“The Middle East needs a bank for climate adaptation”, Op-ed in Arabian Gulf Business Insight (AGBI), 22 Nov 2023

The opinion piece titled “The Middle East needs a bank for climate adaptation” appeared in the Arabian Gulf Business Insight (AGBI) on 22nd November 2023.

The article is published below.

The Middle East needs a bank for climate adaptation

Given Mena’s high climate risk exposure, the GCC should seize the initiative

Our planet is sitting on a time bomb. Global heating is pushing the world closer to climate tipping points where change is irreversible.

Current climate action plans fall way short of engineering the 43 percent reduction in emissions required by 2030 to limit temperature increase to 1.5C.

It is unlikely that countries will meet their net-zero emission commitments and deploy sufficient resources to prevent, let alone reverse, climate change.

The Mena region has already crossed the 1.5C threshold, with visible and growing climate-induced stresses: heightened desertification, lower agricultural productivity, persistently higher temperatures, water stress, rising sea levels, and an increasing frequency and strength of Mediterranean hurricanes, so-called “Medicanes”.

All these grim factors are stoking migration, producing socioeconomic pressures and increased inequality across the region, with poorer countries unable to combat climate change.

Addressing adaptation

To address the challenges, we need to shift to climate adaptation. This means moving beyond policies and investment which focus on the “energy transition”, such as clean energy, electric vehicles, and energy efficiency.

Legacy infrastructure, such as power systems, ports, airports and transport systems, water and waste management, and housing have not been designed to deal with climate change and related extreme weather.

This is why when dams collapsed in Libya more than 11,000 died; this is why floods displaced 30 million in Pakistan.

New infrastructure must be planned, designed, built and maintained to be climate resilient and deliver climate resilient services.

In addition, existing infrastructure – including buildings and housing stock – must be urgently retrofitted for the better protection of life, habitats and assets.

Every $1 invested in climate adaptation can yield up to $10 in net economic benefits – as countries become resilient against natural disasters and benefit from new climate adaptation technologies that lift productivity and produce environmental benefits.

The four-pillar action plan from the UAE's Cop28 president Sultan Al Jaber includes fast-tracking the energy transition by slashing emissions before 2030, transforming climate finance to make funding more affordable and accessible, and protecting nature, lives, and livelihoods with a focus on inclusivity.

It calls on donors to double adaptation finance by 2025, and emphasises the urgency of donor countries honouring their commitments by making good on the $100 billion pledge this year.

Climate risk mitigation and adaptation investments complement each other, but climate adaptation requires even higher investment levels, over longer horizons, with large upfront capital expenditure, and the retrofit of existing infrastructure.

Current proposals, which have featured an acrimonious debate around a blueprint for a "loss and damage" fund for climate justice, pale in comparison to what is needed.

The bottom line is that developing countries, excluding China, require some $2 trillion per year by 2030 in climate funding. Where will the finance come from?

Finding the finance

Given existing high levels of debt and interest rates, many governments do not have the fiscal and debt space to finance adaptation.

Relying on public spending to fund de-carbonisation and adaptation investment on this scale would cause a substantial run-up in debts, possibly to the tune of 45-50 percent of GDP for a large, high-emitting emerging market. This is an unsustainable option.

Poor and developing countries face a daunting challenge. They

are unable to adapt, which leads to further climate disasters and a growing divide with advanced countries.

The scale and urgency of climate action requires new institutional arrangements and increased reliance on the private sector as a source of finance and technology.

A dedicated, independent and global climate bank is needed. Given the high climate risk exposure of the Mena region, and the GCC at its core, the GCC should seize the initiative.

It should set up an International Climate Bank to provide finance (including grants and concessional finance) for climate resilient infrastructure and climate tech, providing project finance and funding for public private partnerships.

The founders of the climate bank would include the GCC and partner countries, sovereign wealth funds, and development funds, along with multilateral partners (Asian Infrastructure Investment Bank, Islamic Development Bank and other development banks) and private stakeholders.

A major focus should be on the private sector.

This should be served by an International Climate Finance Corporation, which aims to increase research and development and funding of climate tech, to de-risk climate finance, and scale up by using innovative financial instruments such as green insurance and fintech.

The International Climate Bank could set up specialised funds and tap international capital markets through climate bonds and sukuk.

The new body could become a global financial powerhouse funding a new growth and development paradigm, based on investment and job creation in green and climate tech boosted by AI, aiming to be inclusive in addressing the needs of developing economies.

“The Gulf is on track to lead global climate tech”, Op-ed in Arabian Gulf Business Insight (AGBI), 3 Oct 2023

The opinion piece titled “The Gulf is on track to lead global climate tech” appeared in theArabian Gulf Business Insight (AGBI) on 3rd October 2023.

An **extended version of the article** is published below.

The Gulf is on track to lead global climate tech

We need to focus on mitigating the risks and adapting

The catastrophe in Libya’s Derna valley basin is a deadly reminder of how climate change is increasing the frequency and strength of Mediterranean hurricanes.

