

Financing a Green Transition in the Middle East

How governments can shape investment conditions and use financial tools to mobilise sustainable finance



Authors and Citation

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This publication is part of a wider project on 'Recovering Better: A Green, Resilient and Just Recovery in the Middle East', supported by a grant from HSBC Middle East Ltd. Its contents are solely the responsibility of the authors and do not represent the official views of HSBC.

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How to cite: Beyer, J. & Bayoumi, M. (2022). Financing a Green Transition in the Middle East. Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates, March 2022.

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Executive summary

Governments in the Middle East need to introduce new tools and frameworks to accelerate finance towards a green and sustainable recovery. Studying the green finance activities in Bahrain, Egypt, Kuwait, Iraq, Oman, Qatar, Saudi Arabia, and the United Arab Emirates shows that nearly all the key financing mechanisms and policy measures that encourage climate-compatible development are being used in at least one country. There remain, however, untapped opportunities in each country to capitalise on new tools or policies that shift finance towards investments that support a green and fair transition.

The financial system must be reoriented to meet the huge financing demands required to achieve the Sustainable Development Goals (SDGs). An additional \$230 billion must be mobilised annually in the Arab world to achieve the UN SDGs. This investment gap underscores the importance of changing the architecture of the financial system and using financial mechanisms to mobilise both public and private sector finance towards sustainable investments. The growth in poverty caused by the COVID-19 pandemic coupled with the accelerating impacts of climate change highlight the urgency to make structural change in the financial system.

Governments in the Middle East have an especially important role in mobilising finance. While most of the finance required for a low carbon transition will come from the private sector, this report focuses on opportunities for governments and quasi-government agencies to shape the ways in which finance can be mobilised and channelled. Government expenditure as a percentage of GDP is high in many of the countries studied, averaging 20% of GDP and reaching 28% in Saudi Arabia, compared to a global average of 17%.² State-owned enterprises are critical both to countries' economies and to their environmental footprint. Sovereign wealth funds have government-controlled mandates and are among the largest in the world. The long-term continuity of governments in several countries also compels them to make long-term decisions with regard to sustainability, including its financing.

This study recommends two to four high-priority opportunities in each country, plus four additional recommendations that should be considered at a regional level. These recommendations combine the insights and knowledge of experts across the region with extensive literature review and author analysis. They are practical, country-specific, and have the potential for large-scale, near-term impact. The national recommendations respond to unique domestic circumstances and focus on areas where action is currently limited or absent, rather than suggesting that existing initiatives be strengthened or scaled up. The regional recommendations target areas where collaboration would deliver stronger returns than if the measures were pursued by each country individually. For almost all interventions, case studies are used to demonstrate that the tool or approach has been successfully deployed in the region.

The recommendations are divided between 1) the enabling environment and 2) financial and economic tools. The enabling environment is important because it creates the conditions that affect the viability of sustainable investments, including policy, regulatory, and governance frameworks as well as programs or initiatives that help make finance flow. Financial and economic tools are needed to raise and deploy capital, manage risks, and mobilise private sector investment.

The enabling environment should be adjusted to better align finance with long-term sustainability objectives. Six elements of the enabling environment are explored in Section 1. Awareness raising helps decision-makers understand the rationale that underlies sustainability. Turning vision statements into financing strategies that link a defined project

^{1.} AFED. (2018). Financing Sustainable Development in Arab Countries. https://www.greengrowthknowledge.org/sites/default/files/downCloads/resource/AFEDReport-financingSDinArabCountries2018-.pdf

^{2.} World Bank. (2021). General government final consumption expenditure (% of GDP). https://data.worldbank.org/indicator/NE.CON.GOVT. ZS

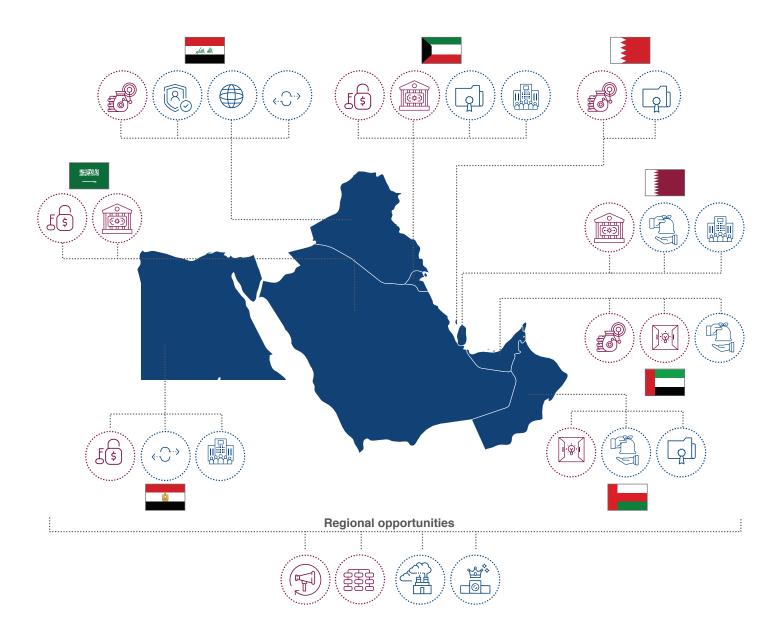
pipeline with the most competitive financing options shows how ambition can be turned into action and helps ensure capital is efficiently deployed. Green and sustainable taxonomies create a common language for investors, developers and policymakers, bringing clarity to investment options and helping to avoid greenwashing. Taxonomies in turn support climate- and nature-related disclosures, which bring transparency to markets, expose risks, and facilitate foreign direct investment (FDI). Market facilitators like Green Investment Banks and Super ESCOs overcome financial and non-financial barriers to unlock nascent markets. Finally, central banks can use both soft power and regulatory levers to encourage sustainable investments, which helps them deliver on their core purpose of safeguarding financial stability.

Financial and economic instruments should be used to mobilise private sector finance and incentivise a green and fair transition. The instruments explored in this report include inclusive loans, guarantees and risk insurance, international climate finance, debt instruments such as green bonds, green sukuk and debt-for-environment swaps, and carbon pricing instruments. The report considers the role of state-owned enterprises (SOEs) and sovereign wealth funds because of their investment power and centrality to economic transformation in several countries. Familiar tools and approaches such as feed-in tariffs, fossil fuel subsidy reform and tax credits for green products are universally effective, including in the countries in this report. They are not explored further in this report because there already exists extensive literature on their effectiveness.

The financial recommendations of this study should be coupled with broader policy options to enable countries in the Middle East to recover better from the COVID-19 pandemic. The recommendations of this report extend the findings of a related study on optimal policy choices to stimulate a 'better recovery' in the Middle East.³ Taken together, governments in the GCC countries plus Egypt and Iraq have an opportunity to mobilise finance and implement policies that reduce risks and capitalise on the opportunities afforded by a fair and environmentally sustainable transition. These opportunities must be taken to strengthen social, economic and ecological resilience, and achieve sustainable development.

^{3.} MBRSG. (2021). Recovering Better from COVID-19: Middle East at the Crossroads. https://mbrsgcdn.azureedge.net/cmsstorage/mbrsg/files/60/601f598b-bfc6-40c3-a533-9cb508c23311.pdf

Summary of regional and national recommendations





Enabling environment



Financing strategies



Disclosures



Market facilitators (Super ESCOs and Green Investment Banks)*











Financial tools



Subsidies and inclusive loans



Guarantees & risk insurance



International climate finance



State-owned enterprises



Sovereign wealth



Carbon pricing



<--> Swaps

Summary of recommendations

The recommendations represent priority opportunities for governments to take new actions to finance a green and fair recovery. All countries studied are taking steps to facilitate finance by strengthening the enabling environment and deploying financial mechanisms. Rather than recommending that existing initiatives be strengthened or scaled up, the recommendations target areas where action has been limited or absent. They seek to reflect each countries' unique contexts, capitalise on domestic circumstances, and address country-specific financial and non-financial barriers. Where relevant, they also identify existing agencies or initiatives that could implement the recommendation.

Regional

Enabling environment

Develop a regional sustainability taxonomy – Clear definitions for terms like 'sustainable', 'green' and 'transition finance' are needed to identify the activities or investments that deliver on environmental and social objectives.⁴ Developing a harmonised regional taxonomy or classification system would provide a common language for sustainable finance. It would bring security to investors, underpin common standards, labels and disclosures to avoid greenwashing, mitigate market fragmentation, and strengthen regional integration and the interoperability of the financial sector.⁵ It is recommended that a regional taxonomy be developed through an entity like the UN Regional Collaboration Centre Dubai or the Gulf Cooperation Council, and integrated into national-level primary and secondary legislation utilising national enforcement mechanisms. Countries are just beginning to establish national taxonomies, but there remains an immediate opportunity for regional collaboration to minimise the need to retrofit systems later.

Build understanding of sustainability's benefits and the risks of inaction – Understanding the rationale that underpins sustainability is a critical first step to motivating change. Building awareness at a regional level through platforms like the UN Regional Collaboration Centre Dubai or Egypt's Regional Centre for Sustainable Finance, or through initiatives like the Arab Youth Council for Climate Change or Saudi Arabia's Middle East Green Initiative, both launched in 2021, would stimulate exchange, cross-border learning and build momentum for action.^{6,7,8} It is critical to build awareness across all sectors and audiences of both the upsides of low carbon transition and social justice, as well as the economic, social and physical risks associated with inaction. While awareness of the risks is growing, articulating the opportunities is less clear, especially in fossil-fuel dependent countries.⁹ Businesses and households recognise the threats and expect policymakers to create the conditions for positive change.¹⁰ It is recommended that governments support awareness campaigns linked with practical implementation measures that seek out and quantify the opportunities afforded by climate action and social inclusion.

^{4.} World Bank. (2020). How to Develop a National Green Taxonomy for Emerging Markets - A New World Bank Guide. https://www.worldbank.org/en/news/press-release/2020/07/12/how-to-develop-a-national-green-taxonomy-for-emerging-markets-a-new-world-bank-guide

^{5.} EU. (2021). EU taxonomy for sustainable activities. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-fiu nance/eu-taxonomy-sustainable-activities en

^{6.} Arab Youth Council. (2021). The Arab Youth Council for Climate Change. https://climate.arabyouthcenter.org/en

^{7.} UNFCCC. (2021). Regional Collaboration Centre Dubai. https://unfccc.int/about-us/regional-collaboration-centres/rcc-dubai

^{8.} Saudi Green Initiatives. (2021). Middle East Green Initiative. https://www.saudigreeninitiative.org/about-middle-east-green-initiative/

^{9.} The Arab Gulf States Institute in Washington. (2020). Gulf States' Climate Change Policies Amid a Global Pandemic. https://agsiw.org/wp-content/uploads/2020/09/Luomi Climate-Change Online-1.pdf

^{10.} BCG. (2021). Are Consumers in the Gulf States Ready to Go Green? https://www.bcg.com/en-mideast/publications/2021/gulf-state-conG sumer-sentiment-toward-green-agenda

Financial mechanisms

Develop a regional carbon market – Carbon pricing is widely acknowledged to play a fundamental role in transitioning to a low carbon economy. Compared to other instruments like carbon taxes, feed-in tariffs, subsidies and other regulatory instruments, market mechanisms like cap-and-trade systems and voluntary carbon markets have been shown to reduce the overall cost of emission reductions and can be more responsive to changes in economic conditions. Large carbon markets have more low-cost abatement opportunities than small ones, allowing regional markets to be more cost-effective than smaller national ones. The absence of established national carbon markets in the countries studied represents an opportunity for regional alignment from the outset. It is recommended that a regional carbon market be established, potentially building on the methodologies and framework of Qatar's Global Carbon Council, the carbon trading platform being explored by the Dubai Carbon Centre of Excellence to the proposed Riyadh Voluntary Exchange Platform initiative being undertaken by the Saudi Tadawul Group and Public Investment Fund.

Leverage sovereign wealth funds for transition finance – The region is home to some of the world's largest sovereign wealth funds (SWF).¹⁷ They are especially exposed to fossil fuel investments.¹⁸ The SWFs of Abu Dhabi, Kuwait, Saudi Arabia, and Qatar are founding members of the One Planet Sovereign Wealth Funds Initiative, which aims to integrate climate change risk into investing, and Dubai's Mubadala and the Sovereign Wealth Fund of Egypt joined the initiative in 2020 and 2021 respectively.¹⁹ And yet, all state-owned investors in the region score below average on the 2021 SWF Governance, Sustainability & Resilience scorecard, which assesses the world's 100 largest state-owned funds.²⁰ Six of the region's 14 funds score in the bottom 15. Only four state-owned investors have a dedicated team for responsible investing, and none produce a publicly available annual ESG report. It is recommended that SWFs go beyond their current plans to establish ESG frameworks, and orient their huge resources towards nationally critical transition finance, scaling up investments in strategic low carbon industries while managing exposure to fossil fuel investments that may be at risk in the context of a global low carbon transition.

Bahrain

Enabling environment

Translate national visions into a bankable pipeline of sustainability projects – Bahrain's Vision 2030 embeds sustainability as one of three guiding principles in the country's comprehensive economic vision.²¹ To support this, Bahrain released a detailed National Renewable Energy Action Plan and a National Energy Efficiency Action Plan and maintains a thorough inventory of progress towards its Sustainable Development Goals.^{22, 23, 24} It is recommended that Bahrain develop a financing strategy that turns these energy, efficiency and sustainability goals into specific, costed project opportunities linked to the most viable financing tools.

- 11. World Bank. (2021). Carbon pricing dashboard. https://carbonpricingdashboard.worldbank.org/what-carbon-pricing
- 12. OECD. (2021). Carbon markets. https://www.oecd.org/env/cc/carbonmarkets.htm
- 13. Centre for Climate and Energy Solutions. (2009). Cap and Trade vs. Taxes. https://www.c2es.org/document/cap-and-trade-vs-taxes/
- 14. Global Carbon Council. (2021). https://www.globalcarboncouncil.com/
- 15. Dubai Carbon Centre of Excellence. (2021). Carbon Trading Plan & Pricing Strategy. https://etihadesco.ae/wp-content/uploads/2021/09/RFP-2021-2.pdf
- 16. HIS Markit. (2021). Saudi Arabia to launch regional carbon trading platform. https://ihsmarkit.com/research-analysis/saudi-arag bia-to-launch-regional-carbon-trading-platform.html
- 17. Global SWF. (2021). 2021 GSR scorecard. https://globalswf.com/reports/2021gsr
- 18. Bocconi's Sovereign Investment Lab and The Boston Consulting Group. (2017). Sovereign Wealth Funds Quarterly Newsletter. http://www.bernardobortolotti.com/wp-content/uploads/2018/07/SWF-Newsletter-May-2017.pdf
- 19. One Planet Sovereign Wealth Funds. (2021). https://oneplanetswfs.org/
- 20. Global SWF. (2021). 2021 GSR scorecard. https://globalswf.com/reports/2021gsr
- $21.\ Bahrain. (2008).\ Vision 2030.\ https://www.bahrain.bh/wps/wcm/connect/38f53f2f-9ad6-423d-9c96-2dbf17810c94/Vision%2B2030%2BEn6glish%2B%28low%2Bresolution%29.pdf?MOD=AJPERES$
- 22. Bahrain Sustainable Energy Unit. (2017). National Renewable Energy Action Plan. https://www.sea.gov.bh/wp-content/uploads/2018/04/02_NREAP-Full-Report.pdf
- 23. Bahrain Sustainable Energy Unit. (2017). National Energy Efficiency Action Plan. https://www.sea.gov.bh/wp-content/uploads/2018/04/02_NEEAP_full-report.pdf
- 24. Bahrain's SDGs. (2021). https://www.sdgs.gov.bh/

Financial mechanism

Develop a framework for green sukuk and green bonds and transition bonds – Bahrain has the highest national debt of the countries studied at 129% of GDP.²⁵ It also has the third-largest Islamic finance sector in the world and is the first country to include Islamic Finance in its Open Banking Framework.²⁶ Bahrain has sophisticated financial markets and extensive engagement with sustainable finance initiatives, both through the Bahrain Associates of Banks and the Bahrain Stock Exchange, but Bahrain has not yet issued green bonds or green sukuk.²⁷,²⁸ It is recommended that Bahrain develop a green bond, transition bond and/or green sukuk framework to issue sovereign and commercial green bonds (potentially at a discounted repo rate to promote green investments²⁹).

Egypt

Enabling environment

Establish a Super ESCO - Among the countries studied, Egypt has the strongest energy efficiency potential across the commercial and residential sectors and strong potential in the industrial sector.³⁰ It also has the second-highest electricity prices.³¹ These strong fundamentals support ESCOs, yet Egypt's ESCO market is embryonic. It is recommended that a Super ESCO be established to overcome financial and non-financial barriers to ESCOs and support the development and growth of the ESCO market.

