CENTER FOR GLOBAL DEVELOPMENT

MENA and the Global Energy Conundrum

RABAH AREZKI · ADNAN MAZAREI

Abstract

The Middle East and North Africa (MENA) is addicted to fossil fuels but so is the rest of the world economy. Solutions to the energy transition have thus to be found in a coordinated global shift in both the supply and demand for fossil fuels and clean(er) energy, where multilateral institutions can play an important role. These institutions could help bolster international technology transfers to MENA, as well as scale up investment and trade in clean energy to facilitate the global energy transition. Given the potential in MENA for solar power, the region could remain a global hub, this time for clean energy.

POLICY PAPER 283 • JANUARY 2023

MENA and the Global Energy Conundrum

Rabah Arezki
Harvard Kennedy School

Adnan Mazarei
Peterson Institute for International Economics

Rabah Arezki is a senior fellow at the Harvard Kennedy School. Previously he was chief economist and vice president at the African Development Bank, chief economist at the World Bank's MENA region, and chief of the Commodities Unit at the International Monetary Fund.

Adnan Mazarei is a nonresident senior fellow at the Peterson Institute for International Economics. Previously he was a deputy director at the Middle East and Central Asia Department of the International Monetary Fund. Much of his work on this paper was done when he was academic visitor, St. Antony's College, Oxford University.

The authors are grateful to, Steven Fries, Victoria Perry, Mark Plant, Nasser Saidi, and two anonymous referees for discussions and comments.

Rabah Arezki and Adnan Mazarei. 2023. "MENA and the Global Energy Conundrum." CGD Policy Paper 283. Washington, DC: Center for Global Development. https://www.cgdev.org/publication/mena-and-global-energy-conundrum

CENTER FOR GLOBAL DEVELOPMENT
2055 L Street, NW Fifth Floor
Washington, DC 20036

1 Abbey Gardens
Great College Street
London
SW1P 3SE

www.cgdev.org

Contents

Preface 1

I. Introduction 2

II. The setting 4

MENA countries have different energy resource endowments 4

MENA may be amid its last oil price super-cycle 6

The energy transition will inevitably leave MENA with stranded hydrocarbon reserves 7

Fuel subsidy reform as a political bombshell 8

MENA is slow in realizing its considerable potential in renewable energy 10

Energy transition will require large financing 12

III. Needed: A new mode of governance 13

IV. The role of multilateral institutions 13

V. Conclusions 16

References 17

List of Figures

1. The oil price super cycle 6
2. Average subsidization rate in MENA 8
3. Total energy subsidies as a share of GDP 9
4. Potential for solar energy 11

Preface

The Middle East and North African (MENA) region of the world has apparently suffered less than other regions from the economic fallout of the Russian invasion of Ukraine. Higher oil and gas prices have provided a cushion to the energy exporters and energy importers have, at the surface, weathered the economic storm relatively well. But as time goes on, this façade of regional well-being is bound to erode as energy prices moderate and the MENA countries face up to the fact that over the next few decades the world will turn away from fossil-fuel-based energy. And each country in the region will also have to chart its own path to a sustainable future, both economically and socially.

In this paper, Rabah Arezki and Adnan Mazarei take a deep look a region with some deep-seated challenges that will result in fundamental changes to each country's social and economic structures, whether by conscious design or left to a natural evolution. They argue that the international financial institutions can and must play a role in helping the MENA countries channel change in a positive direction, for the benefit of the people of the MENA region and for the global economy.

Mark Plant
Senior Fellow
Center for Global Development

I. Introduction

The 28th Conference of Parties to the UN Framework Convention on Climate Change (COP28) scheduled for late 2023 will be hosted by the United Arab Emirates (UAE), the sixth largest oil exporter in the world.[1] This will put a spotlight on the challenges that countries in the Middle East and North Africa region (MENA) face in their own and in the world's transition from fossil fuels to green energy. Countries in the region face different circumstances not least depending on whether they are oil importers or exporters. And the gap in income per capita between the richest and poorest country in the region is extreme.[2]

Countries in the region need to address—to varying degrees—their economic and fiscal dependence on oil and gas, their pervasive fuel subsidies, and their risks of being left with stranded hydrocarbon assets. They also need to take advantage of non-carbon sources of energy. We argue that an energy transition in MENA countries will not only require significant financing, but also reforms to their governance and regulatory frameworks, the latter especially to allow a private sector at arm's length from political elites to play a significant role. The energy transition presents an opportunity to change the social contract prevailing in MENA. Multilateral institutions can play an important part in this transition by providing financing, promoting reforms that stimulate more genuine private sector participation, and fostering cooperation between MENA and the rest of the world economy. This paper explores how MENA should tackle the complexity of the energy transition and how multilateral institutions can support the region.

The discussions at COP27 show that much needs to be done globally to accelerate the energy transition. MENA is at the heart of that transition. The region is home to the largest and cheapest-to-extract reserves of fossil fuels in the world, which are at risk of being stranded (McGlade and Ekins 2015). Moreover, it is suffering from climate change, including through dwindling water supplies that are igniting tensions both internally and across borders.[3] The region needs, therefore, to accelerate its energy transition. Yet, because of its large fuel reserves and the low costs of extracting them, MENA will likely be the last region to give up the production of fossil fuels: the region is addicted to fossil fuel revenues stemming from exports. At the same time, demand for fossil fuels is unabated. The world economy is also addicted to fossil fuel on the consumption side. Procrastination among large emitters to decisively transition away from fossil fuels creates a conundrum for them as well as for the MENA countries. This conundrum is intensified by the call to rescue European economies with greater oil and gas supplies to mitigate the consequences of the war in Ukraine. The scope for

1 According to the Observatory for Economic Complexity, the UAE exported 6.57 percent of global export of crude oil in 2020. See hyperlink to the data.

2 According to World Bank data, the richest country (Qatar) has a GDP per capita that was about 94 times higher than that of the poorest country (Yemen) in the year 2018. This calculation uses data on GDP per capita in current US dollars. When using GDP in current international dollars in purchasing power parity, the ratio is about 44 times for 2013, the year with latest available data.

3 See World Bank (2018). Water problems, in addition to other consequences, complicate energy transition because water desalination is energy intensive.

cooperation between MENA and the rest of the world is large considering the potential for MENA to continue power the world economy with clean energy.

