

Rethinking the Response to Climate Change Threats in the Mediterranean: Lessons from the Coronavirus Emergency

Aziza Moneer, PhD
Visiting Research Fellow
Nordic Africa Institute

With the novel coronavirus (Covid-19) sweeping across continents and affecting many millions, the world is in the grips of a crisis the likes of which few people alive today have ever experienced. The human scale of this tragedy is set to worsen as the virus spreads to lower income countries with weaker healthcare systems (Kamel, 2020).

While restoring global health remains the top priority, it cannot be denied that the strict measures enforced have caused massive economic and social shocks. With the prolongation of lockdown, quarantine, physical distancing and other isolation measures to suppress the transmission of the virus, the global economy is sliding into a recession (ILO, 2020). The OECD Economic Outlook suggests an unprecedented collapse in the first half of 2020 – an almost 13% decline in global GDP. Moreover, there are highly significant costs to the global economy from support packages, through central banks and fiscal actions, that are likely to have long-lasting and complex effects on the management of sovereign and corporate debt (OECD, 2020).

Southern Mediterranean countries, which already have high levels of poverty and weak or absent social infrastructure and services, face uniquely pressing economic challenges, including a massive drop in oil prices and rampant unemployment. These impacts add to longer-standing frustration with corruption and spatial inequality in a region where coastal areas and urban centres attract the lion's share of national budgets and public expenditure (El Mikawy, 2020). The crisis has prompted governments to adopt emergency financial measures and develop

aggressive stimulus packages to avoid a catastrophic and economic collapse, and trillions more will almost certainly have to be spent over the course of a long recovery (Zgheib, 2020).

The question now is what form that recovery will take. In the past, deep recessions have been followed by spikes in industrial activity that churned out far more greenhouse gas than was avoided in the downturn. Carbon dioxide emissions dropped 1.4% in 2009, for instance, before rising 5.1% the following year when the economy started to bounce back. That's not something the world can afford today, when just a small increase in average temperature could cause irreversible climate damage (Bloomberg, 2020).

Covid-19 and Climate Change: What Is Next for the Southern Mediterranean?

The southern Mediterranean has been identified as a climate change hotspot by the Intergovernmental Panel on Climate Change (IPPC). Given the expected severe and intense droughts coupled with sea level rise and reduction in precipitation (notably in northern Morocco, Algeria, Libya, Egypt and Tunisia), between 50 and 350 million people in the region will experience increased water stress. In addition, climate change – together with other drivers such as population growth, urbanization, and economic changes – will cause crop failures and, consequently, large-scale disruptions of food systems in the southern Mediterranean (Bergamaschi and Sartori, 2018). For example, in Egypt, water supply per capita has dropped 60 percent since 1970 and by 2025 the UN expects Egypt to face absolute water scarcity, with 100 million people exposed in the region. In Syria, climate change acted as a threat multiplier following a record drought which drove 1.5

million people from the country's breadbasket areas to urban peripheries, where the first protests ahead of the civil war began (Bergamaschi et al., 2016). By placing additional pressure on already scarce resources in the arid environments of the southern Mediterranean and reinforcing pre-existing threats like food insecurity, poverty, water stress, social conflicts and political instability, climate change acts as a "threat multiplier" for the security situation in the Mediterranean (World Bank, 2014).

The pandemic has made us realize that humanitarian crises have no borders and distant threats are worth preparing for. The epidemic has given the world a renewed opportunity to enforce the commitment of pursuing a sustainable future

Therefore, the choice facing the world's governments – including those around the Mediterranean – isn't between helping people and helping the planet, but rather about how to do what is best for both at the same time (Bloomberg, 2020). The pandemic has made us realize that humanitarian crises have no borders and distant threats are worth preparing for. The epidemic has given the world a renewed opportunity to enforce the commitment of pursuing a sustainable future (Khasanova, 2020).

