Analysis of the United Arab Emirates' contribution to the sustainable development goals with a focus on global health and climate change

Analysis of the UAEs' contribution to SDGs

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Abstract

Purpose – The world is confronted by various current development challenges, including global health security and climate change. The rapid growth of these challenges warned all nations regardless of their development or geographical position. As an emerging international power, the United Arab Emirates (UAE) was among these nations and is viewed as a proactive key actor.

Design/methodology/approach – This review was conducted as a thematic synthesis from 27 studies, reports and publications along with authors' insights. Using MS Word and Excel programs, three stages of data exploration, extraction and synthesis and analysis were applied. Data gathering, analysis and thematization and compilation.

Findings – The UAE is giving significant attention to global health and climate change. Over the past 20 years, multipolicies, strategies and bodies were developed to lead the national, regional and global SDGs. Global health and climate change became the most two notable priorities on the government agenda and its

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International Journal of Health Governance Vol. 28 No. 4, 2023 pp. 357-367 Emerald Publishing Limited 2059-4631 DOI 10.1108/IJHG-04-2023-0040 strategic thinking is that both priorities can no longer be overlooked. Nationally, the UAE has made significant economic, scientific, social and health growth. Building a resilient and world-class healthcare system was one of six national priorities of the achieved UAE National Agenda 2021. Globally, UAE has proved its global health leadership by ensuring lasting and collective multilateral partnerships and collaborations that led to remarkable achievements in global health and climate change. Examples on the global scale: partnership with the World Health Organization (WHO) to target billions of people of the world's population and ensure they get Universal Healthcare Coverage (UHC) without financial hardship, the partnership between UAE and Bill and Melinda Gates Foundation to establish the Global Institute for Disease Elimination (GLIDE) to fight diseases and put an end to polio. Additionally, the state's role in the COVID-19 global efforts such as vaccine development, supply chain and distribution targeted low- and middle-income countries (LMIC). The UAE has shown a constant commitment to climate change mitigation and building a sustainable ecosystem by hosting global organizations, leading initiatives, supporting countries and is now organizing the 28th Conference of the Parties (COP28) this year. Great opportunities can be exploited to promote the country's contributions through further investment in cooperation, research and technology for better knowledge, sound policies, and innovative solutions for all regional and global health and climate change challenges.

Originality/value – This review is a fresh evidence-synthesizing attempt to document the role of the UAE. This role is well placed to play an additional major role with all partners to address these pressing challenges by boosting its role, especially in the Middle East region and advancing a new regional-oriented revolutionary expanded developmental plan that centered on low-resource countries empowerment, multilateralism, intersectionality and lasting collaborations.

Keywords UAEs' contributions, SDGs-related health, Global health, Climate change **Paper type** Regional perspectives

1. Background: global, regional and national overview of health related-SDGs

The UAE is a federation of seven Emirates: Abu Dhabi, Dubai, Ajman, Umm Al Quwain, Sharjah, Fujairah and Ras Al Khaimah. Accordingly, the UAE healthcare system is governed by federal and local health authorities. The Ministry of Health and Prevention (MOHAP) and Emirates Health Services are responsible for the healthcare sector at the federal level. Abu Dhabi, Dubai and Sharjah Emirates have their local health authorities named Abu Dhabi Health Services Company (SEHA), Dubai Health Authority (DHA) and Sharjah Health Authority (SHA) respectively. The UAE healthcare services are delivered through private—public partnerships (Koornneef *et al.*, 2017; Abbas Zaher *et al.*, 2021).

In recent years, the UAE has made significant growth in the economic, scientific, social and health sectors. In 2010, the UAE launched the 2021 vision of positioning the UAE as the best country in the world by the time of its golden Jubilee (50 years). The UAE National Agenda 2021 was developed to guide initiatives toward achieving the vision across six national priorities. One of these priorities was building a world-class healthcare system (Federal Competitiveness and Statistics Centre, 2022). In 2016, the UAE spent 7.9% of its budget on healthcare, accounting for AED 3.83 billion (USD 1.04 billion). In 2022, the government expenditure on health was AED 4.95 billion (USD 1.35 billion), contributing 8.6% of the total government expenditure. In addition, UAE healthcare standards outperform regional and worldwide averages in welfare and education, according to Sustainable Economic Development Assessment (SEDA) scores from the Boston Consulting Group (BCG) (UAE Government, 2022). UAE has sought preventive care in the last five years.