Financial mechanism

Expand debt-for-environment swaps – Egypt has the second-highest national debt of the countries studied at 93% of GDP.³² It is a leading candidate to participate in the United Nations Economic and Social Commission for Western Asia's Climate-SDG Debt Swap Initiative, which was launched in 2020.³³ It is recommended that Egypt leverage its experience with debt-for-development swaps, undertaken with Germany and Italy, and leverage the UN ESCWA initiative to finance climate and sustainable development initiatives using debt-for-nature and debt-for-climate swaps.

Utilise state-owned enterprises – Egypt's SOEs are present in nearly every sector in the economy. With over 300 SOEs and 645 joint ventures and partnerships involving the state, SOEs account for 16% of the economy, 25% of capital investment, and 6% of employment.³⁴ It is recommended that SOEs reflect Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction and integrate green policies and actions into their day-to-day operations, including leveraging public-private collaborations to strengthen the private sector's role in greening the economy.

- 25. IMF. (2021). Gross debt position as a percent of GDP. https://www.imf.org/external/datamapper/G_XWDG_G01_GDP_PT@FM/ADVEC/FM_EMG/FM_LIDC/SYR/TUR/GRC
- 26. AIM info. (2020). Uptake of Islamic finance in Bahrain, UAE, and Saudi rising. https://www.ameinfo.com/business/uptake-of-islamic-fih nance-in-bahrain-uae-and-saudi-rising/
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- 28. UNEP. (2021). Promoting Sustainable Finance and Climate Finance in the Arab Region. https://www.unepfi.org/wordpress/wp-content/uploads/2020/10/ConsultationDraft-Promoting-Sustainable-Finance-in-the-Arab-Region.pdf
- 29. Bahrain Association of Banks. (2018). Policy Recommendations for Regulatory Considerations on Sustainable Finance. http://www.banksebahrain.org/wp-content/uploads/2020/09/Final-Sustainable_Finance_Policy_Paper_Jan_2018.pdf
- 30. World Bank. (2019). Delivering energy efficiency in the Middle East and North Africa. https://openknowledge.worldbank.org/bitstream/handle/10986/25295/109023-WP-P148222-PUBLIC-DeliveringEEinMENAMayEN.pdf?sequence=1&isAllowed=y
- 31. World Bank. (2021). Getting electricity: Price of electricity. https://govdata360.worldbank.org/indicators/h6779690b?country=ARE&indi/cator=42573&countries=SAU,BHR,EGY,OMN,IRQ,QAT,KWT&viz=line_chart&years=2014,2019
- 32. IMF. (2021). Gross debt position as a percent of GDP. https://www.imf.org/external/datamapper/G_XWDG_G01_GDP_PT@FM/ADVEC/FM_EMG/FM_LIDC/SYR/TUR/GRC
- 33. UN ESCWA. (2020). Launch of ESCWA Climate-SDGs debt swap initiative. https://www.unescwa.org/news/launch-escwa-climate-sdgs-debt-swap-initiative
- 34. IMF. (2021). IMF Country Report No. 21/163. https://www.imf.org/-/media/Files/Publications/CR/2021/English/1EGYEA2021002.ashx

Iraq

Enabling environment

Develop a financing strategy – Iraq's recovery from COVID-19 and its progress towards sustainable development focusses on social development and solidarity, youth engagement, strengthening institutions, and ensuring political stability and security.³⁵ Financing these goals, as well as environmental objectives, requires a financing strategy that maps out priority projects and matches them with the most appropriate funding sources and financial instruments to de-risk investments. It is recommended that a financing strategy for a green and fair recovery be developed in concert with existing technology needs assessments and action plans like the Green Climate Fund's Readiness Proposal that was approved in 2020.³⁶

Financial mechanism

Seek out more international climate finance – Iraq is eligible for international climate finance. It has been granted \$17m across nine national projects from the Global Environment Facility³⁷, \$10m from the Adaptation Fund³⁸, \$6.5m from UNDP (along-side much larger stabilisation funding)³⁹ and \$4.6m for four readiness activities from the Green Climate Fund, for which it established a Green Climate Fund National Designated Authority in 2018.^{40, 41} Compared to countries of similar size and standing, these international climate finance investments are small. It is recommended that international climate finance resources be leveraged more, and targeted at mitigation and adaptation measures that also achieve social development and resilience objectives.

Secure guarantees and risk insurance – Iraq's national budget fell by 41% in 2020 and the government is currently in talks with the IMF to secure an Extended Fund Facility to manage a tenuous macroeconomic situation.⁴² The World Bank's Country Partnership Framework aims to increase private sector participation in the economy, but the private sector is cautious about investing due to political and financial instability. It is recommended that guarantees and risk insurance be sought from multilateral development organisations to encourage private sector activity and investment in the country.

Explore debt-for-nature & debt-for-climate swaps – Just over half of Iraq's public debt is foreign-owned, with the largest debtors being the World Bank (14%), Japan (13%), the US (13%), IMF (10%) and Eurobonds (8%).⁴³ Iraq may benefit from the United Nations Economic and Social Commission for Western Asia's Climate-SDG Debt Swap Initiative, which was launched in 2020.⁴⁴ It is recommended that debt swaps be explored, especially to strengthen water security and mitigate desertification.

- 35. Iraq Ministry of Planning. (2021). The Second National Voluntary Review Report on the Achievement of the Sustainable Development Goals. https://sustainabledevelopment.un.org/content/documents/285062021_VNR_Report_Iraq_English.pdf
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- 38. Adaptation Fund. (2021). Projects. https://www.adaptation-fund.org/projects-programmes/project-information/projects-table-view/
- 39. UNDP. (2021). Funding Facility for Stabilisation. https://www.iq.undp.org/content/iraq/en/home/all-projects/funding-facility-for-stabiliza/tion.html
- 40. UNDP. (2020). Green Climate Fund Readiness Programme in Iraq. https://www.iq.undp.org/content/iraq/en/home/all-projects/Green-Clitt mate-Fund-Readiness-Programme.html
- 41. GCF. (2021). Iraq. https://www.greenclimate.fund/countries/iraq
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Kuwait

Enabling environment

Establish a Green Investment Bank – Kuwait aims to be a regional leader in financial services⁴⁵ and would benefit from a dedicated institution focused on financial innovation that supports its sustainable development goals. It is recommended that Kuwait establish a Green Investment Bank to mobilise private sector capital into strategic sectors facing financial barriers.

Leverage the power of the central bank – The Central Bank of Kuwait (CBK) took an active role in response to COVID-19⁴⁶ but it is not a member of the Central Banks and Supervisors Network for Greening the Financial System⁴⁷ and has not yet leveraged tools specifically directed at enhancing financial flows towards climate-positive investments. It is recommended that the CBK broaden its focus to include both measures that reduce risks and offset banks' exposure to the oil sector as well as measures that encourage investment in low carbon projects and enhance lending to underserved groups.

Financial mechanism

Utilise state-owned enterprises – Partially and fully owned SOEs have played a key role across many sectors of Kuwait's economy throughout its development.⁴⁸ Kuwait's power sector and the petrochemicals sector are responsible for 42% and 26% of greenhouse gas emissions respectively and are either fully or partially state-owned.⁴⁹ They will need to play a leading role in Kuwait's low carbon transition. It is recommended that Kuwait's SOEs focus on building a resilient core business, exploring diversification into adjacent low carbon growth industries, and start to shift their business strategy and capital allocations in the context of the energy transition.

Develop a green bond / sukuk framework - Banks and corporations in Kuwait have regularly issued sukuk since 2005 and the partially state-owned bank, Kuwait Finance House, issued an historically large \$750m sukuk in June 2021.^{50,51} But sukuk represented only 4% of the total value raised in the GCC in the first half of 2021, compared to 38%, 34%, and 10% for Saudi Arabia, UAE and Oman respectively.⁵² It is recommended that Kuwait leverage its experience developing a governance and monitoring framework for vanilla sukuk to build out a similar green sukuk or green bond framework, to capitalise on the growing investor appetite for such instruments.

^{45.} Kuwait Vision 2035. https://www.mofa.gov.kw/en/kuwait-state/kuwait-vision-2035/

^{46.} Grantham Research Institute on Climate Change and the Environment. (2020). A Toolbox of Sustainable Crisis Response Measures for Central Banks and Supervisors, second edition. https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/INSPIRE-toolbox_-2nd-Edil-tion-1.pdf

^{47.} NGFS. (2021). Membership. https://www.ngfs.net/en/about-us/membership

^{48.} US Department of State. (2018). 2018 Investment Climate Statements: Kuwait. https://www.state.gov/reports/2018-investment-climate-statements/kuwait/

^{49.} Asma>a Al-Mutairi, Andrew Smallbone, S.M. Al-Salem, Anthony Paul Roskilly. The first carbon atlas of the state of Kuwait, Energy, Volume 133 (2017), Pages 317-326, ISSN 0360-5442, https://doi.org/10.1016/j.energy.2017.05.097

^{50.} Kuwait Finance House. (2021). KFH Achieves a Remarkable Issuance of \$ 750 mn Mudaraba Sukuk. https://www.kfh.com/en/home/Person-al/news/2021/KFH-Achieves-a-Remarkable-Issuance-of---750-mn-Mudaraba-Sukuk-.html

^{51.} Oxford Business Group. (2014). The domestic sukuk market is poised for a period of expansion. https://oxfordbusinessgroup.com/analysis/domestic-sukuk-market-poised-period-expansion

^{52.} Kuwait Times. (2021). Issuances of GCC sukuk doubled to \$30 billion. https://www.pressreader.com/kuwait/kuwait-times/20210715/281925956021815

Oman

Enabling environment

Support companies to disclose sustainability-related financial information – Oman has the highest inward FDI as a percent of GDP at 4.48% worth \$3.4 billion in 2019.⁵³ It wants to retain uninterrupted access to investors facing sustainability disclosure requirements such as the EU's Sustainable Finance Disclosure Regulation, which requires them to account for and disclose sustainability related risks.⁵⁴ It is therefore recommended that an initiative be developed to help Omani organisations join disclosure frameworks like the Taskforce for Climate-related Financial Disclosures (TCFD) and Taskforce for Nature-related Financial Disclosures (TNFD).

Financial mechanism

Facilitate green sukuk – Oman received huge demand for its \$1.75 billion issuance of sukuk in June 2021.⁵⁵ The governance, monitoring and verification frameworks required to ensure sharia compliance of sukuk can be extended to include green criteria. It is recommended that Oman develop a standard green bond / green sukuk framework and offer support to corporates to adopt the framework and raise capital through green sukuk.

Develop innovative energy efficiency subsidy programmes – Oman has biggest industrial energy efficiency opportunity of the countries studied but the third-lowest electricity prices, which challenges the economic viability of efficiency improvements. ^{56, 57} Oman's Nama Group (the Electricity Holding Company) is establishing a new National Energy Efficiency Centre. ⁵⁸ It is recommended that the National Energy Efficiency Centre develop and potentially administer an innovative energy efficiency subsidy model to strengthen the economic viability of energy efficiency.

Qatar

Enabling environment

Activate the central bank – Qatar Central Bank (QCB) took some measures to boost liquidity and stimulate general investment in response to COVID-19 but these measures were not directed at stimulating green investments or transition-related activities.⁵⁹ QCB is also not a member of the Central Banks and Supervisors Network for Greening the Financial System⁶⁰. It is recommended that QCB utilise the full suite of available tools to facilitate diversification away from oil and gas and encourage investments in projects congruent with a low carbon future.

^{53.} World Bank. (2021). Foreign direct investment, net inflows, (BoP, current US\$). https://data.worldbank.org/indicator/BX.KLT.DINV. CD.WD?end=2019&locations=AE-SA-KW-BH-OM-IQ-EG-QA&start=2012

^{54.} EU. (2021). Sustainable finance. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en

^{55.} IHS Markit. (2021). Oman sukuk attracts strong demand in receptive market. https://ihsmarkit.com/research-analysis/capital-markets-weekly-oman-sukuk-attracts-strong-demand.html

^{56.} World Bank. (2019). Delivering energy efficiency in the Middle East and North Africa. https://openknowledge.worldbank.org/bitstream/handle/10986/25295/109023-WP-P148222-PUBLIC-DeliveringEEinMENAMayEN.pdf?sequence=1&isAllowed=y

^{57.} World Bank. (2021). Getting electricity: Price of electricity. https://govdata360.worldbank.org/indicators/h6779690b?country=ARE&indifcator=42573&countries=SAU,BHR,EGY,OMN,IRQ,QAT,KWT&viz=line_chart&years=2014,2019

^{58.} Oman Observer. (2021). Oman to set up national energy efficiency centre. https://www.omanobserver.om/article/4118/Business/oman-to-set-up-national-energy-efficiency-centre

^{59.} IMF. (2021). Policy Responses to COVID-19. https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

^{60.} NGFS. (2021). Membership. https://www.ngfs.net/en/about-us/membership

Financial mechanism

Establish an innovative energy efficiency subsidy programme – Qatar is an energy-exporting country with subsidised energy and rapidly growing domestic energy demand that is satisfied by the state-owned transmission and distribution utilities. 61 Reducing domestic energy consumption through efficiency measures therefore delivers a triple financial return to the government by enabling increased exports, reduced subsidy costs and slower demand growth. It is recommended that an innovative energy efficiency subsidy programme be developed to improve its economic viability. Kahramaa's Tarsheed, the National Campaign for the Conservation and Efficient Use of Water and Electricity in Qatar, may be a natural administrator of this programme.

Direct state-owned enterprises to invest in the energy transition – Qatar's largest state-owned enterprises are emissions intensive: Qatar Petroleum, QAPCO, Qatar's state-owned utilities and Qatar Airways account for 27% of the country's emissions. The government has significant control over their activities as they are not required to follow OECD Guidelines on Corporate Governance. While they are already investing in water and energy efficiency measures, carbon capture and storage, renewable energy and sustainable aviation fuels, deeper and broader diversification and decarbonisation are required for Qatar to achieve the balance of economic growth and environmental sustainability outlined in its Vision 2030. ^{63, 64} It is recommended that Qatar's state-owned enterprises work together to redirect capital away from oil and gas development and new gas-fired power generation, and towards innovative alternatives like clean hydrogen, sustainable aviation fuels and renewable energy.

Saudi Arabia

Enabling environment

Augment the Financial Sector Development Programme to include a Green Investment Bank work stream – Saudi Arabia's Financial Sector Development Program (FSDP), one of its Vision 2030 Realisation Programs, aims to enable financial institutions to help grow the private sector, develop an advanced capital market, encourage SME lending and boost financial planning.⁶⁵ It is recommended that FSDP be augmented to include a work stream focused on activities characteristic of a Green Investment Bank, such as developing innovative financial products for low carbon investments or structuring co-financing to unlock private sector investments in sustainability-related priorities.

Leverage the newly expanded remit of the central bank – The Saudi Central Bank, formerly the Saudi Arabian Monetary Authority, was given an expanded mandate that covers monetary stability, promoting confidence in the financial sector and supporting economic growth. ⁶⁶ It is recommended that the rebranded entity join the Central Banks and Supervisors Network for Greening the Financial System, ⁶⁷ issue regulatory guidance on how to institutionalise Environment, Social and Governance (ESG) considerations in investment policy, develop climate stress tests to maintain stability in the face of climate shocks, consider adjusting credit weightings to reflect climate impacts, and implement other macroprudential policies outlined in this report that support future-oriented, low carbon industries.

^{61.} IEA. (2021). Qatar. https://www.iea.org/countries/qatar

^{62.} US State Department. (2021). 2021 Investment Climate Statements: Qatar. https://www.state.gov/reports/2021-investment-climate-statea ments/qatar/

^{63.} Qatar Petroleum. (2021). Qatar Petroleum constructs the world's largest LNG project ever, including substantial CO2 capture & sequestration. https://qp.com.qa/en/Pages/BannerAdvertisement.aspx?imgname=08022021+NFE+Signing+Ceremony+-+English.jpg

^{64.} IATA. (2021). Qatar Airways joins IATA's Turbulence Aware platform. https://www.iata.org/en/pressroom/pr/2021-07-08-02/

^{65.} Vision 2030. (2021). Financial Sector Development Program. https://www.vision2030.gov.sa/v2030/vrps/fsdp/

^{66.} Funds Global MENA. (2020). Rebranded Saudi central bank expands mandate. http://www.fundsglobalmena.com/news/rebranded-saun di-central-bank-expands-mandate

^{67.} NGFS. (2021). Membership. https://www.ngfs.net/en/about-us/membership

United Arab Emirates

Enabling environment

Translate the net zero target into a financing strategy and project pipeline – The UAE arguably has the most advanced sustainable finance framework, green financial instruments, and green finance capacity building programmes in the countries studied. These capacities and revenue-raising capabilities should be matched with a defined pipeline of green projects. It is recommended that a green project pipeline and finance strategy be developed that defines a common green taxonomy, identifies eligible projects, and matches projects with the least-cost financing instruments, whilst providing targeted incentives for where market failures emerge.