This entails a major transformation in the ways our global society functions and interacts with natural ecosystems (Carrington, 2019). With governments deploying unprecedented fiscal measures to help a swift economic recovery, strong international support is required for climate-friendly policies, along with the phasing out of economic choices that favour the extraction and burning of fossil fuel. However, estimates indicate that, so far, green measures account for less than 0.2% of the total coronavirus-related stimulus spending allocated by the world's largest economies (Bloomberg, 2020).

This is maybe justified in light of the severity of the crisis and pressing need to rescue the economy.

However, there is an argument for an impending opportunity to invest in sustainable economies and provide for just transition when governments emerge from disaster mode and lay the foundations for a full recovery (Tiganescu, 2020). Here, I focus on four main pillars that need to be taken into consideration in order to recover along a sustainable path, while harnessing an inclusive policy response to climate change in the Mediterranean.

First: Investment in Renewables: The Reality and Way Forward

Renewable energy is one of the smartest, most cost-effective investments that can be made; governments should put clean energy at the heart of Covid-19 economic recovery packages. If governments take advantage of the ever-falling price tag of renewables, they can take a big step towards sustainable economies, which are the best insurance against global pandemics (Tiganescu, 2020).

The Global Trends in Renewable Energy Investment 2020 report indicates that the cost of installing renewable energy had hit historical lows, against the backdrop of the Covid-19 pandemic. The report indicates that renewable energy has been eating away at fossil fuels' dominant share of electricity generation over the last decade. For example, the costs of electricity from new solar photovoltaic plants in the second half of 2019 were 83 percent lower than a decade earlier (Xinhua, 2020). The clean energy report indicates that investment in renewables, excluding large hydro, was more than three times that in new fossil fuel plants (Greentechlead, 2020). Renewable energy capacity grew by 184 gigawatts (GW) in 2019 and nearly 78 percent of the net new GW of generating capacity added globally came from wind, solar, biomass and waste, geothermal and small hydro powers (Global Trends in Renewable Energy Investment, 2020). In the southern Mediterranean region, renewable energy investment was planned to reach a potential \$45 billion, generating 26.1 GW of additional renewable energy capacity by 2020, under the umbrella of the Mediterranean Solar Plan (MSP) (OECD, 2013). This seemed great news for the southern Mediterranean, which has a great potential for photovoltaic (PV) and onshore/offshore wind power (mainly in Morocco, Egypt, Jordan and

Turkey) and by far the largest concentrated solar power (CSP) potential in the world (OECD, 2013). However, the region is still characterized by high dependence on fossil fuel in different ways. For example, Turkey and Morocco, as energy importers, remain vulnerable to their external supplier and to price shocks. Egypt and Algeria as oil and gas exporters, are highly dependent on export revenues. Also, these countries provide fossil fuel subsidies, which are a burden for their national budgets (total subsidies as a share of gross domestic product (GDP) is 9.5% for Algeria and 11% for Egypt) (Sever, 2019). Furthermore, investment in renewables in the Mediterranean is still considered very low, and the region accounted for barely more than one percent of the global total renewable energy investment between 2004 and 2011; and registered its maximum in 2012 and 2013, reaching four percent of the global total renewable energy investment (Carafa, 2015). In 2019, investments in renewables in the southern Mediterranean slipped 8% to \$15.2bn, from a record total of \$16.5bn in 2018 (Al-Aees, 2020). The three most active renewable markets in North Africa and the Levant (Morocco, Egypt and Jordan) saw a total of \$15.7 billion invested during the five years from 2015 to 2019, but last year was a relatively weak one for all of them (Global Trends in Renewable Energy Investment, 2020). The largest shares within the whole region went to Egypt with \$490 million for a 200-megawatt wind project in the Gulf of El Zayt, jointly funded by the European Investment Bank and German development bank KfW; and to Morocco with \$635 million for the 160-megawatt Ouarzazate Noor I CSP project (Carafa, 2015). To date, there are three main interrelated barriers to investments in renewables in the Mediterranean region: the lack of profitability of renewable energy projects and inability to generate profits that recover the installation investment costs; the high risks involved in renewable energy projects as a result of their long duration; and, consequently, the difficulties investors have accessing finance (Komotoet al., 2013). To overcome these barriers, governments should provide specific advantages to foreign investment, aimed at boosting investment profitability. Regulatory and financial incentives are important to speed up investment in renewables; however, it is equally important to encourage consumers, producers or suppliers to use or produce a share of elec-

tricity from renewables by offering tradable commodities such as tradable green certificates and carbon credits as proof of compliance and as a way to internalize market externalities (OECD, 2013).