According to the World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO), in 2022, the UAE was ranked among the top 4 countries concerning many indicators. For instance, the UAE has reported the lowest Maternal Mortality Rates (MMR) among Arabic countries and reported 3 deaths per 100,000 live births. The UAE was ranked fourth in countries with the least neonatal mortality rate and ranked first regarding the lowest incidences of tuberculosis. The UAE documented significant reductions in the incidences of non-communicable diseases (NCDs) (WHO, 2020).

On a global scale, the UAE was ranked 25th based on Gross Domestic Product (GDP) and second in the Middle East and North Africa (Amlôt, 2019). Table 1 illustrates key health

Initiatives	Summary of description	Analysis of the UAEs'
Free breast cancer screening	Free breast cancer screenings for UAE women. Dubai had mobile mammography clinics. Early treatment, rehabilitation and diagnosis were emphasized	contribution to SDGs
Anti-non-communicable infection	UAE's Health Ministry introduced eEtmenan to prevent NCDs. eEtmenan is part of the Ministry's plan to fight non-communicable diseases, promote healthy lifestyles and regulate associated conditions from 2017 to 2021	359
Health-focused apps	Health Heroes teaches kids about healthy living. The app reduces childhood obesity in the UAE	
Diabetic test	Diabetes dropped from 19.3% to 16.28% by 2021. It improves diabetes	
Hospitals abroad	management MOHAP vaccines abroad. Primary clinics vaccinate. MOHAP tracks global diseases, warns travellers and takes precautions with the Centers for Disease	
Clinics	Control and Prevention (CDC) and WHO Giving Clinics offers free medical consultations for a year	
Drug approval	Drugs, supplements, and equipment are MOHAP-approved. Drug registration prioritizes safety. Protecting patients and community	Table 1. Key health systems
Drug reporting Health engagement UAE partnerships	Call 80011111 to report fake or dangerous drugs MOHAP's website helps citizens. Public health needs input Imperial College London Diabetes Centre benefits from UAE partnerships	achievements and contributions during the UAE National Agenda 2015–2021
Source(s): Authors work		strategy

systems achievements and contributions (Moonesar, 2022) during the UAE National Agenda 2015–2021 strategy.

The UAE government pursues continuous improvements across an integrated healthcare system, including institutional and service quality, resource usage and cost control, and actual health outcomes for its population (Koornneef *et al.*, 2017; Bodolica and Spraggon, 2021). To achieve this strategic priority, while adapting to the needs of a changing demographic profile and accounting for the surge of several chronic diseases, the UAE embarked on a program of medical reforms and renovations. In addition, the UAE has supported the private healthcare sector involvement and separated regulatory and delivery government organizations (Koornneef *et al.*, 2017). Regarding the Sustainable Development Goals, the UAE Sustainability Agenda and Standards adopted are focusing on enabling access to clean energy, adequate and affordable food, quality education, health care, sustainable economic growth, healthy ecosystems and increased resource efficiency, as all these issues resonate strongly in the country. The UAE also pledged to "leave no one behind" and to shift the world to a sustainable and resilient path.

2. Method

This review was conducted as a thematic synthesis of the literature that involved a synopsis of various searches (e.g. searches in Google scholar for relevant journals and studies, state' official websites and portals to obtain updated reports and publications, and searches for gray literature). Three stages were performed as follows: (1) literature and studies exploration and selection based on criteria such as resources that are country-related, topic-centered, and updated and time-focused (last five years), (2) critical data extraction according to the components of the topic such as policies, roles, contributions, practices and experiences, and (3) data synthesis and thematic analysis by producing the findings in a thematic manner. Twenty-seven publications, 9 peer-reviewed and 18 non-peer-reviewed, were comprehensively and purposively assessed through a thematic synthesis process to present relevant findings from this targeted literature supported by the author's insights to

answer the present key question of the review. The selected literature, studies and reports were assessed using critical appraisal and incorporated and synthesized with the insights that depicted the pattern of the UAE's role and contributions to the health-related SDGs. Using MS Word and Excel programs, three stages of data extraction and analysis were applied. Selected articles were screened by two co-authors and relevant information was gathered based on major codes (health and climate change) and sub-codes (roles, contributions, strategies, practices and gaps) that addressed the landscape of health and climate change in UAE. Data gathered and generated based on this coding approach was analyzed and compilated thematically.