Pakistan’s floods were the worst disaster in a decade, uprooting 33 million people. Both events overwhelmed ill-designed, badly maintained legacy infrastructure. Everywhere

on the globe faces similar threats.

The Middle East and North Africa (MENA) is one of the regions most severely affected by what the UN recently called climate breakdown.

This will involve battling extreme weather events, rising temperatures, increased water stress, rising sea levels, falling rainfall, dwindling agricultural output and growing desertification.

MENA is already the 'most water-stressed region in the world', where 83% of the population is exposed to "extremely high" water stress [1], with an increasing frequency of climate disasters (such as droughts and floods) destroying habitats. The IMF estimates that a 1° Celsius increase in temperature in five of the region's hottest countries [2] would lead to a massive decline in per capita economic growth of around 2 percentage points. High population growth rates and rapid urbanization levels escalate the risks and challenges of climate change faced by the governments and populations of the region.

Despite global and regional energy transition commitments, it is delusional to believe that the human species will overcome divisive geopolitics and contradictory interests and undertake the radical strategies to limit warming to 1.5C by 2030, or 2.5C by 2050.

We need to focus on mitigating the risks and adapting. This means moving beyond renewable energy, mobility and energy storage to massive, sustained investment in climate-resilient infrastructure and related technologies.

The global urban infrastructure investment gap alone is estimated to be over US$4.5 trillion per year, with a premium of 9-27% required to make infrastructure low carbon and climate resilient, according to the World Bank. Climate

resilient infrastructure has to be planned, designed, built, operated, and maintained in a way that anticipates and adapts to changing climate conditions to provide cities and communities with climate resilient services.

Water management

Global water demand is projected to increase by 20-25 percent by 2050, and it is likely that 100 percent of the MENA region's population will live with "extremely high" water stress by 2050. If not countered, this could lead to growing political instability and potential water wars.

Currently, annual per capita water use in the GCC is 560 litres per day, more than three-fold the global average of 180, with Saudi Arabia the third highest globally (following US and Canada). We must reduce wasteful water consumption.
The impact of water stress needs to be addressed through regional co-operation and management for common water resources, such as the Nile and Euphrates.

At the national level, policy tools are required. Rational, economic pricing of scarce water resources will underpin more efficient management of everyday use. The deployment of climate tech investments to increase scarce resources is imperative.

Desalination exports

Desalination is the main answer to avoid depleting non-renewable aquifer resources. The GCC has a comparative advantage: it accounts for more than 50 percent of global water desalination capacity. In addition, the GCC Secretariat anticipates that the Gulf will boost such capacity by 37 percent over the next five years, by investing $100 billion.

Desalination is increasingly powered by solar energy, helping both energy and water security.

Saudi Arabia's giga-project Neom is developing a reverse

osmosis desalination facility entirely powered by renewables, while there are other solar-powered desalination plants in the UAE and Oman.

Tried and tested in the GCC, this exportable technology can address the growing global water availability gap and water stress.

Increasing temperatures

Rising temperatures drive up demand for air conditioning, with cooling representing up to 70 percent of peak energy consumption. As a result, ownership will increase from 37 percent of the global population today to more than 45 percent in 2030. But this is a legacy technology.

District cooling (equivalent to district heating) delivers chilled water to buildings and provides sustainable cooling powered by renewable energies. It is up to 10 times more energy-efficient and cost-effective than traditional air conditioners.

District cooling can be deployed in new urban developments (e.g. “Smart Cities”), and existing buildings can be retrofitted and connected to district cooling plants. Strategy& estimates that increased adoption of district cooling globally could save USD 1trn in energy costs by 2035. The GCC states have pioneered and implemented district cooling as an integral part of their public utilities’ infrastructure, real estate and urban developments. The model and technology could be exported to the rest of Mena and to rapidly growing and urbanising Africa, South Asia and elsewhere.

District cooling can be deployed in new urban developments and existing buildings can be retrofitted and connected to necessary plants. Increased global adoption could save $1 trillion in energy costs by 2035.

Furthermore, it is incorporating new technologies, including digitalisation and AI, along with integrating renewable energy

sources into existing models, supporting the energy transition.

Tackling food security

The MENA region's southern and eastern Mediterranean region has witnessed a decline in total precipitation, by around 8.3% per decade in the period 1980-2022, directly threatening agriculture-based communities and food security. The rest of the region is facing the existential threat of increased desertification.

To partially adapt and address food security issues, the highly food-importing dependent GCC nations have been massively investing in desert agriculture technologies and Agritech [3] to increase domestic production, with hydroponics and seawater farming rapidly expanding. Shifting to a climate-smart approach to agriculture will be key for the region, to achieve food security and adapt to warming climate conditions. Again, the GCC has developed the ability to export desertic agriculture and Agritech to the wider region.

Financial resources

All this will require substantial, sustained financing. The GCC sovereign wealth funds are among the largest global investors in renewable energy.

