⁷

In order to progress in the implementation of the strategy, the Energy Department of the LAS, in collaboration with the Regional Centre for Renewable Energy and Energy Efficiency (RCREEE) and the German International Cooperation Agency (GIZ), developed the 'Arab Renewable Energy Framework' (AREF). This framework, adopted in 2015, includes guidelines for Arab countries to develop and adopt National Renewable Energy Action Plans, or NREAPs. The AREF and the NREAP template provide the basis for the LAS Energy Department and RCREEE to provide technical support to Arab countries in the development and implementation of their renewable energy plans.¹⁸

The adoption of the LAS Pan-Arab Strategy also prompted a partnership between the International Renewable Energy Agency (IRENA), the Arab League and RCREEE to identify actions required for increasing investments in indigenous renewable energy resources, which were endorsed by the Arab Ministerial Council in September 2014.¹⁹ These included the establishment of the Pan-Arab Clean Energy Initiative (PACE) which aims to promote integration of greater shares of renewable energy into the power systems in the Arab region, with the ultimate objective of creating an integrated power grid.²⁰

Further, in April 2017, on the sidelines of the 12th session of the Arab Ministerial Council for Electricity, energy ministers of 14 Arab countries signed a Memorandum of Understanding to establish an Arab Common Market for Electricity, indicating a 'political commitment to an integrated electricity supply system'.²¹

Often working in close coordination with LAS is the Regional Centre for Renewable Energy and Energy Efficiency (RCREEE). RCREEE, an inter-governmental Arab organisation, aims to increase the adoption of

renewable energy and energy efficiency policies and practices in the region. It facilitates energy policy dialogues, development of strategies and tools, and technology deployment as well as undertakes technical and policy research and builds regional capacity on clean energy.²²

The second major entity with regional energy engagements in the Arab region is the Arab Union of Electricity. Established in 1987, the Arab Union of Electricity has had the aim of improving generation, transmission and distribution of power in the Arab region. The Union has been involved in sustainable energy dialogues and has organised trainings for member states on renewable energy integration in power systems. The Union has also, in the past, issued statistical bulletins and tariff manuals. Jordan hosted the 6th Conference of Arab Union for Electricity in December 2018. Hosted by the National Electric Power Company of Jordan, the conference focused on the need for electricity interconnections and opportunities for cooperation in the regional power market.

In June 2019, it was announced that the Union would be restructured, following an assessment of its activities and achievements. It was also announced that the Union will initiate an update of data and statistics 'with the aim of formulating regional performance indicators'.²³ This restructuring would provide an opportunity for the Union to identify its niche and its role in the regional energy architecture. It would be meaningful also to assess how the Arab Union of Electricity can work closely with the GCC Interconnection Authority (see the next section) to link sub-regions for power trade.

Regional cooperation on energy is also undertaken through the UN framework. The Sustainable Development Policies Division of ESCWA works with Arab countries on 'sustainable management of natural resources at the national and regional levels', with an emphasis on water, energy and efficient production.²⁴ The ESCWA Energy Section supports member countries in the integration of social concerns, such as employment generation and women's empowerment, in energy planning. It also provides training on energy management, encourages grid interconnections and promotes regional cooperation in the energy sector.²⁵

The ESCWA Committee on Energy was established in 1995 and participates in the formulation of the Commission's energy priorities. Convened for periodic sessions, it allows for exchanges on related topics such as sustainable development and climate change. Additionally, ESCWA undertakes extensive policy-relevant research to support the energy transition in the Arab region.

Even though these regional institutions are not part of a planned organisational architecture with clear roles and division of labour, it is heartening to see that they are well-connected and working in collaboration to address shared areas of interest.

Sub-regional Arrangements

In terms of established institutional frameworks, sub-regional cooperation on sustainable energy is not very strong in the Arab region. The two main institutions that stand out are the Gulf Cooperation Council Interconnection Authority (GCCIA) and the UN Economic Commission for Africa's Office of North Africa (UNECA/SRO-NA).

Inspired by the idea of cooperation that underpins the GCC, the GCCIA was established as a joint stock company subscribed to by the six GCC member countries.²⁶ Its mission is to lead the development of an efficient power market in the Gulf and to foster excellence in integration of power systems.