Developing local manufacturing and expertise is critical for the success of investment in renewables in the southern Mediterranean

Developing local manufacturing and expertise is critical for the success of investment in renewables in the southern Mediterranean. In this regard, countries with competitive advantages for local technology development should work on these advantages to diversify their energy mix. Morocco, for example, has achieved a local content rate of about 32% at the Noor I solar plant and aims to raise this amount to 35-40% in Noor 2 and 3. Furthermore, types of renewable energy – other than wind and solar – should be considered for investments. For example, in 2016 Turkey ranked 2nd after China in direct investment in geothermal energy (Sever, 2019).

Second: North-South Energy Integration: Integration on an Equal Footing

In the new energy world, the EU's long-term energy security will depend more on its electricity networks and smart grids than it will on gas import pipelines. EU gas demand has already fallen by a fifth since 2010 and is expected to fall further as renewables and energy efficiency displace fossil fuels in line with the agreed 2030 and 2050 targets (European Commission, 2011). Therefore, the focus on power exports needs to be balanced with the need for more regional electricity market integration, which, in turn, will dramatically improve the investment environment and energy security of the southern neighbours in the short term (Bergamaschi et al., 2016). Perhaps the most high-profile attempt to foster regional interconnection to date has been the Desertec Industrial Initiative (Dii), which was started in 2009, aimed at connecting the North African, Middle East-

ern and European regions. The plan would have imported around 15% of Europe's electricity demand from the south, but ended in acrimonious disputes in 2013 (Colthorpe, 2016). Being an apolitical technofix to the climate change crisis, it promised to overcome the crisis without fundamental change, basically maintaining the status quo and the contradictions of the global system that led to the crises in the first place. It is argued that Desertec overlooked the fact that the Euromed region is not a unified community, but rather a socially, politically and economically stratified region (Sarant, 2015).

The Covid-19 pandemic has tragically exposed the risks humanity faces and how unprepared we are to respond. The pandemic impacts are multiplied by the growing impact of injustices. Vulnerable populations are hit hardest, and the pandemic could drive 100 million more people into extreme poverty

Therefore, Desertec was perceived as a new form of colonialism and exploitation of the natural resources in the Global South by the European large energy corporations (Hamouchene, 2017). The Covid-19 pandemic has tragically exposed the risks humanity faces and how unprepared we are to respond. The pandemic impacts are multiplied by the growing impact of injustices. Vulnerable populations are hit hardest, and the pandemic could drive 100 million more people into extreme poverty by the end of the year. Therefore, investments in sustainable energy must be rooted in local communities, geared towards providing and catering for their needs and centred around alleviating poverty, reducing unemployment and preserving a safe environment (Hamouchene, 2017). Moreover, in order to achieve integrated North-South energy relations, the cooperation between the two sides of the Mediterranean cannot be restricted to commercial energy exchanges and an import/export relationship (Abdallah et al., 2013). This has not encouraged the development of a dynamic energy

sector that creates jobs in producer countries (in Algeria, for example, the energy sector accounted for 36.7% of GDP in 2011 but employed only 3% of the active population). Moreover, to ensure mutual benefits, producer countries should go from being energy sources to industrial energy players. This entails the need for southern Mediterranean countries to acquire the appropriate know-how. In this regard, the need to organize North-South value chains and link with multinational renewable companies engaged in renewable energy industries is very pressing. This will deepen existing industrial and service capabilities in the southern Mediterranean, help to transfer European know-how and create jobs (Morris et al., 2020).