Support companies to disclose sustainability-related financial information – The UAE has the highest inward FDI among the group worth \$13.8 billion in 2019, or 3.3% of GDP.⁶⁹ Only five organisations headquartered in the UAE currently support TCFD.⁷⁰ Companies want to retain uninterrupted access to investors facing sustainability disclosure requirements such as the EU's Sustainable Finance Disclosure Regulation, which requires them to account for and disclose sustainability related risks.⁷¹ It is recommended that an initiative be developed to help Emirati organisations join disclosure frameworks like TCFD and TNFD, potentially through an Abu Dhabi Global Market working group or academy.

Financial mechanism

Establish an innovative energy efficiency subsidy programme linked to Energy Service Companies (ESCOs)

- The UAE is an energy-exporting country with subsidised energy and an electricity demand forecast to grow by 6% annually to 2026. Reducing domestic energy use through efficiency measures therefore delivers a triple financial return to the government, and is a key plank of the country's National Water and Energy Demand Management Programme and its Energy Strategy 2050. The country has an active ESCO market and a Super ESCO (Etihad ESCO) but low energy prices limit the depth of economically viable retrofits. It is recommended that an innovative energy efficiency subsidy programme be developed that links to the realised energy savings achieved by ESCOs, to promote deep retrofits, improve the economic viability of efficiency and strengthen the ESCO market.

^{68.} UAE Ministry of Climate Change and Environment. (2021). UAE Sustainable Finance Framework. https://www.moccae.gov.ae/assets/downdload/24b84d14/UAE_Sustainable_framework_21.pdf.aspx?view=true

^{69.} World Bank. (2021). Foreign direct investment, net inflows, (BoP, current US\$). https://data.worldbank.org/indicator/BX.KLT.DINV. CD.WD?end=2019&locations=AE-SA-KW-BH-OM-IQ-EG-QA&start=2012

^{70.} TCFD. (2021). Supporters. https://www.fsb-tcfd.org/supporters/

^{71.} EU. (2021). Sustainable finance. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en

^{72.} Mordor Intelligence. (2021). United Arab Emirates power market - Growth, trends, COVID-19 impact, and forecasts (2021-2026). https://www.mordorintelligence.com/industry-reports/uae-power-market

^{73.} UAE. (2021). Federal governments> strategies and plans. https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governb ments-strategies-and-plans

Summary table of recommendations

	Bahrain	Egypt	Iraq	Kuwait	Oman	Qatar	KSA	UAE
Enabling environment								
Awareness	Regional opportunity							
Financing strategies	0		0					0
Taxonomies	Regional opportunity							
Disclosures					0			0
Market facilitators (Super ESCOs and Green Investment Banks)		0		0			0	✓
Central banks		✓		0		0	0	
Financial tools								
Subsidies and inclusive loans		✓			Ο	Ο		0
Guarantees & risk insurance		✓	0					
International climate finance		✓	0					
Green bonds / sukuk	0	✓		0	Ο	✓	✓	✓
Carbon pricing	Regional opportunity							
Swaps		0	0					
Sovereign Wealth Funds		Regional opportunity						
State-owned enterprises		Ο		0	✓	0	✓	✓

Opportunity	0
Already happening	✓
Not appropriate	
Not a top priority	

The rationale for why opportunities have not been prioritised for other countries is outlined in Annex 1.

Introduction

In recent decades, environmental challenges such as climate change and biodiversity loss have motivated calls for all actors in society to take responsibility for environmental sustainability. This includes the financial sector which in turn includes banks, financial institutions, and investors. These calls have led to the rise of green and sustainable finance concepts. These are broadly defined as financial measures that support activities that address climate change and other environmental and social challenges, such as conservation of natural resources and biodiversity, prevention of pollution and deforestation, provision of healthcare and sanitation, and access to energy among others. Such funding could come from both the public and private sectors, leveraging all asset classes, including bank credits, bonds, and secured assets, and involving a wide range of actors, including international financial institutions, central banks and financial regulators, banks, and institutional investors. Experts consider finance as the engine of development and therefore scaling up green finance will play a critical role in realising the Sustainable Development Goals (SDGs) and the Paris Agreement.

The cost of achieving the UN Sustainable Development Goals is estimated to be between USD 5-7 tril-

lion per year. With approximately \$3 trillion currently being devoted to the SDGs globally, a gap of \$2-4 trillion must be closed to achieve a transition to a fair and sustainable future. In 2014, the United Nations Conference on Trade and Development (UNCTAD) estimated this financing gap to achieve the SDGs in developing countries to be somewhere between USD 2.5 - 3 trillion per year. In the Arab world, the financing gap was estimated to be at least USD 230 billion annually. These efforts highlight that available finance is not channelled at the scale and speed required to achieve the SDGs.

When it comes to tackling climate change, significant investments are still lacking to keep global warming

within safe limits. The Intergovernmental Panel on Climate Change (IPCC) estimates that USD 1.6 trillion to USD 3.8 trillion in supply-side energy systems investments are needed annually between 2016 and 2050 in order to limit warming to 1.5°C.⁷⁶

A recent report by the International Energy Agency (IEA) has shown that clean energy and efficiency investments were at almost USD 600 billion in 2019, a considerably distant amount from the average annual investments needed as indicated by the IPCC.⁷⁷ The report also shows that 2020 investments were decreasing due to the impacts COVID-19 pandemic. On the climate adaptation front, international public finance is slowly rising, however, there is insufficient evidence that the increase over time is narrowing the distance to meet the increasing adaptation costs.⁷⁸

In 2016, UNEP estimated that annual adaptation costs in developing countries alone to be in the range of US\$70 billion, with the expectation of reaching US\$140-300 billion in 2030 and US\$280-500 billion in 2050. According to Climate Policy Initiative's Global Landscape of Climate Finance 2019, adaptation climate finance ows - including domestic and international, public and privat ows - were estimated at USD 30 billion to adaptation and USD 12 billion to cross-cutting themes (which include mitigation and adaptation benefits).⁷⁹

Another UNEP report suggests that investment in nature-based solutions (NbS) -actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits- should at least triple in real terms by 2030 and increase four-fold by 2050 if the world is to meet its climate change, biodiversity and land degradation targets.⁸⁰

^{74.} UNCTAD. (2014). World Investment Report 2014: Investing in the SDGs: An Action Plan.

^{75.} AFED. (2018). Financing Sustainable Development in Arab Countries. https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/AFEDReport-financingSDinArabCountries2018-.pdf

^{76.} IPCC. (2018). Global Warming of 1.5° C: An IPCC Special Report. www.ipcc.ch/sr15/

^{77.} IEA. (2020). World Energy Investment 2020 https://www.iea.org/reports/world-energy-investment-2020

^{78.} UNEP. (2021). Adaptation Gap Report 2020.

^{79.} Climate Policy Initiative. (2019). Global Landscape of Climate Finance 2019. https://www.climatepolicyinitiative.org/wp-content/up-loads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf

^{80.} UNEP. (2021). State of Finance for Nature 2021. https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/36145/SFN.pdf

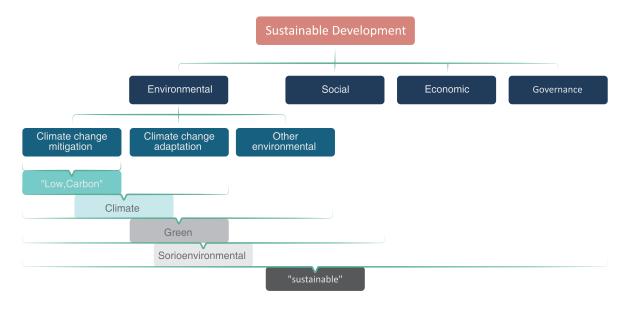
Financing sustainable development is cost-effective, job-rich, and climate-compatible, while the costs of in-

action are much higher.⁸¹ Evidence points that investing in the SDGs makes economic sense, with estimates highlighting that achieving the SDGs could open up US\$ 12 trillion of market opportunities and create 380 million new jobs, and that action on climate change would result in savings of about US\$ 26 trillion by 2030.⁸²

The New Climate Economy report found that a conservative estimate of bold action to transitioning to a low-carbon, sustainable economy could yield a direct economic gain of US\$26 trillion through 2030 compared with business-as-usual. This action could also help avoid over 700,000 premature deaths from air pollution compared with business-as-usual. Subsidy reform and carbon pricing alone could generate an estimated US\$2.8 trillion in government revenues per year in 2030.83 The World Bank has also been invested in assessing the impact of such a transition in developing countries post-COVID. A recent report shows that supporting low-carbon investments through COVID-19 recovery funds into 10 sectors across 21 emerging markets has the potential to generate \$10.2 trillion in investment opportunities, 213 million cumulative jobs, and 4 billion tons CO2e reduction Cities in emerging markets around the globe have the potential to attract more than \$29.4 trillion in cumulative climate-related investments in six key sectors (waste, renewable energy, public transportation, water, electric vehicles, and green buildings) by 2030. For the Middle East & North Africa (MENA) region this would be equivalent to 4.2 million job opportunities, USD 0.2 trillion in investment opportunities, and 111.7 million tons of GHG reductions.84

Although the amount of investments needed to combat the impacts of climate change may seem immense, the return on investments is estimated to be fourfold. The Global Commission on Adaptation estimated that a US\$1.8 trillion investment in the areas of early warning systems, climate-resilient infrastructure, improved dryland agriculture, global mangrove protection, and resilient water resources could generate US\$7.1 trillion of avoided costs and non-monetary social and environmental benefits. It is becoming clear that there is mounting evidence that a low-carbon world makes sense economically as well as for human health and livelihoods.⁸⁵

Figure 1: UNEP sustainability terms 86



^{81.} HM Treasury. (2006). Stern Review. https://webarchive.nationalarchives.gov.uk/ukgwa/20100407172811/https://www.hm-treasury.gov.uk/stern review report.htm

^{82.} BSDC. (2017). Better Business, Better World. https://sustainabledevelopment.un.org/content/documents/2399BetterBusinessBetter-World.pdf

^{83.} New Climate Economy. (2018). Unlocking the inclusive growth story of the 21st century. https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE 2018 FULL-REPORT.pdf

^{84.} IFC. (2021). Climate Investment Opportunities in Emerging Markets: An IFC Analysis. https://www.ifc.org/wps/wcm/connect/59260145-ec2e-40de-97e6-3aa78b82b3c9/3503-IFC-Climate_Investment_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES&CVID=IBLd6Xq

^{85.} GCA. (2019). Adapt Now: A Global Call for Leadership on Climate Resilience. https://gca.org/wp-content/uploads/2019/09/GlobalCommission Report FINAL.pdf

^{86.} UNEP. (2016). Definitions and concepts. https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf?sequence=1&%3BisAllowed=

This report adopts UNEP's definition of "sustainable", which contains both green and economic inclusivity dimensions that are framed by effective governance processes. Recovering better requires countries to direct investments towards areas that improve environmental sustainability while also enhancing the lives and livelihoods of citizens. Doing so requires governance mechanisms that organise financial flows and facilitate investments in areas with both social and economic merit.

This report is focused on the actions that governments in the Middle East can take to recover better. While the majority of the capital that will be deployed to recover better will originate from the private sector, we focus on the role of government in shaping the enabling investment environment and using targeted financial and economic instruments to mobilise other funds. We use insights from expert interviews and case study examples to illustrate how governments can use governance processes and policy frameworks to catalyse sustainable investments; use the resources of the state to invest directly; use targeted financial instruments and incentives to mobilise private sector capital; and participate in networks and platforms to coordinate internationally and accelerate finance into sustainable investments.

Section 1: Enabling environment

The enabling environment creates the conditions for finance to flow towards investments that support a sustainable recovery. This report interprets the enabling environment broadly, encompassing the six dimensions shown in Figure 2. These both motivate stakeholders to act on sustainability and create the frameworks to facilitate sustainable investments. A supportive enabling environment unlocks the potential of sustainable finance tools and helps direct public and private sector capital towards low carbon, socially conscious investments.

This section outlines each of the dimensions and includes examples of how they are being used in the Middle

East. It covers the importance of mainstreaming sustainability into government policy and financing strategies, mechanisms to facilitate sustainability markets, and the role of central banks in setting frameworks that support sustainability.

Figure 2: Six dimensions of the enabling environment



Awareness

People in all areas of society must first understand the rationale that underlies a sustainable recovery to prioritise it in decision-making. The need for awareness raising spans all sectors, including governments, businesses, households, the media and civil society, since decisions related to sustainability take place in all areas. This understanding is especially important at the policy level where the choices of businesses and households are shaped using incentives that guide decision-making.

Education programmes should be developed that demonstrate the link between the economic, social and environmental facets of sustainability to help embed this understanding. Decision-makers need to understand the mutually beneficial links that show how investing in the environment and investing in the social fabric of society including health and education are key to achieving sustainable economic growth. This understanding will help governments develop policies that integrate these three facets and achieve the three objectives in a balanced and equitable manner.

Case study: Ambassadors for Sustainable Development programme in Egypt

Egypt's Ministry of Environment and Planning and the Institute for Governance and Sustainable Development are developing national capacities through a programme called Ambassadors for Sustainable Development. Similar to Al Gore's Climate Reality Project, the programme trains trainers to understand and communicate the concept of sustainability. The programme started by training people aged 18-35 and is growing to target government officials and NGOs.

The programme utilises virtual tools so that I can continue operating despite COVID-19 restrictions, with 1-hour recorded lectures from a group of top scientists and academics in different fields (biodiversity, sustainable finance, green economy), followed by an interactive Zoom session for participants to ask questions and share their experiences.

The programme received more than 7000 applicants and 1000 were selected through a screening process, with cohorts of 100, 150 and 200 to allow the programme to be administered. The first five-day face-to-face session began in June 2021 when the first cohort of 25-30 learned how to communicate this message and organise a training session. A test at the end of the training identifies those participants who are qualified to deliver the message, and trainers receive a National Institute for Governance and Sustainable Development (NIGSD) accredited certificate. Certified trainers are revisited annually to demonstrate that they delivered the Ambassador's message.

Case study: Regional Centre for Sustainable Finance (RCSF)

Egypt's Financial and Regulatory Authority (FRA) launched the RCSF in March 2021 to coordinate training and educational institutes providing services to Non-Banking Financial Institutions (NBFIs) in Egypt, the Middle East and Africa with a mandate to support the development of the non-banking financial markets. The RSCF aims to overcome barriers to the integration of sustainable finance practices, instruments, and management models, and promote sustainable finance literacy through training and technical advisory support, including in ESG, climate related risk, and the Task Force on Climate-related Financial Disclosures (TCFD). With this mandate, the RCSF intends to help redirect private capital towards the Sustainable Development Goals and build private sector capacity to issue and use green finance instruments such as green bonds, social bonds, and sustainability bonds, and adopt responsible investment and management practices.

Source

Sustainable Stock Exchange Initiative. (2021). FRA Launches the Regional Centre for Sustainable Finance. https://sseinitiative.org/all-news/fra-launches-the-regional-center-for-sustainable-finance/

Financing strategies

Vision documents and national development plans underpin the economic, environmental and social aspirations of countries in the region. Nearly every country has its own development strategy:

 Bahrain's Economic Vision 2030 was launched in 2008 and focuses on sustainable economic growth driven by the private rather than public sector and recognising environmental protection, competitiveness through productivity improvements and skill building, and fairness including social justice and anti-corruption.⁸⁷

^{87.} The economic vision 2030 for Bahrain. https://www.bahrain.bh/wps/wcm/connect/38f53f2f-9ad6-423d-9c96-2dbf17810c94/Vision%2B2030%2BEnglish%2B%28low%2Bresolution%29.pdf?MOD=AJPERES

- Egypt's Vision 2030 is a comprehensive roadmap framed by the three dimensions of sustainable development: environment, social and economic. The Vision uses sector strategies overseen by different government agencies, with a strong emphasis on ecological resilience, justice and social inclusion, and economic growth and diversification.⁸⁸
- Iraq's Vision for Sustainable Development 2030 has five areas of focus, namely building human capital; strengthening governance, transparency and the rule of law; growing the economy through oil sector efficiencies, agricultural investments and a stronger financial sector; improving safety and tolerance; and environmental goals including reduced greenhouse emissions, water efficiency, environmental conservation and biodiversity protection.
- Kuwait's Vision 2035 focuses on restoring the country's leadership role in financial and commercial services, capitalising on a well-developed legal and judicial system, building skills and private sector economic growth, and diversifying its economy while also positioning the country as a global hub for petrochemicals.⁹⁰
- Oman's Vision 2040 document aims for the country to "join the world's developed countries" through 12 national priorities, ranging from economic diversification, better governance, improved competitiveness, enhanced environment and stronger skills and jobs for Omani nationals.⁹¹
- Qatar's National Vision 2030 is framed by the four pillars of human, social, economic and environmental development. It
 recognises the need to carefully manage the wealth derived from limited oil and gas reserves to ensure long-term prosperity
 in a way that ensures harmony between economic growth, social development and environmental protection.⁹²
- Saudi Arabia's sweeping Vision 2030 includes social, cultural, economic and environmental sustainability objectives that aim
 to radically change the economic complexion and global standing of the country through enormous public sector investment.⁹³
- The UAE has a multitude of visions that outline sector-based strategies and development plans of individual emirates. Several visions culminate in 2021 to coincide with the country's Golden Jubilee year, while others extend from 2030 to 2117. They cover energy, environment, health, innovation, food and water, city planning, transport and strategic industries.⁹⁴

Strategies need to be retooled in the context of net zero pledges. The UAE's commitment to reach net zero emissions by 2050, Bahrain's intention to bring carbon emissions to net zero by 2060 and Saudi Arabia's 2060 net zero goal represents a major shift in the region. Policy and regulatory frameworks must be reoriented to support decarbonisation. Net zero goals send signals to both short- and long-term investors. They reduce policy risk for renewables and capital-intensive investments like industrial decarbonisation and low carbon transport infrastructure, while raising the risk of emissions-intensive investments with long lifespans and payback periods, like new oil and gas infrastructure and fossil fuel power generation. They also unlock new markets that will enable decarbonisation such as low carbon hydrogen, for which the UAE, Saudi Arabia, Oman and Qatar have announced multibillion-dollar investments in domestic and international facilities.