While countries in the MENA region are heterogenous, all will need to transition to more sustainable and equitable energy systems, both as suppliers of energy and as consumers. Energy transition will involve fundamental changes in energy regulation, pricing, subsidization, and delivery mechanisms, which are deeply rooted in the socio-economic fabric of the MENA countries, both oil exporters and importers. Macroeconomic and financial sector policies will also need to change to accommodate the risks from climate change and energy transition. For most countries, especially the oil importers, this will involve investment in new energy production and distribution structures, which require significant external financing. For oil exporters, especially those with smaller populations, the challenge will not be as much securing the financing of new structures but ensuring the quality and effectiveness of their spending on economic diversification and energy transition; these countries face the prospect of large, stranded hydrocarbon assets, which will decrease their wealth and income abruptly.

The transition away from fossil fuels is inescapable and the MENA countries should get on with it to facilitate an orderly transformation. COP28 will be an important opportunity to set out MENA's path to such a transition. But countries in the region cannot do so alone. International support is very much needed, especially to ensure that the transition is successful given MENA's role as a global energy provider. The multilateral institutions such as the World Bank and the International Monetary Fund, and also the Arab Fund for Economic and Social Development, the African Development Bank, the Islamic Development Bank, and all the others active in the region, could play an important role in facilitating the energy transition and the necessary supporting reforms. These institutions must champion more forcefully the climate change agenda and help integrate MENA's energy transition into that of the global economy to ensure the transition is orderly at the regional and global levels. They will need to help MENA countries develop energy transition strategies that include not only investment planning and financing but helping to figure out how to restructure the social contract within each country in a way that does not ignite local and regional tensions. Thus, they will need to integrate the financial, technical, and social aspects of their work in a way that responds to country and regional needs.

To do so, the multilateral institutions, mainly the World Bank, should take on the role of climate surveillance in collaboration with the United Nations Framework Convention on Climate Change (UNFCCC) to ensure that both consumers and producers adhere to their climate commitments to nationally determined contributions made at the COP21.[4] These institutions should ensure that MENA countries' spending plans are consistent with their commitments and that they have maximal efficiency at the allocative and technical levels. Specifically, they should develop standards for green projects and ensure full disclosure and transparency.

4 On the renewed global role of the World Bank Group for climate action see Abecassis, Arezki and Landau (2022) and Arezki and Le Houerou (2022).

A particular challenge in MENA countries is the prevalence of state-owned enterprises (SOEs) in the extractive, electricity, and transport sectors. The multinational organizations must step up their efforts to promote the transformation of the governance of these enterprises in terms of disclosure and adherence to climate commitments. The transfer of green technology to these enterprises could also be encouraged by initial public offerings (IPOs) akin to those in Latin America and Asia that have helped boost innovation and disclosure standards and transparency.[5] In addition, these institutions should step up their efforts to promote regulatory frameworks that promote entry and fair competition, including independent regulators in the energy and transport sectors—such frameworks are in short supply in MENA (Arezki et al. 2019). International organizations have been too quiet about these elements of market structure.

The multilateral institutions should also expand their lending capacity, including by taking on more risk on their balance sheets. One way to achieve this would be by scaling up guarantees to catalyze the private sector. Eventually, the development of regional and global carbon markets could also help better integrate the MENA transition in the global one. And perhaps even more importantly, the multilateral institutions must ensure that the energy transition serves as a tool for economic and social empowerment of people in MENA. They can do so by maximizing, when reasonable, the local content of investment and promoting decentralized renewable power where individuals also become producers and embrace markets—which have for too long been perceived as benefiting cronies in the region. The promotion of better functioning markets starting with clean energy markets will help give MENA and the world a fresh start.

The remainder of this paper is organized as follows. In Section II we discuss the setting for MENA transition issues by discussing some of the key economic and social features of MENA that are pertinent to energy transition. In Section III we argue that for energy transition to succeed, some aspects of the governance and social contracts in the region need to be reconsidered. In Section IV we discuss the ways in which multilateral institutions should support energy transition in MENA. Section V provides some concluding thoughts.

II. The setting

MENA countries have different energy resource endowments

Reserves of fossil fuels are not distributed evenly across the MENA countries. Some countries are (net) exporters and others are (net) importers of fossil fuels. Among the exporters, there are countries with small populations, such as the Gulf Cooperation Council (GCC) countries, and more populous ones,

5 IPOs are typically associated with a significant rise in the number of patents filed (Acharya et al. 2015). Interestingly, R&D significantly increased in the oil sectors of China and Brazil after IPOs by PetroChina and Petrobras. According to Reuters, Saudi Aramco is pushing ahead with plans for an initial public offering of its energy-trading business and is targeting a listing in Riyadh for the end of the year or early 2023.

such as Algeria, Iran, Libya, and Sudan.[6] Among the oil importers, there are those that have recently discovered oil and gas reserves, such as Lebanon, and those that are likely to remain importers, such as Jordan and Morocco. Furthermore, the countries that are oil and natural gas exporters have sizable positive spillovers to the rest of the region in the form of aid, foreign direct investment, and remittances. Their fortunes are connected and the path of energy transition in the oil exporters will have important implications for the oil importers. Oil and natural gas importers will need support to navigate the macroeconomic consequences of the reduction in remittances or aid from oil and gas exporters.

The transition will affect countries of the region in different ways depending on their degree of dependence on fossil fuels. The oil and natural gas importers will not only need to restructure parts of their economies, but they will also need to borrow externally to finance new energy structures and navigate the macroeconomic consequences of retiring structures that use fossil fuels. For these countries, the challenge will be one of financing and transitioning away from oil, gas, and sometimes coal-centered energy and transport systems.[7] At the same time, they will need to restructure their public government spending by rationalizing consumer and producer subsidies. Fuel subsidies should shift toward the green energy sector in a way that empowers the citizenry to act as customers and producers and encourages economic transformation.

The oil exporters, especially the rich and non-populous ones, will be able to finance the needed investments from their own resources. The challenges in the short to medium run will be to ramp up investment in energy transition and economic diversification while ensuring the quality of that spending, including by containing corruption. Oil exporters will need to undertake major structural transformations to diversify their economies and public finances. Those that fail face the risk of stranded oil and gas reserve assets, which could have dramatic consequences for the oil exporters, many of which have been struggling in diversifying their economies (Mazarei 2019). MENA oil exporters also face the prospect of increasingly losing their geopolitical significance as the energy transition moves forward.[8]

The energy transition could eventually lower the disparities among the MENA countries in terms of income levels in that, given their solar, wind, and hydro power potential, most countries in MENA have the potential to become regional and global renewables powerhouses—though for that they will have to change their energy systems, including eliminating long-standing energy subsidies. This is also an opportunity to make the MENA countries more interconnected in energy and otherwise. The region is currently one of the least integrated in the world. While the opportunity to develop trade in goods and services such as electricity or telecom is large, the energy transition could be an opportunity to build a narrow but deeper foundation for integration.