The GCC Interconnection Grid, the operationalisation of which began in 2009, today links the national grids of the six countries. With this infrastructure in place, the GCCIA has emerged as a focal point for discussions on expanding the use of the interconnection and promoting regional trading of power.²⁷ The GCCIA has undertaken studies to understand the potential of power trade amongst member states. It has worked to promote trade through capacity building and formulation of procedures to ease power transactions. It is estimated that the GCC Interconnection Grid's operation has resulted in economic savings totalling US\$2.2 billion, since the start of its operations until the end of 2018.²⁸

In 2018, the GCC Interconnection Authority inaugurated an energy trading platform that aims to promote daily contracts for trade between countries.²⁹ There is also recognition of the benefits of expanding power inter-connectors beyond the GCC: in July 2019, Jordan, Egypt and the GCCIA agreed to establish a technical committee, set timeframes and draft a memorandum in order to develop a framework for power interconnections between the Gulf countries' power grid and Europe's grid through Jordan and Egypt.³⁰

In the GCC, it is notable also that efficiency labels and standards for some energy technologies and appliances are developed by the Riyadh-based Gulf Standardisation Organisation. These standards ensure that products coming into the region or being manufactured in the region meet specified, minimum performance criteria. One example is the energy efficiency label for

light duty vehicles that is administered by the GSO in accordance with the standard, 'Motor Vehicles – General Requirements GSO 42/2015 (E)' adopted in 2015.

In the countries of North Africa, the development-focused UNECA/SRO-NA, headquartered in Morocco, has coordinated efforts on sustainable energy, in particular renewable energy. In 2011, the Office launched a project on innovative financing mechanisms for renewable energy in the region, which led to the publication of two studies.³¹ The report, 'Framework document: Regional Cooperation Policy for the development of Renewable Energy in North Africa' released in December 2013 provided 'the conceptual basis for a common policy' on renewables in the countries of North Africa.³²

Since then, the SRO-NA has continued to assess and highlight opportunities for cooperation, and provide a platform for evaluation of progress. In collaboration with the Arab Maghreb Union (AMU), in November 2018, the Office launched the first report on implementation of select SDGs (including SDG 7) in the four Maghreb countries of Algeria, Mauritania, Morocco and Tunisia.³³ The report urges the AMU and member countries to foster the development of trans-boundary energy infrastructure, and the exchange of knowledge, best practices and technology, amongst other SDG-related areas of cooperation. It is notable, however, that AMU – a regional arrangement in its own right which has been in existence since 1989 – has been unable to forge a spirit of cooperation amongst member states.^{34 35}

Cross-regional Frameworks

A review of energy governance in the Arab region reveals cooperation frameworks that involve multiple countries from within the region but reach beyond the Arab region to enhance inter-country engagement on sustainable energy issues. These take various forms: the EU-GCC Clean Energy Technology Network, for instance, forms an interface between two regions while the Islamic Development Bank (IsDB) serves the members of the Organisation for Islamic Cooperation (OIC) as a development-focused financial institution.

The EU-GCC Clean Energy Technology Network found its genesis within the overall cooperation agreement between the EU countries and the GCC states.³⁶ The establishment of the Network, then called 'EU-GCC Network for Clean Energy', was part of the work programme agreed at the 20th Session of the EU-GCC Ministerial Council in 2010. Information and knowledge exchange, and the facilitation of cross-stakeholder technical, research and policy cooperation are key areas of focus. In addition to GCC region-focused activities,

the Network also pursues EU collaboration with specific countries in the GCC. It often receives requests from countries for technical trainings and workshops.

The EU-GCC Network engages policymakers, businesses, research institutions, private and public sector companies, professional organisations and industrial associations. It currently has 3,000 institutional and individual expert members. It operates Working Areas where a targeted effort is made to generate and share information, and build inter-regional partnerships. The Working Areas include renewable energy sources, energy efficiency and demand side management, clean natural gas and related technologies (including hydrogen), electricity interconnections and market integration, and carbon capture storage and utilisation.³⁷

The first phase of the Network's activities, 2010–2014, was largely focused on research cooperation. The second phase, from 2015 to mid-2019, saw the network grow immensely, with increasing interest in its activities. The third phase, starting mid-2019, will last for three years and is expected to place greater emphasis on running demonstration and pilot projects.³⁸