These ambitions need to be translated into a national financing strategy that quantifies financing needs and then maps them to the most appropriate financial instruments. To further define the visions and make them implementable, they must be broken down into specific and fully costed investment projects and packages. Projects with strong commercial returns that use mature technologies are likely to attract private capital in the absence of regulatory barriers, whereas those that generate strong social returns or use more innovative technology will likely require more public financing to proceed. By profiling the risk-return characteristics of quantified projects and mapping them to available financing options, governments can develop a strategic view of their national vision's investment needs and the financing tools available to meet them.

- 88. Egypt's Vision 2030. https://mped.gov.eg/EgyptVision?lang=en
- $89. Iraq\ Vision\ for\ Sustainable\ Development\ 2030.\ https://mop.gov.iq/en/static/uploads/8/pdf/1568714423e99cb9efb0b0a786344a1294683\ d4931--%D8\%B1\%D8\%A4\%D9\%8A\%D8\%A9\%202030\%20e.pdf$
- 90. Kuwait Vision 2035. https://www.mofa.gov.kw/en/kuwait-state/kuwait-vision-2035/
- 91. Oman Vision 2040: Moving forward with confidence. https://www.2040.om/Oman2040-En.pdf
- 92. Qatar National Vision 2030. https://www.gco.gov.qa/wp-content/uploads/2016/09/GCO-QNV-English.pdf
- 93. Kingdom of Saudi Arabia Vision 2030. https://www.vision2030.gov.sa/v2030/overview/
- 94. UAE Future. https://u.ae/en/about-the-uae/uae-future
- 95. Climate Action Tracker. (2021). Net zero. https://climateactiontracker.org/countries/
- 96. Bahrain news Agency. (2021). Bahrain announces intention to bring carbon emissions to net zero by 2060. https://www.bna.bh/en/TheKingdomofBahrainannouncesitsintentiontobringcarbonemissionstonetzeroby2060..aspx?cms=q8FmFJgiscL2fwlzON1%2BDv%2BQZKIH-675DoA8s4IZPN00%3D

Delivering a national financing strategy that is guided by "recovering better" requires innovation, public sector action and private sector coordination to ensure finance flows to investments aligned with national visions.

Projects that are primarily guided by the notion of commercial bankability inevitably favour those with the highest commercial returns and lowest risks. Achieving a green and fair recovery, however, requires that finance reaches underserved populations, supports innovative green technologies and overcomes financial and non-financial barriers to development. By approaching a financing strategy from a sustainability needs perspective, areas will be uncovered that are unlikely to be financed at the desired speed or scale under the current set of financial incentives, institutional arrangements and policy and regulatory regime. These gaps show where governments should actively facilitate markets, adjust regulations, use financial instruments to catalyse private sector investment, and directly invest.

Initiatives and working groups dedicated to coordinating sustainable finance activities should be established

or deepened. These initiatives serve as forums to share best practices, identify barriers to accelerating green financial ows, get input from stakeholders regarding new rules, standards or finance products and commit partners to support sustainable activities through new financial products. Such initiatives are especially relevant in countries with relatively sophisticated financial markets and deep pools of capital that can be mobilised towards sustainable investments.

Case study: Sustainable finance platforms and coordination in the UAE

Coordination among central government departments, regulators, the central bank and commercial finance providers regarding sustainable finance was sparked by the 2016 State of Green Finance in the UAE report, which was sponsored by the UAE Government. The report made five key recommendations to accelerate sustainable finance in the country: form sustainable finance working groups; baseline the green market potential; build capacity in the finance sector; develop policies to scale green finance practices; and measure and monitor financial sector initiatives.

At least a dozen sustainable finance initiatives have been launched since its publication including the 2016 Dubai Declaration on Sustainable Finance and the 2019 Abu Dhabi Sustainable Finance Declaration; the launch of the Dubai Financial Markets and also the Abu Dhabi Global Market (ADGM) Sustainable Finance Working Groups; establishment of the HSBC Middle East ESG Academy, the ADGM Academy, the ADGM and Standard Chartered Bank Roundtable on Sustainable Finance, and the Abu Dhabi Sustainable Finance Forum; participation in the Task Force of Climate-related Financial Disclosures, the launch of the ADGM Sustainable Finance Agenda and the release of the Dubai Financial Market ESG Reporting Guide.

While more work needs to be done to develop baseline studies on the country's market potential of green projects and to develop policy measures that enable green finance practices to be scaled up, surveys of the finance community and of public sector stakeholders show that attention towards sustainability has grown significantly. Nevertheless, sustainability considerations have only been partially mainstreamed into key businesses activities like capital allocation decisions, setting business KPI and budgeting.

This shows the challenge of overcoming system inertia, the importance of developing a pipeline of identified green finance opportunities, and the pivotal role that government policymaking plays in motivating private sector capital towards sustainable investments. To further accelerate sustainable finance, the Ministry of Climate Change and Environment suggests measures to mainstream sustainability into financial decision-making and risk management; opportunities to grow the supply and demand of sustainable products and projects; and ways to strengthen the enabling environment through deeper collaboration and capacity building.

Source:

UAE Ministry of Climate Change and Environment. (2021). UAE Sustainable Finance Framework.https://www.moccae.gov.ae/assets/download/24b84d14/UAE_Sustainable_framework_21.pdf.aspx?view=true

Case study: Bahrain Association of Banks sustainable finance recommendations

The Bahrain Association of Banks (BAB) established a sustainable development committee to engage with stakeholders, advise banks' Boards on how to align their activities with the sustainable development agenda, and recommend initiatives and incentives to undertake. BAB released a policy paper in 2018 that outlines how to establish a sustainable finance framework in Bahrain and direct investments towards sustainable infrastructure. The study contains 25 specific policy actions that are grouped into four themes:

- 1. Developing a sustainable finance sector
- 2. Developing support mechanisms for green finance in Bahrain
- 3. Internalising sustainability
- 4. Establishing and operating a Bahrain Green Fund

Recommendations under themes 1, 2 and 4 are directed at the Central Bank of Bahrain, and the third theme is intended for the banking and investment community. The study identifies nine policy recommendations that could be delivered in the short term, many of which overlap with the tools and enabling conditions recommended in this report. They include awareness raising across sectors, integrating sustainable finance into the country's development plan, establishing a green taxonomy as well as eligibility criteria for sustainable projects coupled with a bankable pipeline of projects, incorporating green tagging into commercial banks' balance sheets, and establishing dedicated think tanks and sustainability committees at the national level.

Source:

Bahrain Association of Banks http://www.banksbahrain.org/wp-content/uploads/2020/09/Final-Sustainable_Finance_Policy_Paper_Jan_2018.pdf

Sustainable taxonomies

A green taxonomy is an agreed classification system for identifying activities or investments that support environmental targets. It can be used to determine which investments can be labelled "green". 97 In the absence of agreed and binding definitions, market actors tend to introduce their own, which results in a lack of comparability and accountability. Adopting green taxonomies supports better-informed decision making and guides financial markets. 98

The importance of a green taxonomy has been recognised in several countries in the region. The UAE's Ministry of Climate Change and the Environment recommends establishing a nation-wide taxonomy for sustainable finance along with tools for identifying and assessing eligible projects, and this recommendation was reinforced by a more recent statement by the UAE's Regulators and Exchanges. 99, 100 The Bahrain Association of Banks recommends that the Central Bank of Bahrain develop a definition of "sustainable finance" that suits the social and economic conditions of Bahrain. 101 Egypt's Securities and Commodities Authority (SCA) developed a plan for capital markets that supports sustainability goals, which includes introducing a sustainable finance taxonomy as a key pillar. 102 Egypt's Financial Regulatory Authority (FRA) announced in 2020 that it is in the process of

^{97.} ICMA. (2021). Overview and Recommendations for Sustainable Finance Taxonomies

^{98.} WBG. (2020). Developing a National Green Taxonomy: A World Bank Guide

^{99.} MOCCAE. (2021). Sustainable Finance Framework 2021-2031. https://www.moccae.gov.ae/assets/download/24b84d14/UAE_Sustainable_framework_21.pdf.aspx?view=true

^{100.} DFSA. (2021). 2021 Public Statement on Collaboration on Sustainable Finance in the UAE. https://www.dfsa.ae/download_file/2914/0

^{101.} Bahrain Association of Banks. (2018). Sustainable Finance. http://www.banksbahrain.org/wp-content/uploads/2020/09/Final-Sustainable_Finance_Policy_Paper_Jan_2018.pdf

^{102.} Securities and Commodities Authority. (n.d.) https://www.sca.gov.ae/Content/Userfiles/Assets/Documents/29e6ef1d.pdf

setting up a "green projects taxonomy" that defines three types of green projects: low carbon emissions, climate change adaptation and mitigation, and the protection of biological diversity. 103

Regional taxonomies facilitate cross-border investment in sustainability projects and bring clarity to policy-makers, banks, investors and businesses. Developing a harmonised regional taxonomy provides a common language for sustainable finance at a supranational level. It brings security to investors, helps avoid greenwashing, mitigates market fragmentation, and strengthens regional integration and the interoperability of the financial sector. The European Union established an EU-wide taxonomy in 2020 and the Association of Southeast Asian Nations (ASEAN) Taxonomy Board is developing an ASEAN Taxonomy for Sustainable Finance. To Sustainable Finance.

Case study: EU Taxonomy

The EU Taxonomy is a classification system that establishes a list of environmentally sustainable economic activities. It is a key tool being used to direct investments towards projects and activities that support the bloc's 2030 climate and clean energy targets.

The Taxonomy Regulation, passed in June 2020, outlines six objectives within which economic activities must operate to qualify as environmentally sustainable:

- 1. Climate change mitigation
- 2. Climate change adaptation
- 3. The sustainable use and protection of water and marine resources
- 4. The transition to a circular economy
- 5. Pollution prevention and control
- 6. The protection and restoration of biodiversity and ecosystems

Economic activities must also satisfy four overarching conditions:

- 1. Substantial contribution to one or more environmental objectives
- 2. Do no significant harm to any other environmental objectives
- 3. Comply with minimum social and governance standards
- 4. Satisfy technical screening criteria

Recognising the evolving nature of social, environmental and technical aspects of the Taxonomy, the European Commission established the Platform on sustainable Finance as a permanent expert group to continually advise on how it can be improved.

The EU taxonomy is a world-leading example of how regional integration, finance sector coordination, and extensive stake-holder consultation can lay a foundation upon which the EU's low carbon transition can be financed.

Source

https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

Countries in the region should develop a regional green taxonomy before national taxonomies are estab-

lished. There are no known efforts to develop a regional green taxonomy despite it being recognised as an opportunity to facilitate inter-regional financing and advance sustainability investments. The absence of established national taxonomies in the countries studied provides a special opportunity for regional collaboration from the beginning, avoiding the need to retrofit existing systems. It is recognised, however, that national sustainability taxonomies are currently being developed, as contained in the High-Level State-

^{103.} Zawya. (2020). Green bonds and future financing in Egypt. https://www.zawya.com/mena/en/markets/story/Green_bonds_and_future financing in Egypt-SNG 184556874/

^{104.} EU. (2021). EU taxonomy for sustainable activities. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities en

^{105.} Sustainable Finance Institute Asia. (2021). ASEAN Taxonomy. https://www.sfinstitute.asia/

^{106.} UNEP. (2021). Promoting Sustainable Finance and Climate Finance in the Arab Region. https://www.unepfi.org/wordpress/wp-content/uploads/2020/10/ConsultationDraft-Promoting-Sustainable-Finance-in-the-Arab-Region.pdf

ment on Sustainable Finance issued by UAE regulators and exchanges in November 2021.¹⁰⁷ Countries within the region could therefore borrow from the harmonisation approaches taken by the EU and ASEAN to create a robust framework that recognises differences between national contexts and priorities. A regional taxonomy could be developed through an entity like the UN Regional Collaboration Centre Dubai or the Gulf Cooperation Council, and integrated into national-level primary and secondary legislation utilising national enforcement mechanisms.

Disclosures

Greater disclosure and transparency helps investors assess risks, better allocate capital and improve strategic planning. Three prominent disclosure frameworks are helping to govern this space, namely the Taskforce for Climate-related Financial Disclosures (TCFD), the Taskforce for Nature-related Financial Disclosures (TNFD) and the mandatory disclosure requirements under the EU Taxonomy Regulation.

The EU Taxonomy Regulation and Sustainable Finance Disclosure Regulation (SDDR) are relevant to companies in the Middle East because the mandatory disclosure requirements of European investors will influence the companies and sectors in which they invest internationally. The Taxonomy is envisaged to be an enabler of change that encourages a transition towards sustainability by allowing for companies and investment portfolios using an environmental sustainability lens. The SFDR distinguishes between activities that have sustainable investment as their core objective, and those that claim to promote social or environmental characteristics. Companies in the Middle East must understand these definitional distinctions and their monitoring and disclosure requirements to be able to fundraise for qualifying sustainability-related investments on European capital markets.

The Taskforce on Climate-related Financial Disclosures (TCFD) provides the framework to furnish investors with information about corporate risks and opportunities of climate change, as well as the ways they are being governed, but the framework is underutilised in the Middle East. An initiative of the Financial Stability Board launched in 2017, TCFD provides a global standard that investors use to assess and price climate-related risks. The TCFD promotes more informed investment, credit, and insurance underwriting decisions and in so doing, enables stakeholders to better understand the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks. ¹⁰⁹ With over 2,350 companies publicly declaring support for the TCFD globally, however, only 10 such companies are based in the countries included in this report (one in Kuwait, four in Egypt and five in the UAE). ¹¹⁰

Similar to the TCFD, the Taskforce for Nature-related Finance Disclosures (TNFD) is currently being developed and may be an open opportunity for stakeholders in the Middle East to shape the framework. To build upon and complement the TCFD, TNFD will focus on nature-related risks to give companies and financial institutions a complete picture of their environmental risks. TNFD is currently being developed through an informal working group that comprises 49 financial institutions and private firms, eight governments and regulatory bodies, and 18 think tanks, none of which are based in the Middle East. Since TNFD wishes to take an inclusive approach to developing the framework, organisations from the Middle East region should participate in shaping it to ensure it reflects nature-based risks and opportunities that are relevant to the region's unique ecosystem.

^{107.} DFSA. (2021). 2021 Public Statement on Collaboration on Sustainable Finance in the UAE. https://www.dfsa.ae/download_file/2914/0

^{108.} European Commission. (2021). FAQ: What is the EU Taxonomy and how will it work in practice? https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/sustainable-finance-taxonomy-faq_en.pdf

^{109.} TCFD. (2021). About. https://www.fsb-tcfd.org/about/

^{110.} TCFD. (2021). Supporters. https://www.fsb-tcfd.org/supporters/

^{111.} TNFD. (2021). IWG, ITEG and founding partners. https://tnfd.info/who-we-are/meet-the-team/

Market facilitators

New or underdeveloped sustainability markets should be facilitated with new initiatives or mechanisms that unlock green investment opportunities, especially those that face non-financial barriers. These mechanisms include green investment banks, Super ESCOs, and coordinating platforms that matchmake between project developers and investors.

Green investment banks are public entities that aim to mobilise private sector capital into green infrastructure.

Green investment banks use innovative transaction structures, risk reduction tools and technical and market expertise to attract private capital into low carbon and climate resilient infrastructure projects. Their specific objectives are tailored to domestic development goals, and may include energy system decarbonisation, improved energy efficiency, lower energy bills, and community development projects. Green investment banks are staffed with finance experts that use their market expertise to assess transactions and identify real risks, building investors' confidence in novel projects and their skills in assessing them. They often co-invest on commercial terms to 'crowd in' investment, demonstrating the commercial profitability of green infrastructure to accelerate market development. By sharing information and expertise and building a track record of successful investment, green investment banks help to reduce the cost of capital and make green projects more commercially viable. The green investment bank concept was pioneered in the UK and linked to investors in the UAE.