6 The GCC consists of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

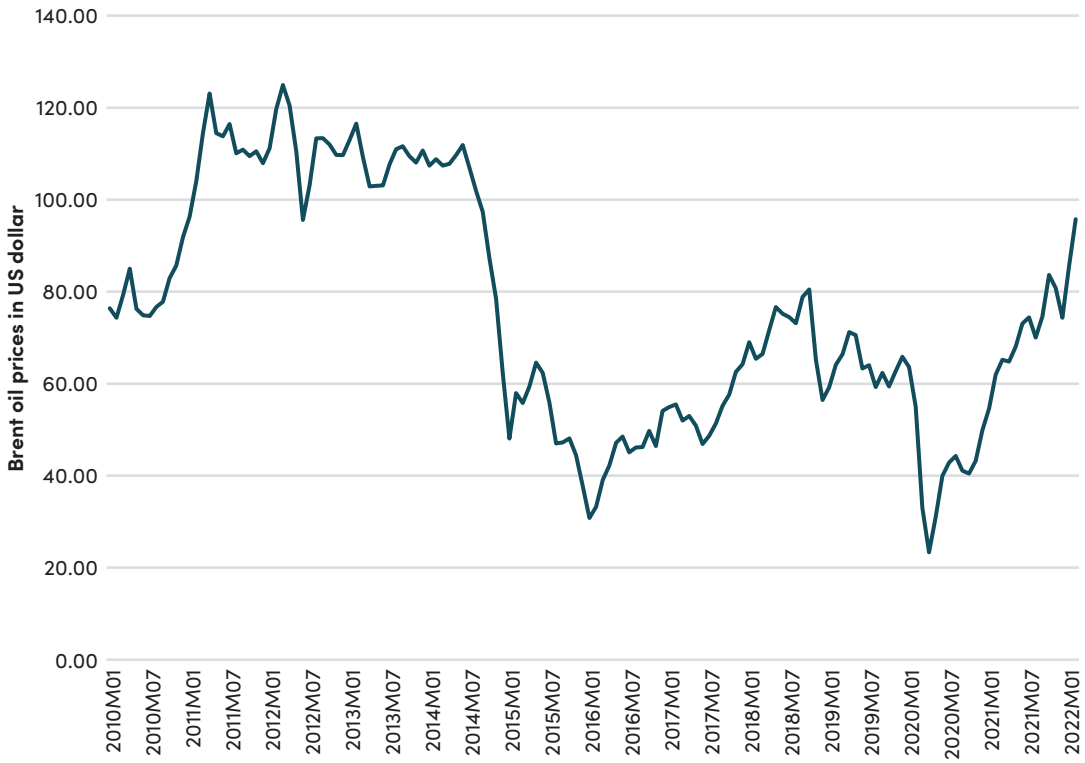
7 Financing new projects will be constrained by the high levels of public debt that prevail in some the oil and gas importers, especially Egypt, Jordan, and Lebanon.

8 This decline in geopolitical significance, which began with the rise of shale oil, is likely to intensify. Geopolitical power is likely to shift in part to countries controlling the production and processing of the minerals critical to green energy. See Leruth et al. (2022).

MENA may be amid its last oil price super-cycle

The COVID-19 pandemic and a price war sent petroleum prices tumbling in 2020, but they are again on the rise (Figure 1). A new oil price super cycle—an extended period during which prices exceed their long-term trend—seems to be in the making, driven by pervasive supply shortages and demand growth. The supply shortages stem from the lack of investment since the 2014 collapse in oil prices and, more recently, reduced investment in (marginal) shale oil production and the investment squeeze at the height of the pandemic. Supply problems have also been exacerbated by the war in Ukraine and dislocations in supply from Russia. Demand growth has been triggered by a recovery in China and India, a large stimulus package in United States, and global optimism about vaccines.

FIGURE 1. The oil price super cycle



Source: World Bank.

The current oil price super cycle may, however, be the last one. Europe's race to diversify away from Russian oil and gas imports presents an opportunity for MENA. Europe has been seeking new partnerships with several MENA oil and gas exporters to secure more resources. These new partnerships, however, may prove difficult to establish. The history of MENA is littered with episodes of nationalization of the oil sector following independence. MENA countries have long resisted privatization of SOEs for fear of falling back under foreign control. Now over 60 years later, with the end of the oil era looming, the MENA countries should welcome more investment from foreign oil companies in fossil fuels and reduce the exposure to the risk of stranded oil and natural gas reserves.

Of course, investments to maintain oil and gas production, as well as movements downstream in fossil fuels inside or outside the region,[9] will be helpful only for several years, as the tide of a green transition will likely eventually dominate. And doubling down on investment in the oil sector, whether upstream or downstream, at this juncture will further expose MENA to the risk of stranded capital in addition to the risk of stranded oil and gas reserves. The uncertainty regarding energy policy in large oil-consumer economies blurs the horizon when oil will eventually become stranded.

The energy transition will inevitably leave MENA with stranded hydrocarbon reserves

The COP21 agreement to keep global warming below 2 degrees Celsius, and technological innovation such as declining cost of renewable energy sources and electric cars, have accelerated the global energy transition away from oil and more generally fossil fuels. That means that many fossil fuel reserves will remain underground, unexploited. Indeed, to keep mean global surface temperature rise below 2 degrees Celsius, only 300 to 400 gigatons of carbon can still be burned—a third of the reserves of major private oil and gas companies. To abide by international commitments to limit global warming, a third of oil, half of gas, and 80 percent of coal reserves should be kept in the ground forever (McGlade and Ekins 2015).[10] The energy transition has only gained greater ambition with COP26 and the goal to keep global warming below 1.5 degrees Celsius.

In the Middle East, reserves are three times larger than their carbon budget (the maximum amount of carbon dioxide emissions that would limit global warming to, say, 2 degrees Celsius). In other words, 260 billion barrels of oil in the Middle East cannot be burned without surpassing the carbon budget. In addition to stranded reserves, the structures and capital used in extraction and in exploitation of fossil fuel can become stranded. One implication of the stranding of assets is that it could lead to a race to burn the last ton of carbon. That could, in turn, lead to the so-called green paradox, whereby regulation aiming to limit carbon emissions ends up raising them at least in the short run (van der Ploeg 2011). Some commentators have argued that the collapse in oil prices and the attempt by major oil exporters with low marginal cost of production to crowd out higher marginal cost producers could delay the energy transition (Arezki and Obstfeld 2015, Aghion et al. 2016).