3. UAE's history and major emergence player in development, including health

The increasing roles and global influences of the UAE in healthcare, accompanied by the rapid development of the UAE on a global scale, play a major global role about healthcare and public health. In one hand, there are areas in which the UAE can contribute to the world such as developing health standards, research and vaccine manufacturing, global supply chain, alpha-thalassemia management, cardiovascular and health stress management related to the harsh desert environment. On the other hand, there are other areas in which the UAE can participate, gain knowledge and then influence the healthcare community, such as genomics, diabetes and cardiovascular disease management.

The UAE has signed an agreement with the WHO to drive healthcare standards worldwide. Under the agreement, the WHO will deploy the UAE accelerator model to reach the WHO Triple Billion targets which intends to provide universal health care coverage without financial hardship to 1 billion people, ensure that an additional 1 billion people are protected from health emergencies and that a further 1 billion people of the world's population have better health and well-being (Federal Competitiveness and Statistics Centre, 2022).

UAE has become a global hub of medical tourism with high-quality services (Kumar and Purani, 2018). This led the government to partner with well-known and international healthcare private institutions like the Cleveland Clinic, Johns Hopkins University-Al Tawam Hospital partnership, and the Mubadala healthcare became among the well-known faces of UAE's health system.

The COVID-19 pandemic demonstrated the UAE's global position as a global player in vaccine development, supply chain and distribution worldwide. Through its investment arm, Mubadala, the Abu Dhabi government signed with Honeywell an agreement to produce N95 face masks within the UAE with a capacity of 30 million marks per year. This venture enables the UAE to meet local needs and be able to export this critical product to frontlines around the world. In addition, group 42 (G42) in Abu Dhabi has distribution and manufacturing agreements for COVID-19 vaccines in the UAE with Sinopharm CNBG. The joint venture can produce 200 million doses a year (The U.S.U.A.E. Business Council, 2021).

The UAE launched two entities to help global vaccine distribution efforts. Abu Dhabi's HOPE Consortium and the Dubai Vaccine Logistics Alliance were formed to vaccinate individuals around the world. It's estimated that one out of every 20 vaccines administered globally was delivered through Emirates Airlines. Through the charitable organization, Emirates Red Crescent, the UAE has been able to distribute COVID-19 vaccines and relief to low- and middle-income countries around the world (The U.S.U.A.E. Business Council, 2021).

4. Global health diplomacy and cooperation

4.1 Health-related (COVID-19 pandemic)

The UAE has been a leading country in global health and disease prevention. In 2011, a long-standing partnership between the UAE and Bill and Melinda Gates Foundation led to

establishing the Global Institute for Disease Elimination (GLIDE). This Abu Dhabi-based institute is missioned to develop policies to combat infectious diseases, build capability within the region and establish a new epicenter of global health and development. The UAE was commended for its management of COVID-19 pandemic. Abbas Zaher et al. (2021) evaluated the UAE response to the COVID-19 pandemic according to the Organization for Economic Co-operation and Development (OECD) framework. The OECD evaluates crisis response according to three main criteria. The first criterion is crisis preparedness which includes developing capacities that aid in effective anticipation and recovery from the crisis. The UAE was ranked 25th among 195 countries by Global Health Security Index (GHSI). Furthermore, in 2012, the UAE established the National Emergency, Crisis and Disaster Management Authority (NCEMA), NCEMA's operations are overseen by the Supreme Council of National Security. The NCEMA is the main national governmental body authorized to regulate and coordinate all emergency efforts, crisis and disaster management. In addition, the UAE hosted the United Nations Office for Disaster Risk Reduction's workshop on understanding the Sendai Framework for Disaster Risk Reduction in October 2017. The international conference aimed at enhancing a -reduction environment by emphasizing the government's role in achieving its disaster reduction goals (Abbas Zaher et al., 2021).