Case study: UK Green Investment Bank and UAE's Masdar

The UK Green Investment Bank (GIB) was founded in 2012 with a focus on accelerating the offshore wind, bioenergy and waste to energy markets. It aimed to overcome barriers to investment, specifically illiquidity in capital markets following the 2008 financial crash, limited investor expertise in target sectors, limited track record and precedents of successful investments in the sectors, and uncertainty about long-term government policy. To ensure that the GIB 'leveraged in' private sector finance rather than crowding it out, the GIB offered co-financing on fully commercial terms and committed to exiting established sectors once the technologies had matured and market-based finance was available.

The UAE's Masdar signed an MOU with the GIB in 2013 with the aim of jointly investing in green infrastructure projects in the UK. Later that year, the GIB refinanced £58.6m of Masdar's 20% stake in the London Array offshore wind farm, which supplies clean electricity to half a million homes in the UK.

The GIB directly invested about £2.8 billion and mobilised an additional £8.2 billion between 2012 and 2016. Due to government fiscal consolidation, the GIB was sold to Macquarie Capital in 2016 and now operates as the Green Investment Group.

Sources:

Global Infrastructure Hub. The UK Green Investment Bank. https://cdn.gihub.org/umbraco/media/2630/uk-case-study.pdf Blue and Green Tomorrow. (2013). Green Investment Bank finalises offshore wind deal with Masdar. https://blueandgreentomorrow.com/energy/green-investment-bank-finalises-offshore-wind-deal-with-masdar/

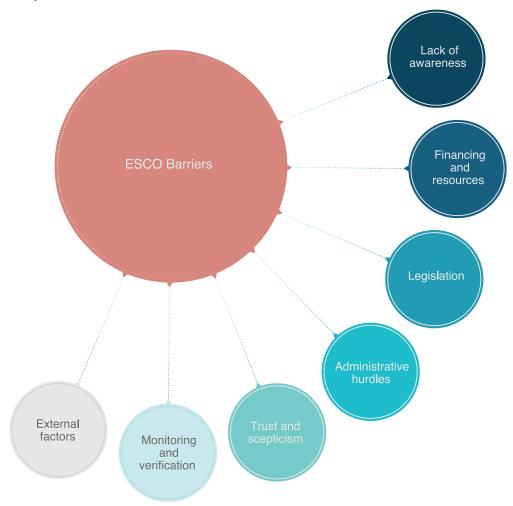
Financial and non-financial barriers to Energy Service Companies (ESCOs) must be overcome to help facilitate

energy efficiency markets. Energy Services Companies (ESCOs) offer an elegant solution to many energy efficiency barriers. They develop, design, build, and arrange financing for projects that save energy, reduce energy costs, and decrease operations and maintenance costs at their customers, facilities. They assume technical and performance risks associated with projects and differentiate themselves from other energy efficiency service providers by using performance-based contracts. But ESCOs themselves face many barriers, including lack of awareness and trust in the ESCO model, underdeveloped legal, policy and regulatory frameworks, high project transaction costs, insufficient monitoring and verification standards, and difficulty accessing commercial financing due to limited high-value collateral and banks' challenge recognising the value of future receivables from energy savings.

^{112.} OECD. (2015). Green Investment Banks. https://www.oecd.org/environment/green-investment-banks.htm

^{113.} US Department of Energy. (2021). Energy Service Companies. https://www.energy.gov/eere/femp/energy-service-companies-0

Figure 3: Barriers faced by ESCOs



Governments in the Middle East should support ESCO markets by establishing a facilitating agency or "Super

ESCO". Government-established Super ESCOs bring awareness and credibility to ESCO markets. They can build trust in ESCO services by playing a supervisory role between the client and the ESCO via validated monitoring and verification services. As a government enterprise, they can identify and ameliorate policy or regulatory barriers, especially those that limit the public sector from procuring their services. Super ESCOs can develop standardised contracts and legal documents to overcome high transaction costs, and can act as a platform to connect ESCOs with building owners looking to procure energy efficiency services. Super ESCOs can help ESCOs access financing by educating financial institutions about the real risks of energy efficiency projects, support banks with project due diligence services and provide risk management products. A full list of barriers Super ESCOs help to manage is provided in Annex 2 and the experience of Dubai's Etihad ESCO is outlined in the box below.

Case study: Etihad ESCO

Etihad ESCO was established in 2013 by the Dubai Electricity and Water Authority (DEWA) to foster an energy efficiency performance contracting market in Dubai. It is meant to be a so-called "SuperESCO", playing a coordinating role for private sector energy service companies (ESCOs), energy efficiency clients, technology providers, financial institutions, auditors, consulting companies, and DEWA to facilitate the identification, deployment and payment of energy efficiency solutions. Etihad ESCO prequalifies buildings from owners' portfolios to establish project feasibility, organises tendering on behalf of owners, helps to secure financing by negotiating with financial institutions and supporting with credit risk, verifies commissioning, and follows up in the guarantee phase to verify energy savings, manage contracts and support building owners with issues. Since its launch, Etihad ESCO has supported projects in 7,763 buildings, which continue to deliver annual savings of 307 GWh of electricity and 289 MIG of water.

SuperESCOs like Etihad ESCO ought to stimulate and enable private sector energy efficiency players, rather than compete with them. Publicly funded entities should fill market gaps such as maintaining platforms for matchmaking, market supervision and standard setting, leaving private sector providers to flourish in a facilitated marketplace.

Sources:

Etihad ESCO. (2021). https://etihadesco.ae/

Econoler.(2017). https://econoler.com/wp-content/uploads/2017/10/Econoler-Super-Esco-ANGLAIS_.pdf

Coordinating platforms should also be established to facilitate other sustainability markets such as renewable

energy. Platforms that provide a space for financiers and renewable energy project developers to interact can improve the efficiency of deal making and accelerate investment and project deployment. Platforms can help pre-qualify potential deals by offering technical assistance to project developers to help them prepare investor documentation, and by helping investors identify developers with the right profile. By overcoming information asymmetries and creating a centralised project clearinghouse, platforms can effectively mobilise finance into clean energy or other sustainability markets.

Case study: IRENA Climate Investment Platform (CIP)

The (CIP) was launched in December 2019 and started operating in late Q1 of 2020. Initiated by IRENA, UNDP and the GCF, the CIP helps countries set climate targets, offers financial de-risking and marketplaces to connect investors with developers. The CIP aims to mobilise capital towards developing countries to accelerate renewable energy technologies to meet NDCs and meet SDG goals. It is a virtual platform where supply meets demand, where some request resources and others look to invest. It also helps project proponents prepare documents to meet the eligibility requirements. To be eligible, projects must contribute to clean energy transition, support SDGs, be consistent with national climate action priorities, and must be beyond conceptual stage - at least at pre-feasibility or having obtained some permits.

CIP is already achieving real results. To date on the demand side, CIP has received 218 projects support requests and found 50 projects eligible for support. On the supply side, it has 250 registered partners, of which 57 are financial institutions, the others ranging from technical assistance partners, partners to provide guarantees, or some other support to projects. It has supported 33 projects, and of those 17 are ready for financing matchmaking. 12 projects have been introduced into the matchmaking process and 6 have received matches from financial partners.

While most demand came from Sub-Saharan Africa (80%), Iraq and Egypt would be candidates to receive investment and support. On the investment partner side, many partners are from the Middle East, with a mixture of financial and technical assistance.

Central banks

For central banks, climate change is a unique and inevitable risk that poses physical and transition-related threats particular to the Middle East. The Bank of International Settlements (BIS), the bank of central banks, recognises climate as a global externality that has not been encountered before, but whose dimensions form a new type of risk that has not been characterised appropriately - a so-called "green swan". 114 Climate risk has not been adequately captured in traditional risk models because it has non-linear consequences and exhibits non-Gaussian 'fat tailed' risks where it is difficult to judge the size of the risk because it is so far outside the realm of ordinary experience. 115 It is a risk that, if nothing is done, becomes inevitable and results in catastrophic risks materialising. In the Middle East, the risk has more dimensions than just the physical risks of climate change like extreme heat, drought, and sea level rise. The less wealthy Middle Eastern countries may encounter social instability related to water stress or food price rises. 116 The oil producing countries face particularly acute transition risks as oil dependence clashes with global policy interventions that accelerate the arrival of peak oil demand. 117, 118

COVID-19 illustrates the need for central banks to develop tools that integrate sustainability as a vector that affects financial stability. Central banks are increasingly responsible for maintaining financial stability. They must therefore recalibrate the way they measure risks and risk exposures by:

- 1. Improving internal models both in terms of risks and macro effects
- 2. Making models forward-looking, rather than informed by a history that is less relevant to future
- 3. In the absence of the right tools, applying the precautionary principle: climate change's irreversibility, the size of the risks, and the decades-long time lag between required actions and the manifestation of consequences renders the 'wait and see' approach unviable and puts banks in a position of radical uncertainty.

A pandemic is an example of a non-linear impact from an environmental threat, as biodiversity loss and the erosion of natural barriers between species opens transmission opportunities for viral diseases. While this risk was known, it was never seen manifested in such a massive, sudden, and catastrophic way. COVID-19 is a peek into the future about how things may look regarding climate change, which is why central banks must play a mitigating role.

Central banks should utilise both soft power and hard tools to support a sustainable recovery, signalling through moral suasion and using regulatory levers and investment choices. Central banks need to convey messages that motivate private sector investors to reallocate resources towards sustainable investments, integrating messages about sustainability into conferences, papers, publications, speeches, and through direct contact with supervisory agencies and treasuries. They should develop climate stress testing frameworks, where they or their supervisors understand the systemic risks carried when stressed with a climate scenario of higher temperatures or catastrophic weather events and take action to mitigate exposure. Central banks may wish to allocate direct credit to green research, as is done by the Central Bank of China, or invest in green bonds, for example, through the BIS green investment pool that was recently launched.

Central banks may wish to use innovative policies to support sustainability, such as risk-weighted assets, using selective collateral requirements and applying green criteria for asset purchase programmes. Central banks require commercial banks to maintain a certain capital adequacy ratio, which is a measurement of a bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures. Allowing a lower risk weighting for green assets, or creating a higher weight for brown assets, gives commercial banks an incentive to green their lending portfolio. 122 Regarding collateral require-

^{114.} BIS. (2020). The green swan: Central banking and financial stability in the age of climate change. https://www.bis.org/publ/othp31.pdf

^{115.} Weitzman, M. L. (2011). Fat-Tailed Uncertainty in the Economics of Catastrophic Climate Change. https://scholar.harvard.edu/files/weitzman/files/fattaileduncertaintyeconomics.pdf

^{116.} World Bank. (2018). Beyond Scarcity: Water Security in the Middle East and North Africa. MENA Development Report. https://openknowledge.worldbank.org/handle/10986/27659

^{117.} European Council on Foreign Relations. (2018). Testing the water: How water scarcity could destabilise the Middle East and North Africa. https://ecfr.eu/publication/how_water_scarcity_could_destabilise_the_middle_east_and_north_africa/

^{118.} IEA. (2021). Oil 2021, Analysis and forecast to 2026. https://www.iea.org/reports/oil-2021

^{119.} BIS. (2009). Issues in the Governance of Central Banks, chapter 2: Roles and objectives of modern central banks. https://www.bis.org/publ/othp04_2.pdf

^{120.} IMF. (2021). 2021 Financial Sector Assessment Program Review—Background paper on quantitative analysis: Appendix I. Approach to assessing climate change risk in FSAPs. https://www.elibrary.imf.org/view/journals/007/2021/041/article-A999-en.xml

^{121.} BIS. (2021). BIS launches second green bond fund for central banks. https://www.bis.org/press/p210125.htm

^{122.} Natixis. (2019). Risk weighting adjustments for green/brown assets. https://gsh.cib.natixis.com/our-center-of-expertise/articles/risk-weighting-adjustments-for-green-brown-assets

ments, central banks may wish to accept green credit and green bonds as eligible collateral for their monetary policy operations, as the People's Bank of China has done as part of a range of measures to encourage banks to engage in green finance. Finally, central banks may wish to explore using green criteria for asset purchase programmes. While there is no consensus in the central banking community on this option as it may overstretch the neutrality that is central to monetary policy, it has been shown that nearly 10% of the US Federal Reserve's corporate bond purchases have been directed towards companies at high risk of adversely affecting nature and climate. Failing to distinguish between green and environmentally harmful asset purchases may itself be a non-neutral choice that is at odds with the wider goals of central banks.

Case study: Abu Dhabi, Dubai and Egypt central banks participate in the Network for Greening the Financial System (NGFS)

The NGFS is a group of central banks and supervisors that agree to share best practices and contribute to developing environment and climate risk management tools, and to mobilise finance to support the transition to a sustainable economy. Launched in 2017 with eight founding members, the group has grown to 95 members with 16 observers. The Abu Dhabi Global Market Financial Services Regulatory Authority and the Dubai Financial Services Authority both joined NGFS in 2019, and Egypt's Financial Regulatory Authority joined in 2020.

The NGFS defines and promotes best practices and conducts or commissions analytical work on green finance under five work streams:

- 1. **Macroprudential / Supervision**, which studies how to assess and integrate climate and environmental risks and differentiate risks between green and other assets
- 2. **Macrofinancial**, which develops climate scenarios, provides guidance on monitoring financial stability, and helps to size the macro-financial impact climate-related risks
- 3. **Scaling up green finance**, which promotes responsible investment principles and boosts market transparency through reporting and disclosures
- 4. Bridging data gaps, which identifies and closes gaps in data relevant to the other workstreams
- 5. Research, which updates key research questions and NGFS coordination

Joining the NGFS demonstrates that a country's monetary authority recognises the unique financial system risks posed by climate change, aims to accelerate finance towards activities that will mitigate them, and wants to share and learn best practices.

Source:

NGFS. (2021). https://www.ngfs.net/en

The central banks of the countries studied in this report responded to COVID-19 in various ways that could be tweaked to support sustainability outcomes. The actions of central banks, listed in Annex 3, and mainly loosened collateral requirements for commercial banks, supported SMEs and boosted liquidity in large firms through asset purchase programmes. While these measures were not targeted to support sustainability, they show that central banks are active in helping countries respond to shocks and can support other development priorities.

^{123.} BIS. (2020). BIS Papers No 113. Financial market development, monetary policy and financial stability in emerging market economies. https://www.bis.org/publ/bppdf/bispap113.pdf

^{124.} Vivid Economics. (2021). Greenness of Stimulus Index. https://www.vivideconomics.com/wp-content/uploads/2021/02/Greennes-of-Stimulus-Index-5th-Edition-FINAL-VERSION-09.02.21.pdf

^{125.} Grantham Research Institute on Climate Change and the Environment. (2020). A Toolbox of Sustainable Crisis Response Measures for Central Banks and Supervisors, second edition. https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/INSPIRE-toolbox_-2nd-Edition-1.pdf

Section 2: Financial and economic tools

Six financial and economic tools are featured in this section because they offer an especially strong opportunity to channel finance to sustainable investments. The six elements shown in Figure 4 were selected based on insights from regional experts on what tools best suited the countries studied. The countries studied represent the full spectrum of economic development, financial sector maturity and political risk. Since they face a diversity of barriers to investment, the instruments included in this section tend to apply more to some countries than to others. Familiar tools and approaches such as feed-in tariffs, fossil fuel subsidy reform and tax credits for green products are universally effective, including in the countries in this report. They are not explored further in this section because there already exists extensive literature on their effectiveness.

While not traditionally considered a financial or economic tool, state-owned enterprises and sovereign wealth funds are included because of their investment power and centrality to economic transformation in several countries. SOEs and public-private joint ventures undergird several national economies, creating both direct and indirect avenues to implement governments' green priorities. With SOEs' operations especially concentrated in oil and gas and emissions-intensive sectors, they are central to the energy transition. The region's sovereign wealth funds are among the largest in the world. Governments can instruct their mandates to balance economic, social and environmental returns, signalling future priorities while crowding in private sector co-investment.

Figure 4: Six types of financial and economic tools



Inclusive loans and subsidies

Sustainability linked loans

Loans and innovative investment products with low carbon or social objectives should be offered to stimulate sustainable investments and reach underserved groups, either through direct lending to projects or using

financial intermediaries. Programmes are needed to help financial institutions provide innovative financing options, especially to small businesses and underserved groups that often face punitively high interest rates and collateral requirements for standard loans. By providing lines of credit to financial intermediaries that then on-lend through innovative financing mechanisms, capital for investment can be disbursed. By adding conditions regarding characteristics of either the borrower or the purpose of the loan, the lender can ensure that investment helps to achieve sustainability or social objectives. This approach was taken in Egypt to promote inclusive financial access.