Third: North-South Scientific and Technological Collaboration

Covid-19 has revealed that science and technology are essential to humanity's collective response to the Covid-19 pandemic. The pandemic has revealed the need for an approach that goes beyond national borders and strengthens regional integration based on Science and Technology systems in order to find a vaccine and treatments that would alleviate the health impacts of the pandemic (UN, 2020). Likewise, climate change can't be contained by national borders and there is a pressing need for a regional approach that combines the lessons that have been reinforced by the pandemic crisis: the importance of being united in terms of both a commitment to and reliance on scientifically driven solutions (Mastrojeni and Becchetti, 2020).

However, this does not mean that northern Mediterranean countries – which are a long way ahead as far as energy efficiency is concerned – should impose their technology without taking into consideration the traditional technological capacities available in southern countries. Rather, the EU will have to assist the southern countries in bringing their technological standards to the same level (Abdallah et al., 2013). Therefore, overseas development aid budgets should prioritize boosting scientific capacity and technological innovations in renewable energy technologies in different Mediterranean countries. Key concrete measures include establishing comprehensive, open access knowledge platforms; maximizing existing re-

search capacity; and encouraging cross-fertilization between research and industry (UN, 2019). These measures are important to cope with the growth in renewable energy production and consumption, which will provide a framework for the partnership between industry and scientific institutions on both sides of the Mediterranean. This new energy partnership involves, for example, the establishment of a Euro-Mediterranean Energy Institute. Based on already existing centres in the region, this institute would act as a regional melting pot of experience, know-how and scientific research. A possible first step towards this could be to bring together the French Institute of Petroleum and Renewable Energies and Sonatrach in a strategic partnership focused on fast-expanding energy sectors, such as the production of natural gas, gas liquefaction, hybrid power generation, solar power stations, etc. The partnership would potentially grow to encompass all Maghreb countries, with their significant solar potential, coupled with existing gas reserves (i.e. Algeria and Libya) (Abdallah et al., 2013).

Fourth: Decarbonization and Just Transition in the Southern Mediterranean

In the wake of Covid-19, a rapid scaling back of energy consumption and industrial production is undoubtedly reducing greenhouse gas emissions in the short term. However when this happens in an unplanned and chaotic way, inequalities are exacerbated and unintended consequences of the transition are disproportionately borne by vulnerable communities (SPICe, 2020).

Therefore, it is necessary to address matters of the transition's fairness – particularly for southern Mediterranean countries that now depend on carbon-intensive industries and sectors (Atteridge and Strambo, 2020). At the local level, ensuring a just transition means avoiding the creation of new sources of carbon lock-in – that is, avoiding investment in or the subsidization of fossil fuel activities, and the increase in the dependence of small- and medium-sized enterprises (SMEs) or public revenue on carbon-intensive industries (Healy and Barry 2017). Moreover, ensuring a just transition means understanding that some individuals and groups are already marginalized, or have lower capacities to absorb new shocks;

any strategy should protect or buffer these groups by ensuring adequate social protection measures are in place (Ferrer Márquez et al. 2019).

Just transition also requires enforcing the industry to pay for its fair share of the costs and ensuring that the industry does not simply transfer the environmental costs of contaminated lands and water to the public purse – or leave environmental damage unaddressed (Healy and Barry, 2017). This is in line with the Polluter Pays principle. It has been a free ride for decades. Through public spending and tax breaks, governments continue to support industries that are responsible for the climate crisis (Friends of Earth, 2019). The International Monetary Fund estimates that in 2015, EU governments spent over €260 on oil, gas and coal, including direct subsidies, tax reductions and the cost of negative externalities such as climate-related hazards and air pollution deaths or illnesses. It is argued that more efficient fossil fuel pricing in 2015 would have lowered global carbon emissions by 28% and air pollution deaths by 46%. It would have also allowed governments to redirect spending towards critical areas such as clean energy, health, education or social services (Mariani, 2020). Therefore, a fairer tax system and more responsible public spending can discourage harmful behaviour.