Further, in North Africa, the Mediterranean Renewable Energy Centre (MEDREC) presents a unique framework of cross-regional energy cooperation. The Italian Ministry of the Environment, Land, and Sea (IMELS), and the Tunisian Ministry of Industry, along with Tunisia's National Agency of Energy Conservation, established the MEDREC as a centre for 'training, information dissemination, networking and development of pilot projects' in renewable energy.³⁹ With its focus on Algeria, Egypt, Libya, Morocco and Tunisia, it works to develop regional competencies in renewables and energy efficiency through technology transfer, pilot projects and knowledge dissemination. In October 2018, MEDREC announced a project on Renewable Energy in Agriculture and Rural Development which is part of a bilateral programme between IMELS and the Tunisian Ministry of Agriculture, Water Resources and Fisheries. Ongoing activities indicate a stronger engagement of Tunisia than any other Arab country.

The OIC provides another broad-based, political platform for cooperation on energy. Under its science and technology plan of action, the OIC has been working to link country resources and establish Centres of Excellence in select disciplines including renewable energy. Relatedly, the IsDB Group is working to promote sustainable development in OIC member states. With its commitment to the SDGs, and with 'Science, Technology and Innovation' and 'Infrastructure' amongst its focus areas, IsDB promotes sustainable energy projects through the allocation of its financing budget.⁴⁰

Assessment: Functions of, and Gaps in, the Current Architecture

Maintaining the concept of national sovereignty and non-interference in internal matters implies that regional governance frameworks, bereft of authority and punitive powers, are often unable to enforce national transition pathways. Yet regional frameworks can play a powerful role in creating well-entrenched institutionalised templates for cooperation and, when powered by adequate political will, can deliver successes and benefits across the region.

The existing set of Arab regional institutions have over time, and continue to, serve two salient functions with regard to sustainable energy which include the following:

Providing a platform for dialogue and knowledge-exchange: Existing institutions and cooperation agreements are playing an important role in connecting countries on energy topics and promoting dialogue. Whether it is an inter-state or multi-stakeholder set-up, the provision of an institutionalised space for engagement is a pre-requisite for any collaboration that serves the SDG 7 objectives. From technical workshops to broad-based energy exchanges, the current set of institutions detailed above, deploy an array of formats. Regional energy institutions are allowing countries to share success stories and best practices, and learn from each other's policy and community experiences. Consistent and continued exchange of on-the-ground experiences and empirical results from projects avoids replication of work and encourages collaborative learning and growth.

Providing templates for domestic policy and project development: The technical aspects of sustainable energy are made easier for countries to address, with effective use of expertise housed in regional institutions. These institutions often provide policy essentials and checklists, and templates for system protocols, and build related capacity amongst domestic institutions.

Viewed together, however, the Arab sustainable energy institutions, provide a loose, multi-issue governance architecture. Despite the contributions they make, the following gaps stand out:

Lack of clear targets and strategies: Focus on defining clear targets and strategies that can provide a long-term vision and framework for programmes is lacking in current Arab institutions working on sustainable energy governance. While it can be argued that regional targets would not be enforceable in national jurisdictions, quantitative milestones provide a clear direction for

national policymaking and provide regional standards for benchmarking.

Limited focus on tangible projects: While a few examples can be cited of tangible institutions and/or work programmes (such as with regard to GCCIA), most regional institutions have not delivered any medium or large-scale projects that would involve investments in infrastructure or technology. Though not all regional organisations may consider this within their mandate, output-driven initiatives should be part of activities of large organisations such as LAS and UNESCWA.

Inadequate political will: An Arab regional organisation invested in research or knowledge sharing alone could deliver meaningful results for its members, provided there is political will to run an agreed set of consistent activities. Energy cooperation and governance in the Arab world faces a barrier in the relatively low importance accorded to regional governance in the region but is also impacted by the lack of attention to issues such as energy and environment.

Enhancing Regional Governance to Serve the Energy Transition

While current regional governance structures around sustainable energy have so far seen a mixed set of achievements, an assessment of the institutions and governance mechanisms highlights some critical areas of enhancement that, if addressed, could strengthen the regional governance architecture, deepen country engagement and provide enhanced benefits to participating countries. These areas of improvement can be classified into **issues** that the institutions address and **processes** that they follow:

Expanding and Deepening the Scope of Issues

1. Comprehensive data and information management

Most sustainable energy governance institutions in the Arab region are involved in research and technical assessments. Yet there has not been a concerted effort to build a comprehensive sustainable energy databank and energy resource atlas that is populated by countries' data and energy authorities collaboratively. Moreover, political conflict has adversely impacted data capabilities and reporting in countries such as Iraq, Libya, Syria, Yemen, Sudan and Mauritania.⁴¹

IRENA, through its GCC Market Analysis as well as other resources on the Arab region, and UNESCWA, through research on sectoral interventions and energy reform, have filled the data and information gaps to some extent. An inter-governmental regional effort in this domain would not only create a one-stop-shop for energy data but would provide a robust basis for techno-economic evaluation of energy cooperation opportunities and regional energy planning.