Case study: Promoting innovative and inclusive financial access in Egypt

There is limited access to finance for small- and medium-sized enterprises (SMEs), especially for women-led and youth-led businesses in underserved regions of Egypt. SMEs makeup 98% of businesses in Egypt and employ 85% of the population, but banks' reluctance to lend to them meant collateral requirements were set to 88% of the loan value, with women entrepreneurs facing higher collateral requirements than men.

To expand access to financing of SMEs with a focus on youth and women, the International Bank for Reconstruction and Development (IBRD) offered a US\$300 million line of credit to Egypt's Micro, Small and Medium Enterprise Development Agency (MSMED). MSMED intermediated with banks, microfinance institutions, financial leasing companies, and venture capital companies, which provided innovative sub-financing to underserved small businesses in the form of loans or equity or convertible debt.

The programme exceeded expectations. IBRD's full loan was disbursed, and the size of the microenterprise loan book grew from 1.9 billion Egyptian pounds to over 35 billion over five years (exceeding the 16 billion target), with 167,667 microenterprises receiving financing (target 126,000), 42% of which were women-owned businesses (target 30%) and 44% youth-owned (target 40%).

This approach could be applied to other countries with underserved groups. Transferable lessons include:

- 1. The benefits of technical assistance from the IBRD and the International Finance Corporation's Middle East and North America MSME Technical Assistance Facility, which built specialised skills in Egypt.
- 2. Having the capable and experienced MSMED as the apex institution, which enabled expansion of the programme's scope and scale.
- 3. Lending to SMEs even to riskier market segments through commercial banks, microfinance institutions, and venture capital companies, on a commercial basis is important to avoid market distortions and to keep SME financing sustainable.

Source:

World Bank (2020). Independent Evaluation Group. Promoting Innovation for Inclusive FA. https://documents1.worldbank.org/curated/en/745001609405636869/pdf/Egypt-Arab-Republic-of-Promoting-Innovation-for-Inclusive-FA.pdf

Energy efficiency subsidies

An innovative approach to subsidising energy efficiency should be developed that overcomes the economic challenge of low energy costs without having to raise the price of power. The economic viability of energy efficiency measures is weak in jurisdictions with low energy prices. Many of the countries in this report subsidise consumer energy prices, which incentivises consumption. Removing subsidies or taxing energy is politically unpalatable, however, and may negatively impact vulnerable groups if no countervailing measures are put in place to support low-income households. To overcome this impasse, energy efficiency savings should be subsidised.

Opportunities to create a low cost or revenue-neutral energy efficiency subsidy in energy-exporting countries should be explored. In countries that export energy, like many countries in the Gulf and wider region, governments lose out in three ways when energy is used domestically. Governments pay a domestic energy subsidy. They also pay for new power stations that are needed to fuel growing energy demand. And they miss out on potential export revenue. The combination of these three values is equivalent to the value of an avoided unit of domestic consumption, or a so-called "negawatt" (negative watt). This value should be reinvested into the economy through an energy efficiency subsidy programme. If properly designed, such a programme could be revenue-neutral for the government and accelerate energy efficiency deployment by making efficiency improvements more economically viable.

Guarantees and risk insurance

Risk mitigation measures, including guarantees and risk insurance, should be paired with sustainability criteria to lever private sector capital towards low carbon investments. Development finance institutions and multilateral banks use risk mitigation instruments to lower financing costs and help unlock private investors' deep capital reserves, encouraging investors to invest in less familiar technologies or in higher risk geographies. These instruments should be used to promote green investments. To do so, finance providers can include green metrics in their selection criteria to favour low carbon infrastructure and limit environmentally harmful investments, or carve out a portion of the instrument's value for sectors like renewable energy and public transit. Examples of guarantee programs for loans to SMEs and for infrastructure projects are outlined in the case studies below. Their sustainability impact could be enhanced by including green conditions alongside their support.

Case study: Coupling risk insurance and guarantees with environmental and social sustainability frameworks to help countries recover better in the Middle East region

The Credit Guarantee Company (CGC) offers guarantees to financial institutions in Egypt to encourage lending to groups that lack sufficient collateral, formalise entrepreneurs operating in the informal sector, and help businesses expand and invest in technology upgrades to boost competitiveness. The CGC's remit has traditionally focused on micro, small and medium-sized enterprises (MSMEs) and it offers microfinance to low income and self-employed clients, with a special focus on poor women. In 2020, the Central Bank of Egypt developed a new programme through the CGC that extends coverage to include large corporates in the industrial, construction and agricultural sector to help them recover from COVID-19. Dhaman, the Arab Investment and Export Credit Guarantee Corporation, provides guarantee services against commercial and non-commercial risks in Arab countries. It offers political risk insurance and re-insurance to protect against expropriation, currency inconvertibility, war and civil disturbance and breach of contract, and loan insurance that covers loans for investment and development projects provided by an eligible Arab or joint Arab-foreign banks. It also offers a Non-honouring of Sovereign Financial Obligations (NHSFO) policy as a special coverage for financial institutions that provide loans to sovereign and sub-sovereign entities for infrastructure projects and other development projects in Arab countries.

The instruments offered by the CGC and Dhaman could be strengthened by integrating green and social objectives. The Sustainable Renewables Risk Mitigation Initiative (discussed in the case study below) illustrates how this can be done through its Environmental and Social Sustainability Framework that was released in June 2021. The Framework outlines how countries can develop a bankable pipeline of renewable energy projects to achieve a low-emissions growth pathway, and to integrate renewables as part of a green stimulus package to provide core support in the economic recovery post Covid-19. The Framework's approach is designed to be replicable across countries and could be applied to the Middle East.

Sources:

Credit Guarantee Company. (2021). https://cgcegypt.com/

Arab Investment and Export Credit Guarantee Corporation. (2021). https://dhaman.net/

ESMAP.(2021). SRMI Facility (Phase 2) Environmental and Social Sustainability Framework.https://esmap.org/sites/default/files/esmap-files/A6_SRMI-2_ESSF_English_April18.pdf

Development finance institutions (DFIs) and multilateral banks that offer guarantees and assurance to co-investors can also help to build the capacity of local investors. Such institutions can use their high credit rating to lower the cost of finance, provide finance at concessional terms, and offer longer loan tenors with more competitive interest rates. The presence of DFIs in the structure of projects can also attract other investors, especially when they are big or complicated projects involving less familiar low carbon technologies. Including local investors alongside DFIs in the structure of the projects helps to build capacity of local institutions, familiarise them with true technology risks and ultimately build sustainable finance capability in the country. While not operating in the Middle East, the Sustainable Renewables Risk Mitigation Initiative (SRMI) offers capacity building alongside guarantees, risk insurance and blended finance.

Case study: Offering technical assistance alongside risk mitigation instruments in developing countries

The Sustainable Renewables Risk Mitigation Initiative (SRMI) helps governments develop, finance and implement sustainable solar, wind and grid balancing programmes. It aims to attract affordable private sector investments into renewable energy projects in developing countries by building the capacity of governments and project developers to prepare bankable renewables projects, and by offering technical assistance and risk mitigation instruments.

The SRMI has leveraged \$225 million from the Clean Technology Fund to support \$1 billion in public sector investment and \$1.3 billion of private finance to build 900MW of solar and 600MWh of storage in five countries. In March 2021, the SMRI Facility was granted \$280 million of grants, concessional finance and risk mitigation instruments to blend with \$1.3 billion of multilateral development finance and \$3.3 billion of private investments to support 2.5GW of renewables and 1GWh of battery storage. These investments are offered alongside capacity building for energy planning, legal and lending support and assistance for robust procurement.

SRMI is led by the World Bank's Energy Sector Management Assistance Program (ESMAP), in partnership with Agence Française de Développement (AFD), International Renewable Energy Agency (IRENA) and International Solar Alliance (ISA).

Sources:

ESMAP. (2021). Sustainable Renewables Risk Mitigation Initiative. https://www.esmap.org/srmi

ESMAP. (2021). A risk mitigation approach. https://esmap.org/srmi_risk_mitigation_approach

ESMAP. (2019). A Sure Path to Sustainable Solar: Solar Deployment Guidelines. https://thedocs.worldbank.org/en/doc/155991570472678574-0110022019/original/ASurePathtoSustainableSolarGuidelines.pdf

International climate finance

International climate finance should be leveraged to support economic diversification towards strategic sus-

tainable industries. Countries in the Middle East may use the experience in China as an example. China capitalised on the UN Clean Development Mechanisms and registered more than half of the world's Certified Emissions Reductions in part because the government supported relevant industries like solar and wind with strong industrial and energy policy. ¹²⁶ In this way, the Chinese government utilised international climate finance to germinate and grow its domestic supply and technical capacities alongside funding for deployment, leading to a virtuous circle of industrial policy catalysed by international climate finance. The same approach could be taken in relevant countries in the Middle East, where international climate finance supports diversification and economic sophistication towards industries that capitalise on the region's competitive advantages.

Case study: How Egypt leverages the Green Climate Fund: Opportunities for Iraq

The Green Climate Fund (GCF) helps developing countries respond to climate change, so is particularly relevant to Egypt and Iraq. It has two main funding tracks:

- A Technical Assistance track that helps countries develop capabilities, formulate projects, accredit domestic institutions and establish and comply with global climate frameworks.
- A project finance track that uses loans, grants, and de-risking instruments to mobilise public and private sector finance towards mitigation and adaptation projects.

Egypt has taken an active role in the GCF, including sitting on its board and using its technical assistance support to put in place enabling policy frameworks to support mitigation and adaptation projects. It has received over US\$300 million from the GCF across four projects. A US\$105 million adaptation project is providing coastal defence soft structures and integrated coastal management to defend the vulnerable Nile Delta against coastal flooding damage. A mitigation project called the Renewable Energy Financing Framework is providing technical assistance to support renewable energy integration, policies, and planning. Two cross-cutting projects focus on finance. One project implements a Sustainable Energy Financing Facility, an on-lending programme that provides credit lines to Partner Financial Institutions (PFI) for energy efficiency, renewables and climate resilience projects. The other demonstrates the commercial viability of climate finance projects and provides loans through local PFIs for energy, agriculture, forestry, waste and water projects.

Iraq has an opportunity to deepen its engagement with the GCF. It has leveraged the GCF for technical assistance to establish a National Designated Authority and manage, track and guide climate financing under the GCF framework, and to prepare a Technology Needs Assessment (TNA) and action plan to identify and prioritise mitigation and adaptation technologies to achieve the country's UN Nationally Determined Contribution. Iraq could leverage these foundations to access funding for climate projects.

Source:

Green Climate Fund. (2021). https://www.greenclimate.fund/

Even wealthy countries in the region like Saudi Arabia, Qatar and Kuwait have received assistance from UN financing facilities. Technical assistance has been shared through the Global Environment Facility to help countries develop their national communications and biennial update reports to the UNFCCC to comply with reporting requirements while responding to national development goals.¹²⁷

^{126.} CTCN. (2012). A Comparative Policy Analysis of the Clean Development Mechanism in South Africa and China. https://www.ctc-n.org/resources/comparative-policy-analysis-clean-development-mechanism-south-africa-and-china

^{127.} GEF. (2021). Umbrella Programme for Preparation of National Communications and Biennial Update Reports to the UNFCCC. https://www.thegef.org/projects

Green bonds and green sukuk

Green bonds and green sukuk are gaining traction in the Middle East and represent one of the region's strongest opportunities to mobilise private capital towards sustainable investments. A green bond is a debt financing instrument that is issued by national, regional, multinational public entities as well as private corporations to raise capital specifically to support climate-related or environmental projects. Adjacent to green bonds, are social bonds, which are dedicated to social benefits and sustainability bonds, which cover both environmental and social benefits. A Green Sukuk is a sharia compliant financial product aimed at financing environmental and climate-friendly projects. Proceeds from a sukuk issuance must be used only for halal business activities and the revenue entitled to the sukuk holders must only be derived from the earnings generated by the sukuk assetitself. Description of the sukuk assetitself. Description o

In response to the COVID-19 pandemic, the bond market has proven to be a flexible source of finance to help with the immediate impacts as well as longer-term recovery plans. This led to the rapid growth of the sustainable and social debt markets. Social bonds increased more than 10-fold between 2019 and 2020. Sustainability bonds increased by almost 130% while green bonds saw a slight increase of 9%.

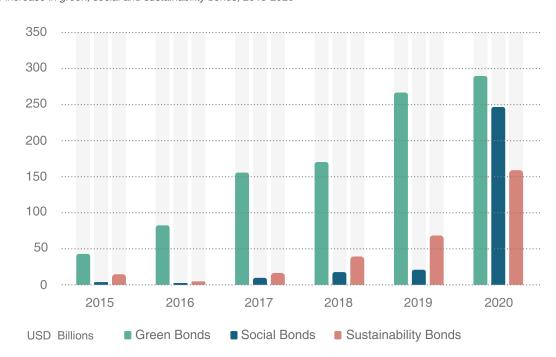


Figure 5: The increase in green, social and sustainability bonds, 2015-2020

Source: Climate Bonds Initiative 2021

^{128.} World Bank. (2015). What are green bonds. https://documents1.worldbank.org/curated/en/400251468187810398/pdf/99662-REVISED-WB-Green-Bond-Box393208B-PUBLIC.pdf

^{129.} EcoMENA. (2021). Green Sukuk: A Shariah-Compliant Green Financing Instrument. https://www.ecomena.org/green-sukuk/

Case study: Green sukuk and green bonds in the Middle East

The UAE's First Abu Dhabi Bank (formerly National Bank of Abu Dhabi) listed on the London Stock Exchange the Gulf region's first-ever green bond valued at \$587 million in March 2017 and has since issued three more green bonds. Two years later in May 2019, Majid Al Futtaim real estate giant issued the Middle East's first corporate green sukuk. Valued at US\$600 million, the issuance was more than six times oversubscribed, allowing it to tighten interest rates on the 10-year note to 4.64%. Six months later, it issued as second \$600 million green sukuk with a coupon of 3.93%. The issuance is being used for projects including green buildings, renewable energy, sustainable water management, and energy efficiency. In September 2020, the Saudi Electric Company (SEC) established a Green Sukuk Framework and issued two tranches of green sukuk each worth US\$650 million. The green sukuk issuance was four times oversubscribed, attracting 262 institutional investors from 22 countries. The notes had 5- and 10-year maturities and a coupon of 1.74% and 2.41% respectively, which was significantly more competitive than the 4.0% - 5.5% coupons attracted by regular sukuk from 2014 - 2018, despite both issuances benefiting from credit linkages to the government. The issuance was used to buy and install smart meters and build and operate infrastructure that connects renewable energy sources to the grid.

Also in September 2020, **Egypt** became the first country in the Middle East to issue a sovereign green bond. The 5-year bond worth \$750 million was five times oversubscribed and sold at a 5.25% yield. Strong interest in the bond allowed the government to increase the transaction from the original \$500 million target and achieve the lowest-ever 5-year coupon for Egypt. Proceeds are being used for clean transport, renewable energy, pollution control and sustainable water and wastewater management.

Qatar National Bank's 2020 issuance of a \$600 million green bond was the largest from a commercial bank in the region and further demonstrated investor appetite for these instruments.

Several other corporates and major banks in the region are working on or have developed green bond frameworks, so ongoing green bond and sukuk issuances are likely to drive capital from the region and the globe into green projects. Despite this enthusiasm, however, the **Middle East** comprised only 1% of the \$228 billion raised through 680 green bond issuances in 2020, demonstrating the size of the untapped opportunity in the region.

Sources:

Saudi Electricity Company. (2021). https://www.se.com.sa/en-us/invshareholder/Pages/IssanceInCapitalMarket.aspx Global Infrastructure Hub. (2021). https://www.gihub.org/resources/showcase-projects/green-sukuk/

Reuters. (2017). National Bank of Abu Dhabi raises \$587 million in green bond debut https://www.reuters.com/article/nbad-green-bond-idUSL5N1H732D

First Abu Dhabi Bank. (2020). FAB Green Bonds Report. https://www.bankfab.com/-/media/fabgroup/home/about-fab/green-bond-report-2020.pdf?view=1

Majid al Futtaim. (2020). Green Sukuk Report 2020. https://www.majidalfuttaim.com/-/media/feature/mafcorporate/about/sustainability-reports/2020/majidalfuttaim_greensukukreport_2020_final.pdf

London Stock Exchange. (2020). London Stock Exchange welcomes Egypt's sovereign green bond to the Sustainable Bond Market https://www.londonstockexchange.com/london-stock-exchange-welcomes-egypts-sovereign-green-bond-sustainable-bond-market

S&P Global. (2020). QNB green bond a sign of what's to come as Gulf embraces ESG. https://www.spglobal.com/mar-ketintelligence/en/news-insights/latest-news-headlines/qnb-green-bond-a-sign-of-what-s-to-come-as-gulf-embraces-esg-61051788

Linklaters. (2020). More than 680 green bonds and 130 social bonds issued globally so far in 2020. https://www.linklaters.com/en/about-us/news-and-deals/news/2020/december/more-than-680-green-bonds-and-130-social-bonds-issued-globally-so-far-in-2020

Issuers of green sukuk can leverage the governance framework required to issue the Islamic finance instruments and open the market for green sovereign debt. Sharia compliant instruments are attractive to national governments and regional development banks like the Islamic Development Bank (IsDB) since they are culturally aligned. Regular sukuk have an additional layer of oversight compared to vanilla bonds that involve negative screening of investments (i.e. non-halal investments are excluded) but their governance, monitoring and verification requirements are transferrable to the green sukuk market. The progress that has been made in Islamic finance can be leveraged to build out the sustainable finance market.