The end of the oil era, therefore, makes economic transformation imperative. Oil-rich countries must diversify to become resilient to the changes in energy markets. An appropriate governance framework to manage proceeds from oil in good and bad times has always been important to fostering economic diversification. But with the energy transition, radical shifts in governance in oil-dependent economies are now urgent. Dubai, for example, facing the depletion of its oil reserves, has transformed itself into a

9 The Saudi investment in petrochemicals in South Korea is an example of such downstream investments abroad. Such investments also imply that oil producers will not only face the risk of stranded assets at home, but also of the stranding of some their capital abroad once energy transitions accelerates.

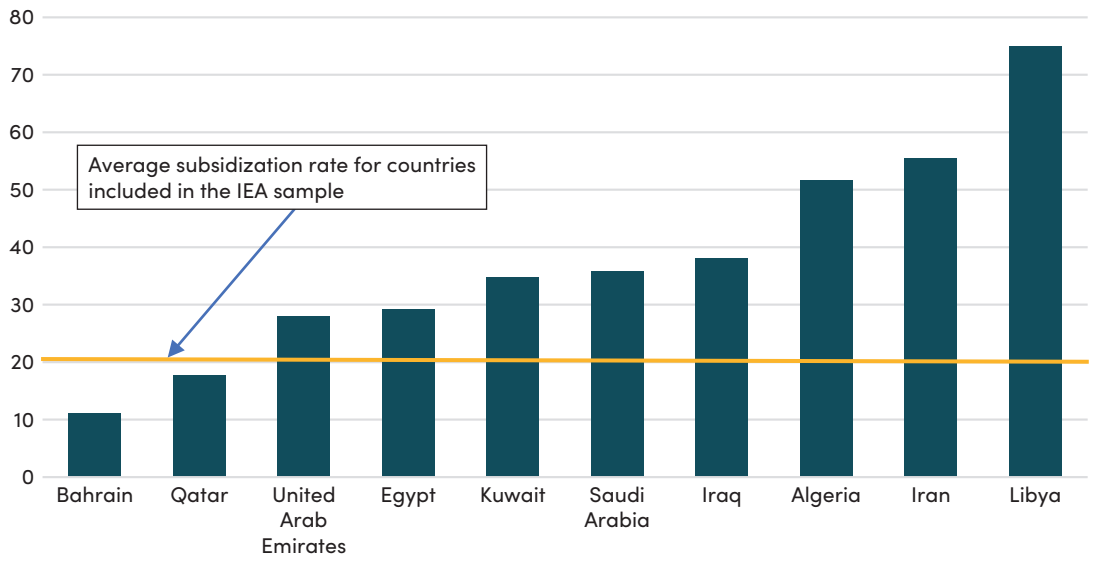
10 This would mean keeping unburned one-third of oil reserves in Canada and the Arctic, 50 percent of gas and 80 percent of coal (mainly China, Russia, and the U.S.).

global trade hub. Countries and businesses reliant on these markets must formulate policies to address this transformation, including the development of renewable energy. To jettison their high economic reliance on oil and gas economies, which has led to low productivity and waste, oil-rich economies need reforms that reduce the obstacles to innovation and entrepreneurship. Reforming corporate governance and legal systems, promoting markets that have no barriers to entry and exit, and ending favoritism for both SOEs and politically connected private firms will help attract investment and change attitudes toward innovation (Arezki 2021a).

Fuel subsidy reform as a political bombshell

Energy transition is complicated by pervasive energy subsidies. Energy consumption in MENA is heavily subsidized. These subsidies have created a range of distortions, including wasteful consumption, misallocation, and harmful effects on the environment from local air pollution and traffic congestion (Coady et al. 2019). Subsidy rates for fuel, electricity, natural gas, and coal are especially high—among the highest in the world (Figure 2).[11] Rates can be higher than 50 percent in Algeria, Iran, and Libya. In addition to environmental damages, energy subsidies are a heavy drain on the budget. The fiscal costs of subsidies in Iran, Algeria, and Libya are between 4 percent and 15 percent of GDP (Figure 3).

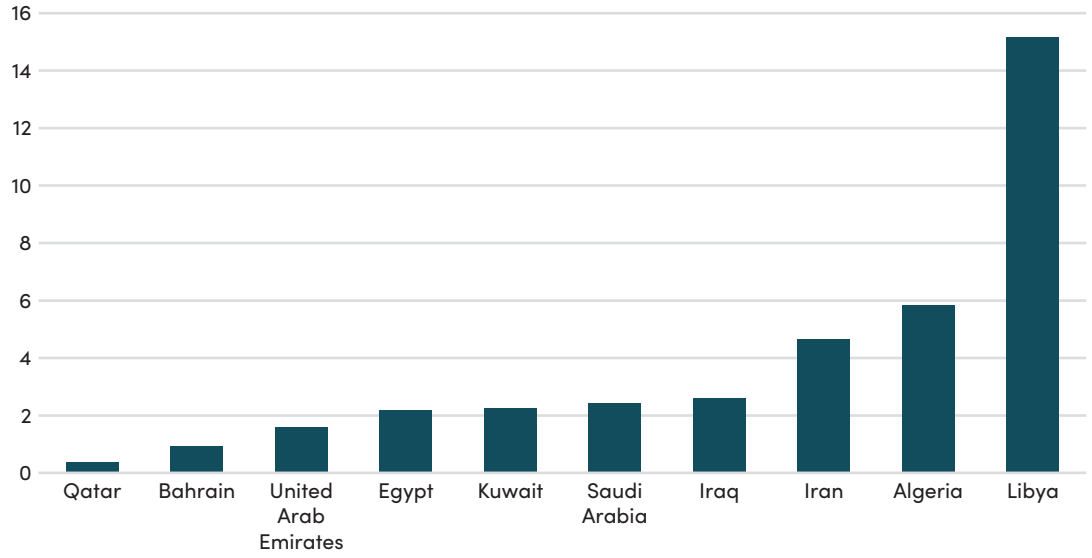
FIGURE 2. Average subsidization rate in MENA



Source: International Energy Agency (IEA).
Note: Data are in percent as of 2020. 31 countries are included in the comparator.

11 Outside the MENA countries, the 31 countries included in the International Energy Agency (IEA) sample are Angola, Argentina, Azerbaijan, Bangladesh, Bolivia, Brunei, China, Colombia, Ecuador, El Salvador, Gabon, Ghana, India, Indonesia, Kazakhstan, Korea, Malaysia, Mexico, Nigeria, Pakistan, Russia, South Africa, Sri Lanka, Chinese Taipei, Thailand, Trinidad and Tobago, Turkmenistan, Ukraine, Uzbekistan, Venezuela, and Vietnam. The average subsidization rate in these comparator countries is 20 percent for the year 2020.