Regional trade and investment and infrastructure development would benefit from such a databank. The current energy framework under LAS as well as UNESCWA provide relevant forums for such an effort. The UN Statistics Commission and UN Environment Programme have already been working with governments across the region to strengthen data capabilities. Given the inter-linkages between energy and environment data, there is potential for a pooling of resources and efforts on this front.

Along with data, the Arab region would also benefit from the establishment of a knowledge repository on energy policies and programmes. This repository could include information about, and learnings from, country initiatives on renewables, energy pricing and subsidy reform, demand side management in buildings, sustainable transport and industrial efficiency, among others.

2. Co-development of infrastructure projects

Energy infrastructure, especially when discussed in the context of sustainable energy, encompasses small-scale and utility-scale renewable energy plants, smart grids, and power transmission and distribution infrastructure. At the level of the Arab region and sub-regions, countries need to invest political and financial capital in the development of regional/sub-regional infrastructure that can considerably reduce total capital investment, curtail transaction costs and cut down system inefficiencies. In some cases, it may be easier for a country to trade electricity with a neighbour through cross-border interconnections than to build domestic transmission lines to border regions.

Interconnections also allow effective management of demand and supply thus enabling the deployment of higher levels of intermittent renewable sources across the network. Well-planned infrastructure, coupled with effective market protocols and principles for trade and transfer, can yield significant energy and economic dividends for the region. It is also critical that sub-regions work with each other to harness synergies. The

GCCIA represents one example of a sub-regional grid. While GCCIA needs to deepen power cooperation and trading relations between the GCC countries, it is critical also that the Authority engage in a broader regional dialogue on power trade.⁴²

Intermittent supply of electricity and lack of grid connectivity remain concerns in LDCs and developing Arab countries. There is also region-wide interest in bringing more renewable energy resources into the grid which can be facilitated with interconnections. Domestic energy planning to alleviate access concerns and expand clean energy should be pursued alongside regional efforts to expand power trade through cross-border transmission lines. A regional/sub-regional initiative can even catalyse domestic reforms: for instance, power trade requires synchronisation of grids and technical standards, establishment of financially sustainable domestic utilities, promotion of competition and a predictable regulatory environment.⁴³

3. Technology R&D and sustainable technology finance

On the energy technology front, regional governance and cooperation can help facilitate collaborative research and development in both renewable energy and energy efficiency technologies. The mandate of existing regional institutions on technology demonstration and pilot schemes is indicative of an interest in this area. However, the long-term commitment and investment needed for robust and sustainable technology research is only possible if such collaboration is institutionalised in the form of research hubs or incubators that are co-funded. Such regional initiatives can nurture research on localisation of technologies as well as development of new technologies and related ecosystems.

In the same vein, technology transfer remains an unexplored potential area of cooperation. From clean cooking technologies to energy storage innovations, the region could explore intra-regional technology transfer, with due consideration for intellectual property rights and trade rules.

Initiatives to foster scientific research and technology innovation could be funded through regional finance mechanisms or sustainable energy funds, potentially established under the umbrella of current regional groupings such as LAS. Given that many countries in the Arab are providers of development aid and sources of international investment, regional dialogue could be initiated to focus funds and finance to energy cooperation projects that aid growth and wellbeing in these countries. Regional funds could also deliver

micro-credit schemes for small-scale interventions and community projects. It is also important for Arab countries, particularly LDCs, to utilise existing multilateral financial institutions, such as the IsDB. Multi-country projects that need financing could turn to international multilateral development banks for finance.

Strengthening Governance Processes

1. Increased accountability

Regional institutions and cooperation agreements in the Arab world are not as well-entrenched and strong as regional frameworks in other parts of the world such as the EU or the Asia-Pacific. The lack of political will to build and invest in such arrangements also reflects in how sustainable energy is governed and addressed at the regional level. Energy, and sustainable energy in particular, holds an opportunity for regional governance and cooperation: renewable energy (until it is converted into saleable power) and energy efficiency gains are public goods that can be framed in non-zero-sum parameters, making them conducive to less conflictual dialogic engagement.