Carbon pricing

Pricing carbon using a carbon tax and/or an emissions trading system is an effective way to reduce green-house gas emissions. The purpose of carbon pricing is to drive investments away from carbon-intensive activities by making them more expensive, and to drive investments towards low carbon options, which ultimately increases their scale and reduces their cost. Carbon pricing aims to capture the external costs of carbon pollution - the costs that are otherwise paid by society through damages caused by climate change - and internalise those cost by linking them to the source of emissions. Carbon pricing shifts the burden of the damage caused by carbon emissions back to those that are responsible for it to encourage them to change their behaviour.¹³⁰

Carbon taxes directly price each tonne of greenhouse gas emissions and create an incentive for all businesses and households to lower emissions. Governments control the carbon price but do not have control over the size of the
emission reduction. By pricing carbon at the source, usually according to the carbon content of fuels, the cost ripples down through
supply chains and ultimately into consumer prices. Relative to other carbon pricing mechanisms, carbon taxes are relatively easy
to implement because there are relatively few players involved in the production and trade of fossil fuels and chemicals with high
global warming potential. Carbon taxes on other sources of emissions like waste, agriculture and forestry are more challenging to
measure and levy, and often fall outside the system.

Emissions trading systems (ETS) limit the total amount of greenhouse gas emissions allowed from specific sectors and reduce emissions by lowering the cap over time. Governments control the coverage of an ETS and the size of the cap, but do not have control over the carbon price. Trade between entities covered by the ETS allows market forces to identify cost-efficient reduction opportunities by enabling companies with lower-cost abatement opportunities to reduce emissions and sell carbon allowances to companies with higher-cost abatement. ETS can be complex to implement because it requires a new emissions trading platform to be established and thousands of companies to measure their emissions and develop trading strategies.

Table 1 below outlines the key differences between the two carbon pricing approaches.

Table 1: Comparison of carbon taxes and emissions trading systems

Characteristic	Carbon tax	ETS
Amount of emission reductions	Unknown	Known
Price of carbon	Known	Unknown
Economic efficiency	Lower	Higher
Scope of emissions covered	Higher	Lower
Administrative complexity	Lower	Higher
Revenues raised for government	Higher	Lower
International harmonisation	Less likely	More likely

Source: Haites et al, (2018)131; Kyte, B, (2017)132; Author analysis

^{130.} World Bank. (2021). What is carbon pricing? https://www.worldbank.org/en/programs/pricing-carbon

^{131.} Haites, Erik & Duan, Maosheng & Gallagher, Kelly & Mascher, Sharon & Narassimhan, Easwaran & Richards, Kenneth & Wakabayashi, Masayo. (2018). Experience with Carbon Taxes and Greenhouse Gas Emissions Trading Systems. SSRN Electronic Journal. 29. https://www.researchgate.net/publication/323459672_Experience_with_Carbon_Taxes_and_Greenhouse_Gas_Emissions_Trading_Systems 132. Kyte, B. (2017). Managing our carbon emissions. https://slideplayer.com/slide/13695873/

Carbon pricing is gaining global popularity and countries without carbon pricing schemes are likely to be penalised in the future. There are 65 carbon pricing initiatives implemented globally covering roughly 21.5% of global emissions.¹³³

While carbon pricing encourages companies to improve efficiency and adopt new innovations, unilateral carbon pricing can create competitive disadvantages for emissions-intensive trade-exposed industries, especially in the short term. Carbon pricing may also lead to 'carbon leakage', where companies relocate to jurisdictions with less stringent environmental controls resulting in no overall global reduction in emissions. Countries and regions have responded to these threats by announcing the introduction of taxes or import duties on goods from countries without similar carbon pricing measures. For example, in 2021 the European Commission adopted a proposal for a new carbon border adjustment mechanism (CBAM). From 2023, importers of iron and steel, cement, fertiliser, aluminium and electricity generation will have to report on the emissions 'embedded' in these products, and in 2026, importers will have to pay for those emissions by surrendering CBAM certificates.

The low carbon development goals of countries in this report would be well served by adopting carbon pric-

ing, including at the regional level. None of the countries in this report have yet implemented a mandatory carbon pricing policy. Carbon taxes are an effective but blunt instrument. Market mechanisms like cap-and-trade systems and voluntary carbon markets have been shown to reduce the overall cost of emission reductions and can be more responsive to changes in economic conditions. Large carbon markets have more low-cost abatement opportunities than small ones, allowing regional markets to be more cost-effective than smaller national ones. The absence of established national carbon markets in the countries studied represents an opportunity for regional alignment from the outset. It is recommended that a regional carbon market be established, potentially building on the methodologies and framework of Qatar's Global Carbon Council, the carbon trading platform being explored by the Dubai Carbon Centre of Excellence Tay, or the proposed Riyadh Voluntary Exchange Platform initiative being undertaken by the Saudi Tadawul Group and Public Investment Fund.

Debt-for-Nature and Debt-for-Climate Swaps

Debt for nature swaps could play a crucial role in advancing green finance in the region. Debt for nature swaps are agreements that reduce a developing country's debt stock or service in exchange for a commitment and investments to protect and conserve nature. These are voluntary transactions whereby the donor(s) cancels some or all of the debt owned by a developing country's Government¹³⁹. The current debt situation of many countries in the region and globally could be turned into an opportunity to trade off bad debts against habitat preservation. One variation of debt for nature swaps are debt for climate swaps where bilateral and multilateral debt relief is agreed to enable vulnerable developing countries to reduce their external debt while investing the liberated funds in national climate adaptation and mitigation programmes¹⁴⁰. Such arrangements offer clear financial and climate benefits for both debtors and creditors involved.

Multiple governments within the region have been struggling with public debt and the COVID-19 pandemic has further increased debts across the region. As shown in Figure 6, government debt increased sizably between 2019 and 2020 with multiple countries in the region having debt-to-GDP ratios above 70 percent of GDP.¹⁴¹ Countries within the region could benefit significantly from debt swaps. However, reaching an agreement on debt swaps has proven to be a difficult process. Creditors often require close monitoring and strict governance and commitments in order for countries in the region to secure such swaps. This in turn might require resources from domestic budgets which are already strained. Additionally, recipient countries might alternatively consider benefiting from new sources of climate financing from international funds and MDBs.

- 133. World Bank. (2022). Carbon pricing dashboard. https://carbonpricingdashboard.worldbank.org/map_data
- 134. OECD. (2021). Carbon markets. https://www.oecd.org/env/cc/carbonmarkets.htm
- 135. Centre for Climate and Energy Solutions. (2009). Cap and Trade vs. Taxes. https://www.c2es.org/document/cap-and-trade-vs-taxes/
- 136. Global Carbon Council. (2021). https://www.globalcarboncouncil.com/
- 137. Dubai Carbon Centre of Excellence. (2021). Carbon Trading Plan & Pricing Strategy. https://etihadesco.ae/wp-content/uploads/2021/09/RFP-2021-2.pdf
- 138. HIS Markit. (2021). Saudi Arabia to launch regional carbon trading platform. https://ihsmarkit.com/research-analysis/saudi-arabia-to-launch-regional-carbon-trading-platform.html
- 139. UNDP. (2021). SDG finance Hub https://sdgfinance.undp.org/sdg-tools/debt-nature-swaps
- 140. Fuller, F., Zamarioli, L., Kretschmer, B., Thomas, A., & De Marez, L. (2018). Debt for Climate Swaps: Caribbean Outlook. Impact: Science Based Implementation of 1.5 C Compatible Action for LDCs and SIDS, 1-18.
- 141. IMF (2021) Regional economic outlook: Middle East and Central Asia. https://www.imf.org/en/Publications/REO/MECA

140 120 100 80 60 40 20 0 Bahrain Kuwait United Egypt Iraq Oman Qatar Saudi Arabia Arab % of GDP **Emirates**

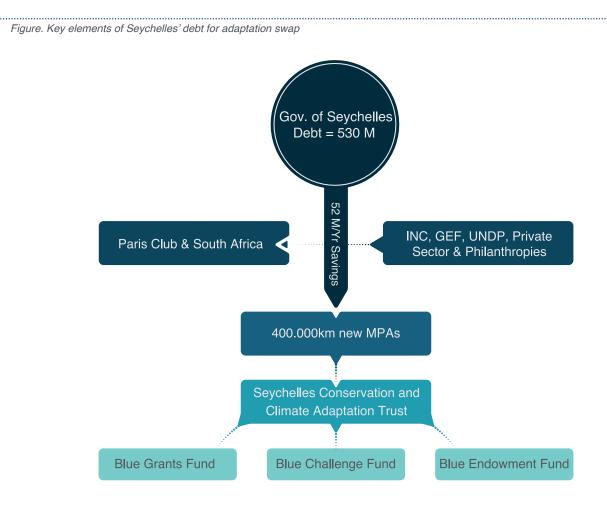
Figure 6: Gross debt position as % of GDP for GCC, Egypt and Iraq

Source: IMF 2021

Case Study: Swaps in Egypt and the Seychelles

Egypt is one of the countries that has had successful debt for development swaps with European countries. Having previous experiences would ease the process of agreeing on environmental debt swaps. Other countries in the MENA region, such as Jordan and Tunisia, are considering debt-for-nature swaps. The debt relief is expected to increase spending on climate change adaptation projects.

One of the most successful and innovative approaches to debt swap took place in the Seychelles. The government worked with The Nature Conservancy, Global Environment Facility (GEF), and the United Nations Development Programme (UNDP) to develop a debt-for-nature swap for \$20-30 million of official debt, to set up vast areas of protected marine parks for climate resilience, fishery management, biodiversity conservation and ecotourism. The agreement took the form of debt for adaptation swap under the tripartite model.



Sources:

The Nature Conservancy. (2020). Seychelles Hits 30% Marine Protection Target After Pioneering Debt Restructuring Deal https://www.nature.org/en-us/newsroom/seychelles-achieves-marine-protection-goal/; The Commonwealth Small States Centre of Excellence. (2018). Case Study: Debt-for-Nature Swap https://seyccat.org/wp-content/uploads/2019/07/SSCOE-Debt-for-Nature-Seychelles-Case-Study-final.pdf

Sherif Kamel and Eskandar A.Tooma. (2005). Exchanging Debt for Development: Lessons from the Egyptian Debt-for-Development Swap Experience.

Government of Egypt. (2020). Egypt, Italy sign 20 deals for debt swap for development. https://www.sis.gov.eg/Story/153230/Egypt%2C-Italy-sign-20-deals-for-debt-swap-for-development?lang=en-us

Egypt Today. (2020). Egypt attends ESCWA meeting on Debt Swap Initiative for Climate Finance and SDGs in Arab Region. https://www.egypttoday.com/Article/3/95671/Egypt-attends-ESCWA-meeting-on-Debt-Swap-Initiative-for-Climate

Sovereign wealth funds

Sovereign wealth funds (SWFs) should be used to tackle sustainable development challenges and create long-

term economic value. SWFs are government-owned investment funds with long-term investment strategies and are uniquely positioned to invest in the sustainable transition due to their size and long-term investment horizon. These funds largely derive their wealth from natural resources and foreign-exchange reserves. Their purposes vary from fiscal stabilization, and intergenerational saving to pension reserves and economic development. As SWFs are inter-generational, have higher risk tolerance and have long-term focus, they are considered well-suited to supporting green investments, in particular green infrastructure projects. The Middle East region hosts some of the world's largest SWFs with almost 35% of global SWFs assets managed in 2017 were by SWFs located in the GCC (see Annex 4).

The important role that SWFs play in greening investments is being realized by some developed countries, though SWFs in the Middle East lag behind. According to Sovereign Wealth Funds Report 2017, several countries have divested their portfolios from companies with high levels of GHG emissions while others have fully integrated climate risks in their investment processes and strategic asset allocations. 144 The UK and France, for example, have started promoting climate-related investment strategies through legislation and directing the focus towards portfolio decarbonisation strategies. Within the region, the UAE and Saudi Arabia, are investing in green infrastructure assets directly or via commitments on green infrastructure funds. However, there is yet a need to incorporate climate-specific strategies into the investment process. 145 Just four of 14 SWFs studied employ a dedicated team for Responsible Investing, and only the Qatar Investment Authority provides ESG metrics and figures. Wafra in Kuwait is the only SWF acknowledged to accept the risks of climate change (beyond involvement in the One Planet SWF Initiative) and no SWFs in the region produce annual ESG reports. 146

COVID-19 may be enabling SWFs to justify investments that generate social and environmental dividends as well as financial returns. One key reason for the documented reluctance of SWF to join the ESG fold is that they have successfully built their reputation as purely financial investors to assuage recipient countries' fears that they may be acting as a foreign policy tool. SDGs are ultimately policy goals and any shift from conventional to sustainable investment would make SWF look more "political", blurring the boundaries between government activity and sovereign investment that over the years they have laboriously built. A possible silver lining of the COVID-19 pandemic is to reconcile the fiduciary duty with the pursuit of SDGs, catalysing a broader adoption of sustainable investment practices among private and state-sponsored financial institutions alike.

SWFs should be used to provide transition finance and catalyse green investments by integrating national economic transition and climate change as key elements of their long-term investment strategy. SWFs have a special role to play in providing transition finance. They will need to further develop their green investment capacity through developing ESG guidelines, collaborating with actors in the private and public sectors including private-private partnerships, and joint investments in climate-friendly projects with multilateral development banks.

^{142.} Bocconi's Sovereign Investment Lab and The Boston Consulting Group. (2017). Sovereign Wealth Funds Quarterly Newsletter. http://www.bernardobortolotti.com/wp-content/uploads/2018/07/SWF-Newsletter-May-2017.pdf

^{143.} UNEP. (2017). Financing Sustainable Development: The Role of Sovereign Wealth Funds for Green Investment https://greenfiscalpolicy.org/wp-content/uploads/2020/08/SWF-Final-Study-28.5.2018-1.pdf

^{144.} Capapé, J., & Santiso, J. (2017). Sovereign Wealth Funds 2017

^{145.} UNEP. (2017). Financing Sustainable Development.

^{146.} Global SWF. (2021). 2021 GSR scorecard. https://globalswf.com/reports/2021gsr

Case Study: New York University Abu Dhabi Transition Investment Lab

Recognising the importance of large, universal asset owners in achieving SDGs, NYUAD launched a research lab to study, evaluate and benchmark the strategies of SWFs and institutional investors in transition finance. The Lab's founding partners are Mubadala Investment Company and Al Maskari Holding.

The Lab's research areas include:

- Institutional sustainable investment in private markets
- Impact measurement and risk-return-impact analysis
- Data collection and empirical analyses on transition investment in the Middle East, Africa, and Southern Asia region (MEASA)

The Lab analyses the risks and opportunities of investing in MENA and assesses how transition finance can mobilise capital in emerging markets. The Lab should be used to help countries utilise SWFs to advance their sustainability agendas.

Source

NYUAD. (2021). Transition Investment Lab. https://nyuad.nyu.edu/en/research/faculty-labs-and-projects/transition-investment-lab-til.html

Case Study: Middle East leadership in One Planet Summit Sovereign Wealth Funds

The One Planet Sovereign Wealth Funds (OPSWF) Working Group was established to accelerate efforts to integrate financial risks and opportunities related to climate change in the management of large, long-term asset pools. Four of the six founding members are based in the countries featured in this report, including the Abu Dhabi Investment Authority, Kuwait Investment Authority, Qatar Investment Authority, Saudi Arabia's Public Investment Fund, alongside the SWFs of Norway and New Zealand. The UAE's Mubadala and the Sovereign Wealth Fund of Egypt joined in 2020 and 2021 respectively, alongside eleven other SWFs.

The OPSWF Framework outlines three principles to systematically integrate climate change into investment decisions:

- 1. Alignment: Building climate change considerations, which are aligned with SWF's investment horizons, into decision-making
- 2. Ownership: Encouraging companies to address climate change in their governance, strategy, planning and risk approaches
- Integration: Integrating climate-related risks and opportunities into investment decisions to improve long-term value creation.

The leadership position of the Middle East in the OPSWF Initiative shows their appetite to measure and manage the risks of climate change. The initiative, however, does not explicitly contemplate investments in fossil fuels or outline strategies to reorient portfolios to support decarbonisation of heavily polluting industries with transition finance, both of which will be needed to achieve net zero by 2050.