FIGURE 3. Total energy subsidies as a share of GDP



Source: International Energy Agency.

MENA needs a drastic reform of energy subsidies, but there has been considerable opposition to such changes. At the core of this opposition is the central role of subsidies in the unspoken social contract. That social contract—in which citizens cede their voice and tolerate low government accountability in exchange for subsidies and public sector jobs—is already frayed by dissatisfied young people. The rising aspirations of an overwhelmingly educated and young population in MENA contrast with the poor performance of governments in modernizing their economies and creating jobs, thus creating a key source of opposition to subsidy reform. This distrust is closely related to the inability of MENA governments to deliver quality and affordable public services, as well as the (accurate) perception of official corruption that enables a crony-riddled private sector. For example, in many countries in MENA, private and mostly informal operators provide most transportation services. Private operators have stepped in where the state has failed to deliver; in many ways the fuel subsidy is a transfer-in-kind to compensate non-state operators for doing the state's job. Removal of a fuel subsidy is perceived by the numerous small operators as a transfer from their pockets to those of an untrustworthy state.

Consequently, it is not uncommon for subsidy reforms to be abandoned when governments are faced with street protests or when tensions build when domestic energy prices increase. This is true even at times when other social needs require new spending on other priority items. For example, many countries are still battling the COVID-19 pandemic, and few, if any, MENA countries have considered energy subsidy reforms to create fiscal space. Algeria, for example, approved a 9 percent cut in public spending in 2020, but kept subsidy policy unchanged to avoid social unrest (Reuters 2020).[12]

12 Evidence from Indonesia and Nigeria indicates that perception of corruption in the implementation of targeted transfer programs increases public resistance to fuel subsidy reform among the poor citizens who consume the least fuel and who stand to lose the most from any reductions in targeted programs (Kyle 2018 and McCulloch et al. 2021).

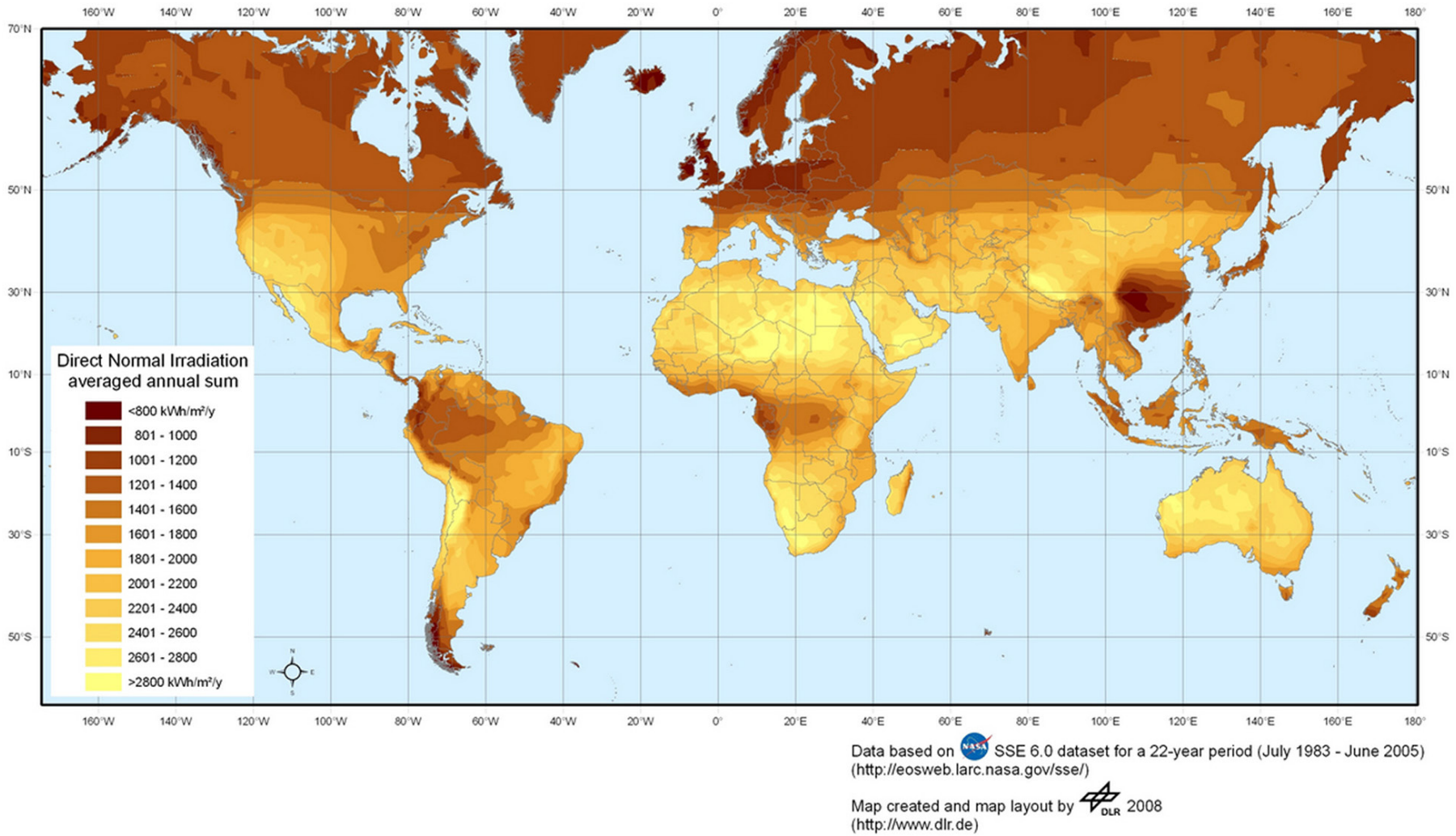
Distrust of government is, therefore, an important impediment to reforming energy subsidies, even when conditional cash transfers programs compensate losers. According to the Arab Barometer, distrust in government in the region is high: 25 percent of the population has a positive view of government performance, while 84 percent believes there is corruption in state institutions and only 41 percent believes the government is addressing the issue. Fuel subsidies should shift toward green energy production. The ability to address the energy transition and the relevant trade-offs are different between GCC and non-GCC countries. Phasing out subsides is somewhat easier in the GCC countries which can more easily compensate the losers. Yet the GCC countries should ensure that the compensation schemes also encourage more energy efficiency and promote clean energy production. The potential for the green energy transition to provide economic transformation and private sector development can be large for all countries in the region.