In order to ensure effective regional governance of energy, it is essential that regional mechanisms define clear objectives and mutually agreed activities. It is important also that these mechanisms define regional targets and strategies to reach these targets, with appropriate review process and timelines built in. For example, LAS's focus on expanding renewables' capacity in the region makes it a potential forum for following up on regional and country-level renewable energy deployment.

Organisational summits and workshops, while focusing on furthering dialogue, should provide an opportunity to reflect on their successes and areas of improvement. Institutions may even choose to undertake third-party performance audits led by neutral arbiters.

2. Consideration of diverse energy constituencies

Contemporary frameworks of governance influence, and often involve the interests of, a range of actors operating at different levels of jurisdiction (regional, subregional, national and local) that 'together yield the notion of negotiated sovereignty, the perception of resources as global commons and a shift towards participatory mode of policy-making'.^{44 45} This broader, more democratic understanding of governance leads to two lessons relevant for this paper's examination of regional sustainable energy governance in the Arab world.

First, inter-governmental cooperation and governance that focuses on state actors is critical, yet these governance entities need to be informed by the interactions amongst multiple levels (domestic, regional and international) and the interests that populate these levels need to be factored in when decisions are made. Second, regional engagements on sustainable energy need not focus on government-to-government interactions alone, and can include business-to-business forums, research exchanges amongst universities and schools, and transnational coalitions of civil society actors.

The stakeholders relevant to regional energy governance are many: states and governments, energy companies, utilities, regulators, traders, investors, communities and individual consumers. It is important that the mandates of regional inter-governmental institutions, and their objectives and activities take into account these actors' interests and positions. At the same time, a sustained engagement on sustainable energy calls for the establishment of regional frameworks and networks that are led by or encompass non-state actors.

There already exist examples of non-governmental institutions that are taking a lead in creating regional/sub-regional cohesion on critical topics. The Middle East Solar Industry Association (MESIA) is one such example. MESIA is a non-profit, non-governmental organisation that seeks to promote solar power in the MENA region, create a network of renewable energy professionals and assist in development of policies targeted at strengthening the local solar industry. The Association welcomes any company doing business or looking to do business in the solar industry within the region. While MESIA may not qualify as a traditional governance entity, it is playing a role in connecting markets and creating a regional narrative with the aim of influencing policy.

Policy Recommendations

In line with the areas of enhancement described above, following are steps that policymakers in the region can take to make sustainable energy governance inclusive and effective:

1. **Define the scope of existing regional energy institutions in order to bring order and accountability to the governance landscape, and consolidate functions, if needed.** This definition of scope – undertaken by member countries in collaboration – can be done keeping in view the three areas of energy access, renewable energy and energy efficiency. Some organisations may be engaged in all three areas, and this may not only be necessary but even desirable. A clarity of mandates will help delineate priorities and allow for merging of functions across organisations in case of replicated efforts. A democratic process that is led by the general assemblies of member countries that constitute the regional entities would ensure that complementarities amongst institutional mandates are exploited and replication is minimised.
2. **Require regional institutions to define and announce public pledges/targets that are implementable.** Publicly available targets will increase transparency and accountability, as well as allow for performance reviews and follow-ups. Participating ministerial representatives need to ensure that regional organisations' agendas and achievements are periodically reviewed in the interest of efficacy.
3. **Explore regional/sub-regional policymaking, particularly on energy efficiency.** While regional-level policy development may not be politically palatable and/or technically feasible in many areas, energy efficiency is one area that is well-suited for region-wide action. Regional or sub-regional harmonisation of standards and labels for fuels and technologies (appliances, vehicles and so on) can enable market integration, facilitate private sector compliance, avoid replication of effort and yield higher dividends in terms of energy savings. This can be pursued through existing or new, purpose-specific institutions.
4. **Create a regional data and policy information repository.** A mapping of energy production and consumption baselines, trends and projections, and a repository of policies being implemented across the region are apt components of a regional effort on sustainable energy. Such a mapping exercise would aid region-wide, national and local research and planning.