The second criterion is to limit coverage to the crisis itself. The UAE's decisive and prompt responses to the COVID-19 pandemic from the early stages contributed to the reduction in the burden of the disease on the UAE. In addition, the UAE deployed the latest technology to manage and reduce the impact of the COVID-19 crisis. Furthermore, the UAE ran the first WHO-enlisted phase III clinical trial of an inactivated vaccine against SARS-CoV-2 in the country. The clinical trial was a partnership between Sinopharm's CNBG and Abu Dhabi-based Group (G42) under the supervision of the Department of Health of Abu Dhabi (DOH) and UAE MOHAP (Abbas Zaher *et al.*, 2021). The UAE was amongst the first countries that established the official integrated digital platform for COVID-19 testing which is called ALHOSN UAE, where individuals can received the test results directly on their smartphone (UAE Government portal, 2020).

The third criterion is to have clear feedback after the crisis. The OECD stresses the need to develop a strategy to go back to normal or the "New Normal". The UAE has devised strategies for post COVID-19 strategies to manage the impact of the pandemic in six sectors: health, education, food security, economy, society and government (Federal Competitiveness and Statistics Centre, 2022; UAE Government, 2022).

Overall, the UAE received international recognition for its leadership and proactive approach during the coronavirus disease outbreak, according to Global Response to Infectious Diseases (GRID) index (Federal Competitiveness and Statistics Centre, 2022). Furthermore, it is evident from the text above that the role of UAE in public health at a global scale is accelerating. This expanded influence of the UAE's global public health role accompanies UAE's significant improvements and influences in many sectors.

4.2 UAE global diplomacy role in climate change

According to the United Nations Framework Convention on Climate Change (UNFCCC), UAE is a non-Annex 1 country which is not obligated to reduce its greenhouse gas (GHG) emissions (United Nations, 1992). However, the UAE has always been cooperating, adapting and mitigating the effects of climate change on global health by ratifying the international conventions and initiating its national climate change adaptation program 2017–2050 (United Nations, no date a; MOCCAE, 2017, no date a). On December 1995, UAE ratified the United Nations Framework Convention on Climate Change (UNFCC) to reduce the atmospheric GHG to a level that prevents anthropogenic interference with the climate

system (United Nations, 1992, no date a). Following the UNFCC, UAE also ratified the Kyoto protocol in December 1997 with its two periods of amendments (2008–2012 and 2013–2020) to adopt the policies of the convention and to assist other countries through developing technologies that may increase resilience to the effects of the climate change (United Nations, no date a, no date b). On December 2016, UAE was the first Middle Eastern nation to sign the Paris Agreement, under the frameworks of UNFCCC and Kyoto to combat the global average temperature rise, improve the capacity of climate change resilience and provide financial flows for low-carbon development (Embassy of the United Arab Emirates, 2022). To develop its endless commitment to climate change mitigation, UAE is hosting an intergovernmental organization called "International Renewable Energy Agency" (IRENA) to headquarter the role of sustainability in the Middle East from Abu Dhabi: updating its environmental initiatives with the Net Zero by 2050 strategic initiative, making the UAE the first Middle East and North Africa (MENA) nation to do so; and is now hosting COP28 which will invite governments, businesses and civil societies in 2023 to collaborate on applied climate solutions and build sustainable economic growth (MOCCAE, no date b; Embassy of the United Arab Emirates, 2022). In addition to its multilateral commitments, the UAE cooperated in supporting the developing countries (e.g. 16 Caribbean islands, India, Pakistan, Afghanistan, Uzbekistan and Mauritania) in their mitigation and adaptation efforts through the renewable energy of Masdar and humanitarian funds (Embassy of the United Arab Emirates, 2022).

5. Key contributions and features of UAE development assistant for health 5.1 Health-related (COVID-19 pandemic)

The UAE is a strategically important gulf state with commercial and financial interests. The UAE has had a major role in global development and the humanitarian sector at the global and regional levels, especially in Afghanistan, Palestine and Yemen since 2001. Moreover, it is a foreign and development aid donor (through the International Humanitarian City), including health diplomacy and cooperation with Balkan and Middle East interests (De Lauri, 2018; Gökalp, 2020). The unusual but significant external shock posed by the COVID-19 pandemic revealed the fragility of our tightly managed economic and healthcare systems. Concerns about global environmental change, including climate change, freshwater resources, ocean acidification, land use shifts, soil erosion, nutrient and phosphorus pollution, hazardous chemical pollution and exposure, biodiversity loss, and other issues, are being addressed by the UAE Ministry of Climate Change and Environment (MOCCAE, 2020). The study of how human economic activity influences the evolution of Earth's systems, also known as planetary health, is essential for ensuring the well-being of people all over the world. Environmental change is influenced and brought on by several things, including rising populations, rising consumption rates and increasing technical sophistication (Whitmee et al., 2015). According to the Toluna International Consumer Survey (2020), the UAE ranked first in the Middle East region and third globally for public satisfaction with COVID-19 strategies (Suliman et al., 2021). As the pandemic advanced, the UAE changed from pandemic management to COVID-19 vaccination and helped its residents change from COVID-19 response to vaccine acceptability and adoption (Suliman et al., 2021).