MENA is slow in realizing its considerable potential in renewable energy

According to the US National Aeronautics and Space Administration, solar radiation is highest in the Middle East and North Africa (Figure 4). The technological changes driving the transition from fossil fuels to renewable sources present sizable economic opportunities for MENA, especially as the costs of renewables such as solar and wind are declining. Governments in MENA should tap the region's vast pool of renewable resources to accelerate the transformation of their energy systems, which would have the doubly beneficial effect of reducing greenhouse emissions while keeping energy costs from rising. In isolated and lagging regions, promoting decentralized energy systems could also help economically empower local communities.

Several MENA economies already are investing heavily in renewables. Both the United Arab Emirates, an oil- exporting country, and Morocco, an oil importer, are engaged in ambitious efforts to develop renewable energy resources. The United Arab Emirates wants 30 percent of the energy used to produce electrical power to come from clean sources by 2030. Morocco, the host of the 2016 United Nations Conference on Climate Change, wants 52 percent of its installed generating capacity powered by renewables by 2030. Morocco has started to build a massive solar power plant in the Sahara Desert that is expected to have a capacity of two gigawatts, which would make it the world's largest solar power production facility.

FIGURE 4. Potential for solar energy



But overall, the installation of new renewable capacity in MENA lags the rest of the world, although growth in the region's use of renewable energy is among the fastest in the world, due to the small base (IRENA 2020). In a world in which renewables accounted for at least 70 percent of total capacity expansion in 2019, renewables accounted for only 26 percent of net additions in the Middle East. Energy efficiency is a low-hanging fruit especially for GCC countries. Authorities should promote a campaign to improve energy efficiencies on top of pricing reform.

MENA countries should also promote deconcentrated solar power, such as rooftop solar power, where appropriate. This would allow for a shift from inefficient and harmful fuel subsidies toward subsidies including in the form of tax credits. Consumers would then act as producers, which would allow for more acceptance of market forces—as a higher price of electricity could also be beneficial for those reselling solar electricity to the grid.

Energy transition will require large financing

Transforming energy systems in the MENA region will require large investments. Yilmaz et al. (2022) place MENA's sustainable energy investment gap—the gap between current investment in clean(er) energy and what is needed to meet world demand while limiting the impact on climate change—as the second largest after sub-Saharan Africa. The MENA region needs to increase by over tenfold its investment in the power sector to close the investment gap—to meet the region electricity needs while limiting greenhouse emissions (GHGs)—that is around $70 billion annually (Yilmaz et al. 2021). Luckily there is a growing interest in climate-friendly investments in the global financial community. To tap into that interest, MENA economies must tackle longstanding issues that constrain the ability of their energy systems to absorb investment (Arezki 2021b).

Sovereign borrowing cannot be the exclusive driver of climate-friendly investment; several countries in the region, especially Egypt, Jordan, and Tunisia already have very high public debt levels.[13] The private sector, both domestic and foreign, should also be a conduit of climate finance for the region. But private investors face numerous barriers. For example, the traditionally high financing costs and tights caps that preclude companies from adjusting energy tariffs to cover those costs make it difficult to develop purchasing power agreements (PPAs) that are bankable—that is, PPAs that are deemed viable and for which operators can receive financing. Private investment in electricity sectors would also be encouraged by developing decarbonized transportation assets, including railways and other mass transit options, which will also ensure demand. Private sector investment, however, will also require changes to the social contracts in MENA countries, especially to allow a level playing field, reduction in corruption, and cronyism.

13 Moreover, the debt tolerance of many countries will decline if one considers the harms to growth from potential climate events and the needed fiscal costs of addressing them. In other words, public debt sustainability would require lower government debt levels in the future.

III. Needed: A new mode of governance

The economic transformation that energy transition will entail, including overcoming resistance to fuel subsidy reforms, means that a new approach to reform and changes to the social contract in MENA countries is needed. Reform of consumer energy subsidies cannot be considered independently of the implicit producer subsidies—including those to inefficient SOEs—and the exclusive access many connected elites and cronies have to public contracts. MENA countries need to develop and articulate a broader vision of economic transformation aimed at creating a more genuine private sector and addressing economic problems both on the consumer and producer sides.

The transformation should also be complemented by a more effective social protection system that cushions individuals from bad economic shocks and poverty.[14] Social protection systems in MENA countries now are limited, inefficient, and fragmented (Jawad et al. 2019). Well-designed and well-implemented systems not only will make energy reform more widely accepted, but can also encourage more individual risk-taking, fostering entrepreneurship and sustainable private sector development.

Because the inability of many MENA governments to deliver reliable basic services such as electricity, and public transportation is at the heart of citizen distrust, it is essential that before embarking on subsidy reforms, authorities improve government performance and encourage competition in key sectors on which citizens depend.[15] If development of reliable government services precedes subsidy reform, consumers would be more likely to accept the higher tariffs that would result from reduced subsidies—including the higher fares required to make MENA's public transportation more efficient and more environmentally friendly.

IV. The role of multilateral institutions

Multilateral institutions such as the World Bank, the International Monetary Fund, the Arab Fund for Economic and Social Development, the African Development Bank, the Islamic Development Bank, and others active in the region could play an important role in supporting the energy transition and the necessary supportive reforms.[16] These institutions must further champion the agenda on climate change and help integrate MENA's energy transition into that of the global economy to ensure the transition is orderly at the regional and global levels.

14 See http://datatopics.worldbank.org/aspire/

15 Several economies in MENA are experiencing severe electricity crises. See https://www.washingtonpost.com/world/middle_east/middle-east-electricity-crisis/2021/07/23/d4dfd9f4-de74-11eb-a27f-8b294930e95b_story.html

16 The European Bank for Reconstruction and Development is also now active in North Africa and plays an increasing role.

The multilateral institutions have begun analyzing the impact of climate change and ways to address it.[17] For example, the IMF has improved its coverage of climate issues in its surveillance and policy work and launched a Resilience and Sustainability Trust (IMF 2022b) to help finance climate-related balance of payments problems. The World Bank has introduced Country Climate and Development Reports and is examining ways to expand its climate lending (World Bank 2021). Despite these gains, calls are growing for the multilateral institutions, especially the World Bank, to upgrade their work.[18]

Although the multilaterals have taken some important steps, they, together with the regional development banks, need to do much more on several fronts. The energy transition agenda is only one part of what development partners should accomplish. To assist not only with the energy transition but also with MENA countries' broader development objectives, the international institutions should ensure that the reform agenda is inclusive. The multilaterals could contribute in several ways:

1. **Help countries develop strategic frameworks to balance energy transition and economic development priorities.** The multilaterals should support countries in MENA to develop energy transition strategies. Specifically, the multilaterals should help countries develop a strategic framework which will help address financing issues and trade-offs including between fighting climate change and economic development priorities, as well as examine the scope for regional projects and coordination.[19]

   The multilaterals could play an important role in analyzing and advising MENA countries on the spillover effects of carbon pricing and carbon border adjustments in large oil and natural gas consumer markets. The multilaterals could also play an important role in supporting MENA countries with the issuance of green bonds and eventually develop global carbon markets where MENA could play a systemic role.