At the regional level, a just transition requires taking into consideration the existing inequalities between the southern and northern Mediterranean countries, indicated by different measures of well-being, economic development, government effectiveness and social networks. These inequalities are exacerbated by rapid population growth in North Africa and the Middle East, which increased from 105 million in 1960 to 444 million in 2017 (Cramer et al., 2018). This means that some countries or regions will be more affected than others during this global effort to decarbonize. To assist in managing these burdens, international financial assistance should be mobilized to help those countries with a lower capacity to invest in diversification and transition support, which are more vulnerable to climate change risks and/or have less responsibility for historical greenhouse gas emissions (Muttitt and Kartha, 2020). A wide range of investments can diversify national economies, boosting short-term job creation and incomes and generating long-term sustainability and growth benefits. Examples include energy efficiency for existing buildings; production of renewable energy; preservation

or restoration of natural areas that provide ecosystem services and resilience to floods, drought and hurricanes; the remediation of polluted lands; investments in water treatment and sanitation; or sustainable transport infrastructure, ranging from bike lanes to metro systems (Hallegatte and Hammer, 2020). For example, in the wake of the 2008 financial crisis, South Korea put almost 80% of its stimulus spending toward climate-friendly policies, including significant investments in energy efficiency and development of its renewable industries. According to the International Monetary Fund, South Korea's recovery is one of the swiftest and most successful in the world. South Korea learned its lesson as it has already granted \$185 million to developing home rooftop solar installations as part of its current coronavirus recovery (Bloomberg, 2020).

Another option to support a just transition is investing in resilient infrastructure in order to minimize the wide-ranging consequences of natural disasters for vulnerable livelihoods (World Bank, 2020). An example of such initiatives is the World Bank's West Africa Coastal Areas Management programme, which aims to help African countries to combat coastal erosion and rising sea levels through beach nourishment, replanting of mangroves and the relocation of populations where coastlines are vanishing. In Senegal, the Saint-Louis Emergency Recovery and Resilience Project is helping the vulnerable city deliver services and address multiple development risks stemming from sea level rise and urban sprawl (Tall, 2020). Stimulus packages can be used to finance public works programmes in order to spur economic recovery in a way that is compatible with climate objectives (Hallegatte and Hammer, 2020). Many such programmes focus on irrigation, afforestation, flood control construers, land productivity and soil fertility, and agro forestry. These programmes can increase community resilience to climate risks and facilitate long-term economic transformation (Grosch et al., 2008). An Example of such programmes is the Productive Safety Net Programme, which was implemented in Ethiopia and resulted in improved water conservation and increased agricultural productivity. Soil conservation projects carried out in semi-arid areas in Maharashtra, India, have been effective in slowing desertification and erosion and in generating new forest areas (Subbarao et al., 2013).

Conclusion

Covid-19 is an historical opportunity to reset the path of economic development and reboot it on a low carbon one, taking advantage of falling prices of renewable energy technologies and low interest rates to boost sustainable investment projects (Biro, 2020). Regulatory and financial incentives are critical to harness investments in renewables in the Mediterranean. However, it is equally important to encourage consumers, producers or suppliers to use or produce a share of electricity from renewables by offering tradable commodities such as tradable green certificates and carbon credits as proof of compliance and as a way to internalize market externalities (OECD, 2013).

The challenge now is to quickly implement not just separate economic, social and environmental recovery packages, but also integrated policies. We need to combine social protection with climate action and economic recovery, not to build back, but to transform economies and societies in a just and green way.

Stimulus packages can be used to finance public works programmes in order to spur economic recovery in a way that is compatible with climate objectives (Hallegatte and Hammer, 2020). This implies pursuing economic recovery with a strong social focus on the inequalities of climate change, creating new low-carbon investments and green jobs, and reinvesting fuel taxes in social protection. These are the kinds of measures that will cut carbon emissions while improving lives and increasing community resilience to climate risks.

Both sides of the Mediterranean could benefit substantially from a new energy partnership that unfolds on a win-win scenario and puts the focus on the corporate sector: energy supply and demand security, the development of the industrial base, more jobs in the energy sector and in affiliated sectors, more competitive companies, economic benefits through economies of scale and a reduced environmental impact. To materialize this partnership and regain the progress made toward the energy transition, policymakers should invest in research and development, expanding human capital and modernizing energy infrastructure, particularly in the southern Mediterranean countries.

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