5. **Invest in regional governance for technology and green finance.** Technology development and transfer and provision of finance are areas that would benefit immensely from regional governance. Providing a rules-based, institutional framework for these engagements could unleash new synergies for a sustainable energy transition in the Arab region.
6. **Overcome barriers to development and operationalisation of regional infrastructure.** High capital investment needs, logistical and legal constraints, security concerns and regulatory inconsistencies often derail development of regional infrastructure such as cross-country power lines and grids. Policymakers should address these constraints by promoting regional techno-economic studies, highlighting evidence-based complementarities and benefits, and pursuing continued political dialogue as well as supporting business-to-business interaction.
7. **Recognise diversity of actors and interests.** The true test of regional energy governance mechanisms is to what extent they support an inclusive, results-oriented sustainable transition. This calls for a recognition of multiple stakeholders and their interests when designing and implementing policies and activities. Policymakers should also encourage more non-governmental collaboration across borders, involving private companies, centres of education and civil society organisations.
8. **Review best practices and draw lessons from other regions.** It will also greatly benefit policymakers in the Arab region to draw on the resources and experiences of other regions while keeping their focus on the unique political, economic, energy and environmental realities of the region. The Asia-Pacific region, for example, offers lessons on clean technology transfer. The experiences of the Southern African Power Pool, the Energy Community of South East Europe and other regional power arrangements could, in turn, inform the work of the GCCIA.

The Arab region's sustainable energy transition is well underway. It is through effective regional governance and cooperation that this transition can be streamlined as well as accelerated. Political commitment to cooperation at the regional level bodes well for countries' alignment on common interests in global forums and for robust sustainable energy interventions at the national and local levels. Besides supporting cooperation on energy, regional institutions – if effectively utilised – can help nurture a shared regional identity.

Endnotes

1. Mahajan, Deepti. 2012. 'Energy Cooperation in South Asia: Towards sustainable energy choices', Paper presented at Fifth South Asia Economic Summit, Islamabad, Pakistan.
2. United Nations. 2019. 'Sustainable Development Goals.' <https://www.un.org/sustainabledevelopment/energy/>
3. Sachs, J., Schmidt-Traub, G., Kroll, C. et al. 2019. *Sustainable Development Report 2019*. Bertelsmann Stiftung and Sustainable Development Solutions Network, New York.
4. UNESCWA. 2017. *Arab Region Progress in Sustainable Energy, Global Tracking Framework Regional Report*. United Nations Economic and Social Commission for Western Asia. Consulted in June 2019.
5. UNESCWA. *Arab Region Progress*.
6. Sachs, Schmidt-Traub, Kroll, et al. *Sustainable Development Report 2019*.
7. UNESCWA. *Arab Region Progress*.
8. Mousa, Sarah and Deena Mousa. 2018. 'Universal access to energy is a major challenge for the Arab world. Here's why.' *World Economic Forum*, 05 December 2018. Consulted in August 2019.
9. Ibid.
10. IRENA. 2016. *Renewable Energy in the Arab Region: Overview of Developments*. International Renewable Energy Agency, Abu Dhabi.
11. UNESCWA. *Arab Region Progress*.
12. The World Bank. 2016. *Delivering Energy Efficiency in the Middle East and North Africa*. Consulted in July 2019.
13. Ibid.
14. RCREEE. 2018. *Arab Future Energy Index AFEX 2017 Energy Efficiency*. Regional Centre for Renewable Energy and Energy Efficiency. Consulted in May 2019.
15. International Council for Science. 2017. *A Guide to SDG Interactions: From Science to Implementation*. International Council for Science. Consulted in August 2019.
16. Matar, Jamila. Not dated. 'An Overview on the Activities of Arab Ministerial Council for Electricity.' Consulted in June 2019.
17. IRENA. *Renewable Energy in the Arab Region*.
18. Ibid.
19. IRENA. 2014. *Pan-Arab Renewable Energy Strategy 2030: Roadmap of Actions for Implementation*. International Renewable Energy Agency, Abu Dhabi.
20. IRENA. *Renewable Energy in the Arab Region*.
21. Kamal Hassan Ali, cited in Middle East Monitor. 2017. '14 Arab countries sign MoU to establish joint Arab electricity market.' *Middle East Monitor*, 7 April 2017. Consulted in May 2019.
22. RCREEE. 2019. 'Who we are.' Regional Centre for Renewable Energy and Energy Efficiency. Consulted in May 2019.
23. The Jordan Times. 2019. 'Arab Union of Electricity, KPMG Jordan Sign Restructuring Agreement,' 24 June 2019. Consulted in July 2019.
24. UNESCWA. 2019. 'Energy'. United Nations Economic and Social Commission for Western Asia. Consulted in June 2019.
25. Ibid.
26. GCCIA. 2019. 'Vision 2020.' GCC Interconnection Authority. Consulted in June 2019.
27. Laura El-Katiri. 2018. *Regional Electricity Cooperation in the GCC*. EDA Insight. Abu Dhabi: Emirates Diplomatic Academy, December 2018.
28. Sheikh Nawaf bin Ibrahim Al Khalifa. 2019. 'Towards the Integration of the GCC Power System.' *GCC Grid* – Issue 3, 2019. Consulted in August 2019.
29. GGC Grid. 2019. 'GCC Interconnection Authority Launches a Platform for energy Trade for GCC Electricity Market.' *GCC Grid* – Issue 3, 2019. Consulted in August 2019.
30. The Jordan Times. 2019. 'Steps agreed to connect power grids of Gulf, EU through Jordan.' *The Jordan Times*, 18 July 2019. Consulted in August 2019.
31. The first study, entitled 'The Renewable Energy Sector in North Africa: Current Situation and Prospects', assessed the status of renewable energy development and prospects for growth while identifying the barriers to energy efficiency and renewable energy in North Africa (UNECA/SRO-NA. 2012. *The Renewable Energy Sector in North Africa: Current Situation and Prospects*. UNECA/SRO-NA. Consulted in June 2019). The second technical study, 'Study on Innovative Financing Mechanisms for Renewable Energy Projects in North Africa', identified constraints in securing project finance and locally-relevant innovative financing mechanisms (UNECA/SRO-NA. 2012. *Study on Innovative Financing Mechanisms for Renewable Energy Projects in North Africa*. UNECA/SRO-NA. Consulted in June 2019).