   Even in countries which do not need multilaterals to finance projects, multilaterals need to adapt their advice to ensure that their spending programs toward the energy transition are consistent with their climate commitments and that the quality of spending is high.

   Multilaterals need to size up and tailor their technical assistance to energy transition efforts in the MENA context. Importantly, the multilaterals should help create a framework to coordinate the efforts of individual MENA countries and the various international agencies involved in supporting those countries with energy transition. This would eventually support the development of regional and global carbon markets and could also help better integrate MENA's transition into the global transition. Without this, there is a considerable

17 See IMF (2020), IMF (2022a), Islamic Development Bank (2018), and World Bank (2021).
18 Some of the measures discussed below are also discussed by Fries (2022a and 2022b). Fries 2022b particularly emphasizes the role of multilateral development banks in encouraging low-carbon technologies.
19 See Abecassis et al. (2022) for a detailed discussions on the role of World Bank in promoting climate actions.

risk of duplication of efforts and wastage of the financing that the global community may be providing to support energy transition.

2. **Focus on issues related to market structure and regulation including in the energy and transport sectors in MENA.** The multilaterals need to refocus on addressing issues of market structure. SOEs or firms run by connected elites which dominate sectors such as electricity or transport benefit from corporate subsidies. This slows energy transition. The multilaterals should promote the independence of regulators to demonopolize the economy, and support regulators in promoting fair competition, whether the abuse originates from SOEs or dominant private entities. The multilaterals should also promote best practices in the separation between politics and business, a central issue for MENA countries whose corporate ownership structures remains blurry. Multilaterals also should encourage countries to be much more transparent and adhere to best practices for financial disclosure on the part of SOEs.
3. **Significantly increase the financing of projects and help mobilize private sector investments.** The World Bank, the European Development Bank, the African Development Bank, the Islamic Development Banks, and other development banks would need to step up their lending toward energy investment to help MENA fill the gap, including by catalyzing private sector investment.[20] To do so, these multilaterals need to modify their *lending facilities* to support MENA countries with the energy transition and to increase resilience against climate change. The IMF has already set up a Resilience and Sustainability Trust, and the World Bank has indicated its objective of raising its contribution to climate finance, especially for setting up green energy projects. That said, the amounts involved are still small and mechanisms to encourage private sector finance are not adequate to the task.

   The multilateral development banks could encourage financing through equity participation in private firms involved in energy transition and first loss guarantees. Moreover, the multilateral development banks are constrained by the size of their capital and their risk management policies. The World Bank, for example, is constrained by its desire to maintain its high credit rating and provisioning policies for loan guarantees. Arguably, given the large financing needs in developing countries for energy transition, those policies need to be relaxed as argued in a recent G20 independent review (G20 2022). The World Bank and other development banks should scale up their use of guarantees to catalyze private sector investment. The multilaterals should not just lend more, but also ensure these loans have transformational impact, including by promoting decentralized solar power and more generally developing feedback loops where citizens have more voice and leaders including at the local level are accountable.

20 See Arezki et al. (2017) for a discussion on the role of multilateral development banks in originating and distributing infrastructure projects to tap into investment from institutional investors, including sovereign wealth funds.

V. Conclusions

The energy transition has risen in the policy agenda of MENA countries. While this was evidenced in the recent COP27 discussions, those discussions also underscored the difficult road ahead, with specific challenges for MENA, especially given its role as a fossil fuel exporting region. That said, navigating the shifting global environment for MENA should not overshadow the importance of building cohesive societies and supportive institutions. Many MENA countries have embarked on developing solutions to the energy transition and should be praised for this. However, longstanding issues related to the lack of legitimacy and credibility of the state have crippled the social compact of most, if not all, MENA countries. The respite provided by the oil price super cycle will test whether governments in the MENA region put the oil bonanza to good use. The MENA track record in diversifying its economy is poor. It is high time for MENA to empower its youth by igniting a more dynamic and genuine private sector.

Addressing domestic risks in a sustainable and peaceful manner is the measure of success for MENA. The year 2011 marked the start of the Arab Spring, which raised hope for democratization in the region but ended up with a resurgence of authoritarian regimes. The 2011 protests were followed by another large-scale wave of protests in 2019, which has been largely quelled by the authorities, often in a brutal manner. Neither the last oil super cycle nor the geopolitical boon that oil exporters enjoy with the Russian invasion of Ukraine will address the issues facing the disgruntled population, especially the youth, who too often vote with their feet, including by perilous crossings of the Mediterranean. MENA countries should rebalance their priorities to put their populations at the center of their considerations by committing to inclusive institutions giving the populations voice and ensuring accountability of leaders.

Multilateral institutions can play an important role by ensuring MENA's energy transition is articulated in the global transition. They should do so while not forgetting the need to fight poverty and promote inclusiveness. These institutions should lift their lending capacity by scaling up their lending and raising the level of guarantees they provide to catalyze the private sector. Eventually, the development of regional and global carbon markets could also help better integrate the MENA transition into the global one. Importantly, multilateral institutions must ensure that the energy transition also serves as a tool for economic and social empowerment of the people in MENA. They can do so by promoting decentralized renewable power where individuals also become producers. The promotion of better-functioning markets starting with clean energy markets will help give MENA and the world a fresh start.

References

Abecassis Adrien, Arezki, Rabah, and Jean-Pierre Landau. 2022. "Finance, Climate, and the World Bank." Sciences Po, Policy Brief: https://www.sciencespo.fr/psia/sovereign-debt/wp-content/uploads/2022/11/Policy-Brief-Climate.pdf

Acharya, Viral V and Xu, Zhaoxia, 2015. "Financial Dependence and Innovation: The Case of Public versus Private Firms." April 7. *Journal of Financial Economics*.

Aghion, Philippe, Antoine Dechezlepretre, David Hemous, Ralf Martin, and John Van Reenen. 2016. "Carbon Taxes, Path Dependency, and Directed Technological Change: Evidence from the Auto Industry." *Journal of Political Economy*, University of Chicago Press, vol. 124(1).