Sources:

OPSWF. (2021) https://oneplanetswfs.org/

International Energy Agency. (2021). Net zero by 2050. https://www.iea.org/reports/net-zero-by-2050

State-owned enterprises

State-owned enterprises must a key role in driving the sustainable transition due to their size, emissions intensity, public ownership and centrality to national economies in the Middle East. While the size and influence of SOEs in the Middle East is hard to measure, in countries around the world they account for 20% of investment, 5% of employment, and up to 40% of domestic output. They are fully or majority-owned by governments and are not always constrained by governance practices that separate SOEs from government priorities. They also tend to operate in emissions-intensive extractive and industrial industries. For example, in Qatar, just four SOEs account for 27% of national emissions. They therefore play a central role in reducing national greenhouse gas emissions.

State-owned enterprises offer special opportunities for governments to advance social and environmental objectives without the need to regulate the private sector. The triple role of the government as a regulator, regulation enforcer and owner of assets opens the potential for favourable treatment granted to state-owned enterprises in some cases. These advantages can take the form of, for instance, direct subsidies, concessionary financing, state-backed guarantees, preferential regulatory treatment, exemptions from antitrust enforcement or bankruptcy rules. While the drawbacks of SOEs are well documented also represent an opportunity to mobilise huge volumes of capital towards national priorities, including sustainability and the energy transition.

Economic diversification is expected to become crucial for such companies to mitigate the risks of the clean energy transition in the region and globally. As multiple countries in the Middle East commit to net-zero and low carbon transitions, governments are now revising previous investment plans that could lock them into a high-carbon pathway. In the case of a rapid low-carbon transition, National Oil Companies could become significant drains on public finance as a result of deteriorating creditworthinessordeclining revenues. 152

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^{147.} IFC. (2018). State-Owned Enterprises. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+cg/topics/state-owned+enterprises

^{148.} OECD. (2018). Ownership and Governance of State-Owned Enterprises: A Compendium of National Practices. https://www.oecd.org/corporate/ca/Ownership-and-Governance-of-State-Owned-Enterprises-A-Compendium-of-National-Practices.pdf

^{149.} Mohammed, Sayeed. (2018). Qatar's National Emissions Inventory. file:///Users/jeffreybeyer/Downloads/GHGInventoryFinal.pdf. SOE include Qatar Petroleum, Qatar Petroleum Company, Qatar Electricity and Water Company and Qatar Airways, including international flights. 150. WEF. (2013). State-owned enterprises in the global economy. https://www.weforum.org/agenda/2013/05/state-owned-enterprises-in-the-global-economy/

^{151.} OECD. (2013). State-owned enterprises in the Middle East and North Africa: Engines of Development and Competitiveness? https://read.oecd-ilibrary.org/governance/state-owned-enterprises-in-the-middle-east-and-north-africa 9789264202979-en#page64

^{152.} IEA. (2021). Financing clean energy transitions in emerging and developing economies. https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies

Case study: Oman's national oil company OQ diversifies into alternative energy

Oman's state-owned energy company OQ has developed an Alternative Energy pillar and has established a dedicated sustainability team. The Alternative Energy Pillar is split into:

- Green molecules, including green hydrogen, green synthetic fuel, green ammonia and green methanol
- Green energy assets, including renewable energy, biofuels and carbon capture, utilisation and storage (CCUS)
- Energy efficiency and optimisation, which includes improvements to self-owned assets and process optimisation Despite being state-owned, OQ is an independent actor. In many ways, this reflects OECD best practice for state-owned enterprises by leaving decision-making to an independent board and leadership team. But as a wholly-owned state enterprise, OQ may be able to use its technical and financial capabilities to further maximise value for the country.

National governments in the Middle East may wish to use their ownership position in state-owned enterprises to direct investments towards sustainable investments. Like OQ, the region's national oil companies could expand their alternative energy pillars to strategically support national visions, economic diversification objectives and Sustainable Development Goals.

Source:

OQ Alternative Energy. (2021). https://oq.com/en/business-units/alternative-energy

OQ Sustainability Strategy. (2020). https://assets.oq.com/-/media/oq/files/oq-sustainability-report-2020-en.pdf?rev=023c-033ce3224851ae425b26848d47ca

Case Study: Saudi Aramco becomes part of an economic diversification programme in KSA¹⁵³

Saudi Aramco is a part of the new Shareek (Partner) programme in Saudi Arabia, under which key incumbent companies will advance economic diversification by funding new investment projects across the economy.

Saudi Aramco, has also initiated a USD 500 million fund (Saudi Aramco Energy Ventures) that will seek investment opportunities in a range of new energy technologies, including renewables; grid energy storage; carbon capture, utilisation and storage (CCUS); methane abatement; and industrial and transport efficiency.

^{153.} IEA. (2021). Financing clean energy transitions in emerging and developing economies. https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies

Annex 1:

Rationale for non-prioritisation of tools

The recommendations in the summary section target areas where action has been limited or absent, and where the benefit of taking action is strong. The rationale for not prioritising a tool or enabler is given below. Rationale tends to be because an activity is already being pursued, a barrier is not strong, or an opportunity is less commercially viable.

Enabling Environment

Disclosures - Bahrain, Egypt, Iraq, Kuwait, Qatar and Saudi Arabia have less foreign direct investment than Oman and UAE, making disclosures less of a priority to maintain uninterrupted access to foreign financial markets.

ESCOs - Saudi Arabia and the UAE already have ESCO markets. Bahrain, Kuwait, Oman and Qatar have the lowest electricity prices of the group, making ESCOs less economically viable. The complex lending and contracting requirements make ESCOs less viable in Iraq.

Green investment banks - The UAE's Masdar is considered a Green Investment Bank and the UAE hosts the Dubai Green Fund. Bahrain, Egypt, Iraq, Oman and Qatar do not aspire to be financial hubs and have less mature green finance markets, rendering a GIB a lower priority.

Central banks - The Central Bank of Egypt is already taking some climate-related actions. Central bank responses to COVID-19 were limited in Iraq, Oman, and Bahrain, suggesting less appetite for interventionalist policy.

Financial tools

Investment mechanisms (considering innovative loans and energy efficiency subsidies) - Innovative lending is already happening in Egypt. Such lending is considered a lower priority than other financial options in Iraq. For energy efficiency subsidies, the combination of low energy prices and high energy efficiency opportunity is less strong in counties not indicated.

Guarantees / risk insurance - Egypt has already drawing on guarantees and risk insurance. This instrument is less required in other, less risky countries.

International climate finance - Egypt has already capitalised on international climate finance. The others are less eligible.

Green bonds / sukuk - Egypt, Qatar, Saudi Arabia and UAE have all issued green bonds / sukuk. The instrument is less likely to be taken up in higher-risk Iraq.

Swaps - Only relevant for countries eligible for debt relief.

SWF - Kuwait, Qatar, UAE and Saudi Arabia are founding members of the One Planet Sovereign Wealth Funds Framework. The others have either small SWFs or no SWF.

SOE - Oman's OQ, Saudi's SABIC and Aramco and UAE's Adnoc are diversifying outside their core business.

Annex 2:

Barriers to energy efficiency markets addressed by Super ESCOs

Table 2: Super ESCOs overcome barriers to public sector energy efficiency

Barriers to energy efficiency implementation in the public sector	How a Super ESCO can address these barriers	
Public sector bodies lack of awareness and interest in energy efficiency	Super ESCOs can carry out marketing campaigns to raise awareness	
Budgeting policies of public agencies fail to incentivise energy saving improvements	Super ESCOs can develop incentive mechanisms for public sector bodies	
Public sector bodies face restrictive rules regarding capital expenditure vs. operating expenditure	Super ESCO offer project financing that overcomes this issue	
Lack of procurement regulations that would allow ESCOs and Energy Performance Contacting	A Super ESCO and its contracts can be designed specifically to address this challenge	
Limited ability of public sector bodies to engage in energy performance contracting	Super ESCO can develop standard contracts that align with public sector requirements	
Lack of capability or interest of financial institutions to fund energy efficiency projects	Super ESCO can arrange financing to implement projects and educate financial institutions about energy efficiency financing	
Private ESCOs are unwilling to invest in public sector projects	Super ESCO can have a mandate to focus on public sector project implementation	
Public agencies may be unfamiliar with the private sector for energy services	A government-supported Super ESCO may relieve some reluctance to engage with the private sector	

Super ESCOs can also overcome barriers facing ESCOs oriented towards private sector projects. Standard barriers and the ways in which Super ESCOs might overcome them are summarised by Limaye¹⁵⁴ in the table below.

Table 3: Super ESCOs overcome barriers to private sector energy efficiency

Barriers to energy efficiency implementation in the private sector	How a Super ESCOs can address these barriers	
Lack of trust in EVDs/ESCOs	Super ESCOs can boost confidence in the market by accrediting ESCOs and/or playing a supervisory role between the client and ESCO via validated M&V services	
Few ESCOs operating in the market may limit competition and harm business	Super ESCOs can encourage the creation of more ESCOs	
Private ESCOs may have limited access to capital and therefore limited resources for project development	Super ESCOs can help source and evaluate projects, helping to create a project pipeline at lower cost	
Private ESCOs may have limited access to competitively priced finance	Super ESCOs can provide capital and/or leverage funds from commercial financial institutions	
There may be few successful ESCO projects that can serve as credible demonstration projects for the ESCO concept	Super ESCOs can develop and disseminate case studies of successful ESCO projects	
Local financial institutions may not be familiar with energy efficiency project financing, or the ESCO concept	Super ESCOs can work with financial institutions to educate them about EE project financing and the ESCO concept	
ESCOs may have trouble getting loans from financial insti- tutions due to their limited assets	Super ESCOs can provide credit enhancement products to ESCOs	
Local financial institutions may have a perception that energy efficiency projects are risky	Super ESCOs can educate financial institutions about real risks, and provide risk management products	
Local financial institutions may lack the technical capacity to perform due diligence work on energy efficiency projects	Super ESCOs can support banks with project due diligence services	
Prohibitive project development costs due to limited familiarity with Energy Performance Contacting	Super ESCOs can develop standardised Energy Performance Contracts and agreements	
Energy end-users may not have the capacity to evaluate the potential benefits from energy efficiency projects	Super ESCOs can develop standardised formal measurement and verification tools and protocols to help make the case	

Annex 3:

Actions of Central Banks in response to COVID 19-

Central banks responded to COVID-19 with different degrees of intensity and intervention. The responses of central banks to COVID-19 were used as proxies for the degree to which they would be willing to respond when faced with climate change risk.

Central Bank	Actions
Central Bank of Iraq (CBIQ)	Reduced the reserve requirement from 15 to 13% Introduced a moratorium on interest and principal payments by SMEs through the directed lending initiative; offered 5 million Iraqi dinars (US\$4,200) of additional support and reduced of the interest rates on loans extended through the 'one trillion ID' scheme.
Central Bank of the United Arab Emirates (CBUAE)	Halved banks' required reserve requirements from 14 to 7%; introduced zero interest rate collateralised loans to banks (AED 50 billion). Reduced provisioning for SME loans by 15-25 and limited bank fees for SMEs. Allowed the use of banks' excess capital buffers (AED 50 billion); increased LVRs for first-time home buyers by 5 percentage points; raised the limit on banks' exposure to the real estate sector from to 30% of risk-weighted assets, subject to adequate provisioning; relaxed the net stable funding resources ratio until the end of 2021.
Central Bank of Egypt (CBEG)	Launched an EGP 20 billion stock-purchase programme Reduced the preferential interest rate from 10 to 8% on loans to tourism, industry, agriculture and construction sectors, as well as for housing for low-income and middle-class families; announced a housing initiative to provide low-cost financing for housing units; announced a new lending initiative with soft loans at zero-to-low interest rates from banks aimed at replacing old cars with natural gas-powered vehicles; announced a government guarantee of EGP 3 billion on low-interest loans by the central bank for the tourism industry soft loans; approved an EGP 100 billion guarantee to cover lending at preferential rates to the manufacturing, agriculture and contracting loans; made available loans with a two-year grace period for aviation sector firms; announced support for small projects harmed by COVID-19, especially in the industrial and labour-intensive sectors, through the availability of short-term loans of up to a year
Central Bank of Kuwait (CBK)	Instructed banks to provide SMEs affected by the shock with financing at maximum of 2.5% interest rate. Decreased the risk weights for SMEs in calculation of risk-weighted assets for determining capital adequacy; reduced banks' capital adequacy requirements; reduced the regulatory net stable funding ratio and liquidity core ratio, reduced the liquidity ratio and increased the LVR limits.
Saudi Central Bank	Announced a SAR 50 billion (US\$13.3 billion, 2% of GDP) package to support the private sector, particularly SMEs, by providing funding to banks.
Central Bank of Oman (CBO)	Reduced the capital conservation buffer and increased the lending ratio ceiling (net credit to deposit base).
Qatar Central Bank (QCB) ^{155,156}	Directed all banks to postpone loan payment instalments and obligations for six months, starting March 2020, without charging commission or delayed fees and with no adverse impact on credit rating, and extended the National Guarantee Programme to September 2021. Allocated a \$13.7 billion (9.3% of GDP) repurchase window at a zero percent interest rate to help manage the liquidity requirement for banks. Reduced the deposit and repo rate by a cumulative 100 basis points each to 1% and lowered the lending rate by a cumulative 175 bps to 2.5%.

^{155.} Global Finance. (2021). Looking Ahead: Qatar Central Bank Governor Abdulla bin Saoud Al-Thani. https://www.gfmag.com/magazine/december-2020/abdulla-bin-saoud-thani-qatar-central-bank-governor-qna-interview

^{156.} IMF. (2021). Policy Responses to COVID-19. https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Annex 4:

Sovereign Wealth Funds 157

Global Rank	Sovereign Wealth Fund Country Established	Country	Assets under Management (\$bn, US dollars)
3	Abu Dhabi Investment Authority	UAE	745
5	Kuwait Investment Authority	KUWAIT	562
7	Saudi Arabian Monetary Authority	SAUDI ARABIA	509.4
10	Qatar Investment Authority	QATAR	345
11	Public Investment Fund	SAUDI ARABIA	325
13	Investment Corporation of Dubai	UAE	251.57
14	Mubadala Investment Company	UAE	232.2
24	Emirates Investment Authority	UAE	45
27	Oman Investment Authority	OMAN	42.62
28	Dubai Holding	UAE	35.39
29	Dubai World	UAE	34.06
36	Bahrain Mumtalakat Holding Company	BAHRAIN	16.8
50	Gulf Investment Corporation	KUWAIT	3.54
66	Future Generations Fund	BAHRAIN	0.73
70	The Sovereign Fund of Egypt	EGYPT	0.28
		Total	3148.59

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This publication is part of a wider project on 'Recovering Better: A Green, Resilient and Just Recovery in the Middle East', supported by a grant from HSBC Middle East Ltd. Its contents are solely the responsibility of the authors and do not represent the official views of HSBC.

The views expressed in this report are those of the author(s) and do not necessarily reflect those of the trustees, officers and other staff of the Mohammed Bin Rashid School of Government (MBRSG) and its associated entities and initiatives.

How to cite: Beyer, J. & Bayoumi, M. (2022). Financing a Green Transition in the Middle East. Mohammed Bin Rashid School of Government, Dubai, United Arab Emirates, March 2022.

Acknowledgements

The author(s) wish to express personal appreciation to the following individuals for their input to the different stages of producing this working paper and for providing essential input and assistance into the report and its related materials:

Special thanks are extended for the perspectives and comments provided by: David Ramos and Ahmad Othman (HSBC), Engy Shibl (MBRSG), Hussein Abaza (ACED-CSDS), Ziad Abdel Samad (ANNG), Luiz Awazu Pereira da Silva Awazu (Bank for International Settlements), Laurent Lambert (Doha Institute), Tanzeed Alam (Earth Matters), Tomoo Machibam (ERM), Zuhal Argulplu Sanal and Hussein Anooshah (Frankfurt School), Winnie Wong (GGGI), Ikbar Daredia (Islamic Development Bank), Ahmed Badr and Costanza Strinati (IRENA), Simon Dikau and Hugh Miller (London School of Economics), Mari Luomi (MBRSG), Jessica Robinson (Moxie Future), Bernardo Bortolotti (NYUAD), Charlene Watson (Overseas Development Institute), Nina Chitaia, Sara Sultan and Fianna Jurdant (OECD), Chantal Naidoo (Rabia Transitions Initiative), Souraya Zein (UN ESCWA), Arsalan Ni (UNDP), Fatih Yilmaz, and others who preferred not to be acknowledged.

In partnership with



Gratitude is extended to HSBC for funding this research. The sponsor had no role in study implementation, data collection, data analysis, data interpretation or writing of the report. There are no known disclosures or conflicts of interest, and all ethical standards of the institutions were followed.

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