5.2 Environment-related (climate change)

Climate change is positioned at the top of the UAE government's list of policy priorities (Umar et al., 2020). The Ministry of Climate Change and Environment (MOCCAE) closely collaborates with concerned stakeholders to address the challenges related to climate change through the formulation of legislations, plans, strategies and policies to mitigate the impact of climate change in the UAE and the active engagement in international climate change negotiations (Umar et al., 2020). To efficiently achieve global goals in the local dimension, the UAE

government established the Council on Climate Change and Environment in 2016 to develop plans for reaching environmental goals, represent the UAE in regional and international negotiations, conduct scientific research in the field of climate change and sustainable development, and establish cooperation with the private sector (Abbas Zaher *et al.*, 2021). In addition, a National Committee for Sustainable Development Goals was established in 2017, which comprised 17 governmental institutions, to coordinate and monitor the activities related to sustainable development, where each institution is responsible for a specific SDG that falls under its jurisdiction (Krzymowski, 2020).

In the same year, the National Climate Change Plan 2050 was adopted by the UAE Cabinet to aid in the transition to a climate-resilient green economy and support the adaptation and mitigation efforts of the government to combat climate change. In addition, the National Climate Adaptation Program was launched in 2017 to evaluate the climate adaptation potential of the health, environment, energy and infrastructure sectors and identify the climate-related risks and solutions for adaptation (MOCCAE, 2017). In 2018, the Climate Project was launched in collaboration with the UAE Ministry of Foreign Affairs and International Cooperation and several international agencies to raise awareness of climate change. This project also considers climate resilience in the UAE's foreign development assistance covering about AED 18.35 billion (USD 5 billion) of the UAE aid portfolio. The Climate Innovation Exchange Forum (CLIX) was another initiative launched at the Abu Dhabi Sustainability Week in 2018 to assist in sourcing and funding solutions and technologies to mitigate the impact of climate change through partnerships with investors, entrepreneurs and innovators (Umar et al., 2020). Furthermore, a Private Sector Advisory Board on sustainable development objectives was established in 2018 to promote collaboration between the government and the private sector to achieve sustainable development goals (Krzymowski, 2020).

In addition to the National Committee for Sustainable Development Goals, the UAE declared the establishment of the Global Councils for SDG for global cooperation to achieve the 17 sustainable development goals during the World Government Summit 2018 in Dubai. The councils involve governmental decision-makers, international organizations, science experts and representatives of the private sector. Each council consists of a chairman and up to 15 members (Krzymowski, 2020). Since the start of the implementation of the Sustainable Development Goals in 2016, the UAE has been one of the most committed countries to supporting the least developed countries. The United Arab Emirates' foreign aid policy aims to support the achievement of ten Sustainable Development Goals, including the ones related to health and climate change. The UAE's foreign assistance to support the fulfillment of SDG 13 has relatively increased from USD 0.7 to 8.7 million over the 5 years: 2016–2020 (MOFAIC, 2020; Krzymowski, 2022).

Climate change affects the social and environmental determinants of health, and it is the single biggest health threat facing humanity (WHO, 2021). One of the strategic response targets of WHO EMRO in 2017 within the Climate Change and Health Framework is the coordination of a public health response to climate change. In accordance with this goal, the UAE has established focal points within its MOCCAE and MOHAP. The national climate and health focal points working on the development of integrated climate change and health policy aim to build a health system resilient to climate change and environmentally friendly services (WHO, 2019).

6. Opportunities, lessons learned and way forward

"We have to strike a balance of responsibility between our duty to update other sources of energy, protecting our environment and ensuring a proper legacy for the next generation." His Highness Sheikh Mohammed bin Zayed Al Nahyan, President of the United Arab Emirates and Ruler of Abu Dhabi.