Arezki Rabah, Andrea Barone, Klaus Decker, Dag Detter, Rachel Yuting Fan, Ha Nguyen, Graciela Murciego and Lemma Senbet. 2019. "Reaching New Heights: Promoting Fair Competition in the Middle East and North Africa." World Bank. https://doi.org/10.1596/978-1-4648-1504-1

Arezki, Rabah. 2021a. "The Economics of Sustainability: Causes and Consequences of Energy Market Transformation." *Economics of Energy & Environmental Policy*, International Association for Energy Economics, vol. 0(2).

Arezki, Rabah. 2021b. "Climate finance for Africa requires overcoming bottlenecks in domestic capacity." *Nature Climate Change*, Nature, vol. 11(11), pages 888–888, November.

Arezki, Rabah, Alou Adesse Dama, Simeon Djankov, and Ha Minh Nguyen. 2020. "Contagious Protests." Policy Research Working Paper Series 9321, The World Bank.

Arezki, Rabah and Maurice Obstfeld. 2015. "The price of oil and the price of carbon." *iMFdirect*, December 2. & *VoxEU.org*, 3 December.

Arezki, Rabah, Patrick Bolton, Sanjay Peters, Frédéric Samama, and Joseph Stiglitz. 2017. "From global savings glut to financing infrastructure." *Economic Policy*. CEPR; CES; MSH, vol. 32(90), pages 221–261.

Arezki Rabah. 2022. "How to Slow Climate Change While Fighting Poverty." *Foreign Policy*, November 7. https://foreignpolicy.com/2022/11/07/cop27-green-aid-slow-climate-change-while-fighting-poverty/

Arezki, Rabah and Philippe Le Houerou. 2022. The World Bank should become the IMF of climate. DEVEX, July 21. https://www.devex.com/news/opinion-the-world-bank-should-becomethe-imf-of-climate-103644

Coady, David, Ian Parry, Nghia-Piotr Le, and Baoping Shang. 2019. "Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates", *IMF Working Paper*, May, Vol. 2019(089).

El-Katiri, Laura and Bassam Fattouh. 2017. "A Brief Political Economy of Energy Subsidies in the Middle East and North Africa," In Luciani, Giacomo (Ed.) Combining Economic and Political Development: The Experience of MENA. International Energy Agency (2019). *World Energy Outlook*.

Fries, Steven. 2022a. A Reform Strategy to Transform Energy: From Piecemeal to Systemwide Change. PIIE Working Paper 2022-13. Washington, DC: Peterson Institute for International Economics.

Fries, Steven. 2022b. "Unlocking Low-Carbon Investments in Emerging and Developing Economies: A Pivotal Role for Multilateral Development Banks?" *Peterson Institute for International Economics,* Mimeo.

G20. 2022. Boosting MDBs' investing capacity, An Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks.

International Monetary Fund. 2020. The Future of Oil and Fiscal Sustainability in the GCC Region, DP/2020/001.

International Monetary Fund. 2022a. Feeling the Heat: Adapting to Climate Change in the Middle East and Central Asia, DP/2022/008.

International Monetary Fund. 2022b. Proposal to Establish a Resilience and Sustainability Trust. IMF Policy Paper.

Islamic Development Bank. 2018. "Energy Sector Policy: Sustainable Energy for Empowerment and Prosperity." https://www.isdb.org/sites/default/files/media/documents/2019-04/IsDB_Energy%20Sector%20Policy.pdf

International Renewable Energy Agency (IRENA). 2020. "Renewable Capacity Highlights 2020."

Jawad, Rana, Nicola Jones, and Mahmood Messkoub. 2019. "The New Social Protection Paradigm and Universal Coverage." Elgar.

Klenert, David , Linus Mattauch, Emmanuel Combet, Ottmar Edenhofer, Cameron Hepburn, Ryan Rafaty, and Nicholas Stern. 2018. "Making carbon pricing work for citizens." *Nature Climate Change* 8, 669–677.

Kyle, Jordan. 2018. "Local corruption and popular support for fuel subsidy reform in Indonesia." *Comparative Political Studies*, vol. 51(11), pages 1472–1503.

Leruth, Luc, Adnan Mazarei, Pierre Regibeau, and Luc Renneboog. 2022. "Green Energy Depends on Critical Minerals. Who Controls the Supply Chains?" *Peterson Institute for International Economics Working Paper 22-12*.

Mazarei, Adnan. 2019. Efforts of Oil Exporters in the Middle East and North Africa to Diversify Away from Oil Have Fallen Short. Peterson Institute for International Economics, Policy Brief 19-6. https://www.piie.com/system/files/documents/pb19-6.pdf

McCulloch Neil, Davide Natalini, Naomi Hossain, and Patricia Justino. 2021. "An exploration of the association between fuel subsidies and fuel riots." Research Square.

McCulloch, Neil, Tom Moerenhoutband, and Joonseok Yangc. 2021. "Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis," *Energy Policy*, Volume 156, September, 112336.

McGlade, C.E. and P. Ekins. 2015. "The Geographical Distribution of Fossil Fuel Unused when Limiting Global Warming to 2°C," *Nature*, vol. 517, pages 187–190.

Rezai, Armon and Frederick van der Ploeg. 2014. "Intergenerational Inequality Aversion, Growth and the Role of Damages: Occam's Rule for the Global Carbon Tax," Discussion Paper 10292, CEPR, London.

Reuters, 2020. "Algeria faces 'unprecedented' multi-dimensional crisis." PM. March 10, 2020.

van der Ploeg, Frederick. 2011. Natural Resources: Curse or Blessing? *Journal of Economic Literature*, American Economic Association, vol. 49(2), pages 366–420, June.

van der Ploeg, Frederick. 2016. "Fossil fuel producers under threat." *Oxford Review of Economic Policy*, vol. 32(2), pages 206–222.

World Bank. 2018. Beyond Scarcity; Beyond Scarcity: Water Security in the Middle East and North Africa: Water Security in the Middle East and North Africa. MENA Development Report. https://openknowledge.worldbank.org/entities/publication/62f75eb4-5488-50dc-9bb5-b54b12a32ac0

World Bank Group. 2021. Climate Change Action Plan, 2021–2025. Washington, DC.

Yilmaz, Fatih, Fahad Alswaina, Fateh Belaid, Mohamad Hejazi, Mari Luomi, and Salaheddine Soummane. 2022. Closing the Investment Gap to Close Paris Agreement Goals. King Abdullah Petroleum Studies and Research Center.