32. UNECA/SRO-NA. 2013. *Framework document: Regional Cooperation Policy for the development of Renewable Energy in North Africa*. UNECA/SRO-NA. Consulted in June 2019.
33. UNECA/SRO-NA. 2018. *First Report on the Achievement of Sustainable Development Goals in the Maghreb, Executive Summary*. UNECA/SRO-NA. Consulted in August 2019.
34. M. Fetouri. 2019. 'The Arab Maghreb Union that never was.' *The Middle East Monitor*, 28 February 2019. Consulted in August 2019.
35. Morocco World News. 2018. 'Morocco to Host 7th Summit of Arab Maghreb Union in 2019.' *Morocco World News*, 11 December 2018. Consulted in August 2019.
36. EU-GCC Clean Energy Technology Network. 2019. 'Background on EU GCC Energy Cooperation.' EU GCC Clean Energy Technology Network. Consulted in May 2019.
37. EU-GCC Clean Energy Technology Network. 2019. 'Working Areas.' EU GCC Clean Energy Technology Network. Consulted in May 2019.
38. The section on the EU-GCC Clean Technology Network benefited greatly from interview-based inputs received from Dr Ioanna Makarouni, Key Expert & Communications Manager, EU GCC Clean Energy Technology Network.
39. MEDREC. 2019. 'About MEDREC'. Mediterranean Renewable Energy Centre. Consulted in May 2019.
40. IsDB. 2019. 'Sectors.' Islamic Development Bank. Consulted in June 2019.
41. UNESCWA. *Arab Region Progress*.
42. Kuwait News Agency. 2018. 'Linking GCC-Arab power grids 'vital' – Kuwaiti Official'. *Kuwait News Agency*, 05 December 2018. Consulted in June 2019.
43. TERI. 2012. *South and South-West Asia Consultations for Asia-Pacific Energy Forum: Sub-regional Perspectives*. Developed for UNESCAP. New Delhi: The Energy and Resources Institute.
44. Mahajan, Deepti. 2012. *Energy in the international policy arena: Determining the role of multilateral institutions*. TERI-NFA Working Paper No. 1, The Energy and Resources Institute. Consulted in June 2019.
45. These actors include: the citizen (community-based organisations and citizen groups), the industry (local businesses and trans-national corporations), the epistemic community (researchers and academics, scientific organisations), civil society (NGOs, media and trade unions), and regional and global cooperation structures (forums and regimes).