The UAE has always endured the harsh environment, yet successfully thrives. Thus, understanding the risks, opportunities and challenges accompanied with the global health and climate change will better position the UAE government and promote the legacy of the country's contributions. One area of focus is leading the scientific research and technology in the region, COP26, through the Intergovernmental Panel on Climate Change (IPCC), emphasizes the crucial role of knowledge and technology in monitoring progress and creating solutions to halt global warming and improve global health. Innovation is another area of focus, and it is at the top of governments' climate agenda. Existing technologies such as wind and solar power, more-efficient lighting, buildings and vehicles will help to reduce emissions. However, there are still many local and global issues and gaps that need innovative solutions in helping the country and low-resource countries in the region to address climate change. The UAE should not miss the "window of opportunity" to invest more in research and innovation in health and environment, vaccines development and diseases surveillance capacity to strengthen its position as a leading nation. Moreover, a strategic rethinking of health issues is required by the country to address the major gaps including ensuring adequate staffing of health workforce to meet the growing demand for healthcare services. Science and innovation for health and climate change remained weak and both are equally important to create solutions, drive policies, evaluate applied initiatives and monitor commitments. The UAE has a greater probability to further strengthen its capacity for research, boost knowledge exchange with renowned academic institutes and harness technology and innovation for addressing the diverse environmental and health gaps.

7. Conclusion

The UAE has the political willpower to drive the necessary change and it is leading the regional efforts in climate change action in collaboration with multiple partners and countries to address the most pressing global challenge. The UAE has a rich record of achievements in climate action and global health, which poses as an opportunity to support and help the region to find and implement practical solutions and initiatives to tackle current and emerging issues. With its unique positioning and expanded role, the UAE has promoted its legacy in three trajectories; development. humanitarian and philanthropy in global health and diseases prevention endeavors as well as in climate change by supporting the green and renewable environmental solutions. However, gaps such as insufficiency of integrated policies, role of science and innovations in health and climate change, expertise and workforce, and surveillance and information systems need to be addressed. The UAE is among the world's largest development actors and humanitarian aid donors, and its position does not enable its national capacities only but also enhance and support the neighboring countries and region by implementing a new global and regional-oriented development plan and initiatives that focus on low-resource countries empowerment, multilateralism, intersectionality and lasting collaborations. This can be translated by establishing global and regional technical, scientific, and professional hubs, bi-multi-lateral institutional academic and governmental collaborations, and advisory experts and policy-makers committees. Ultimately, more investment in healthcare and impactful collaborations are imperative, and necessary to ensure that vulnerable populations are included for an effective and equitable protection from the health impacts of climate change and other emerging conditions.

List of abbreviations

UAE United Arab Emirates

SDGs Sustainable Development Goals WHO World Health Organization UHC Universal Healthcare Coverage

GLIDE LMIC COP28 MOHAP SEHA	Global Institute for Disease Elimination low- and middle-income countries the 28th Conference of the Parties Ministry of Health and Prevention Abu Dhabi Health Services Company	Analysis of the UAEs' contribution to SDGs
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DHA Dubai Health Authority SHA Sharjah Health Authority

SEDA Sustainable Economic Development Assessment

BCG Boston Consulting Group

EMRO Regional Office for the Eastern Mediterranean

MMR Maternal Mortality Rates
NCDs non-communicable diseases
GDP Gross Domestic Product

CDC the Centers for Disease Control and Prevention

G42 Abu Dhabi-based Group 42

OECD Economic Co-operation and Development

GHSI Global Health Security Index

NCEMA National Emergency, Crisis, and Disaster Management Authority

COVID-19 Coronavirus disease 2019

DOH Department of Health of Abu Dhabi GRID Global Response to Infectious Diseases

UNFCCC United Nations Framework Convention on Climate Change

GHG greenhouse gas

UNFCC United Nations Framework Convention on Climate Change

IRENA International Renewable Energy Agency

MENA Middle East and North Africa

MOCCAE Ministry of Climate Change and Environment CLIX Climate Innovation Exchange Forum

COP26 the 26th United Nations Climate Change Conference of the Parties

IPCC Intergovernmental Panel on Climate Change

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