The region's international financial centres are gradually developing instruments that can facilitate access to finance for indigenous climate tech companies.

These vibrant, innovative private businesses should also be incentivised by reducing barriers to entry, streamlining and reducing regulations. They also need access to climate data.

With financial firepower exceeding $4 trillion, the Gulf can potentially become *the* location for global climate finance and tech, as well as the latter's main exporter. To increase their

“soft power” and as major capital exporters and aid providers, the GCC should integrate climate tech and finance into their foreign trade, aid and cooperation programmes.

As the UAE prepares to host COP28, it is anticipated that the GCC’s wealth funds, financial markets and active private sector will increasingly diversify their investments into resilient infrastructure and climate tech.

Adapting in these ways to the risks the region faces is not only the right response; it will increase mobility and clean energy adoption within MENA and around the world.

Footnotes:

[1] According to the World Resources Institute, globally the five most water-stressed countries are Bahrain, Cyprus, Kuwait, Lebanon, Oman and Qatar.

[2] Bahrain, Djibouti, Mauritania, Qatar, and the UAE.

[3] According to a joint report by the Sharjah Research Technology and Innovation Park and Deep Knowledge Analytics (Nov 2022), UAE’s Agritech sector comprises 36% indoor farming, 15.9% precision agriculture, and 15% agri inputs. Around 65% of Agritech firms in the UAE are micro-sized (with less than 50 employees).

Why climate change is an existential threat to the Middle East, Article in The National, 22 August 2019

The article titled "Why climate change is an existential threat to the Middle East" appeared in The National's print edition on 22nd August, 2019 and is posted below. Click here to access the original article.

Why climate change is an existential threat to the Middle East

While humans squabble and debate their commitment to combat climate change, nature has been relentless and unforgiving. Extreme weather events are growing in intensity and frequency. June 2019 was the hottest June in 140 years, setting a global record, and maximum temperatures last seen a century ago were felt in Bagdad, Bahrain and Kuwait. The ongoing drought in India and related acute water shortage continues, threatening rural communities and leading to greater poverty.

Sea levels are expected to rise between 10 and 32 inches or higher by the end of the century. Arctic ice loss has tripled since the 1980s and Antarctica lost as much sea ice in four years – four times the size of France – as the Arctic lost in 34 years. The Global Climate Risk Index reports that "altogether, more than 526,000 people died as a direct result of more than 11,500 extreme weather events; and losses between 1998 and 2017 amounted to around $3.47 trillion (at purchasing power parity rates).

The clear and present danger warning of the 2018 report by the Intergovernmental Panel on Climate Change (IPCC) is going

unheeded.
While climate change will be global, its regional impact will be varied and unequal, the Middle East and North Africa (Mena) along with Sub-Saharan countries are among the most vulnerable. Growing desertification, widespread drought, high population growth rates (leading to a doubling of population by 2050), rapid urbanization and extreme heat compound the effects of water scarcity to magnify the impact of climate change. The near absence of climate change combating and risk mitigation policies are aggravating the impact.
The World Bank conservatively estimates that climate-related water scarcity will cost Mena 6 to 14 per cent of its GDP by 2050, if not earlier, while some 17 countries are already below the 'water poverty line' set by the UN. The lack of efficient water management infrastructure and policies exacerbate natural water scarcity.
Home to 6 per cent of the global population but just 1 per cent of freshwater resources, Mena will very likely be fighting "water wars" by mid-century. The Tigris and Euphrates rivers are drying up, building up tensions between Turkey, Iraq and Syria over water resources. Ethiopia is building its Grand Renaissance Dam and Egypt claims that it will cut downstream flows and water supply to Egypt by some 25 per cent. The potential for conflict is growing, with Egyptian President el-Sisi openly declaring that the dam is "a matter of life and death".

Copernicus Climate Change Service (C3S) confirms: July 2019 temperatures on par with warmest month on record
Climate change poses an existential challenge, threatening the economic viability of oil-producing countries. The energy transition to comply with COP21 is leading to a global shift away from fossil fuels to greater energy efficiency and renewable energy, implying a secular downward trend in demand for fossil fuels and prices.
The implication is that the main source of wealth and income

of the GCC and oil producers could rapidly depreciate in value because of the fall in demand and prices. Fossil fuel asset prices could rapidly deflate leading to “stranded assets” – that is, assets that are not able to meet a viable economic return as a result of unanticipated or premature write-downs. It is estimated that about a third of oil reserves, half of gas reserves and more than 80 per cent of known coal reserves would remain unused in order to meet global temperature targets under the COP21 Agreement.

The “stranded assets effect” would directly impact all economic activities and businesses that extract, distribute and those that use fossil fuels intensively as inputs for production, such as transportation. In turn, the prices of fossil fuel exposed assets (stocks, bonds and financial securities), would rapidly deflate to reflect the growing risks, and loans would become impaired, resulting in a loss to investors, including banks, pension funds, insurance companies and SWFs.

Central banks are raising the alarm that climate risk is a direct financial risk for the banking and financial sector. Mark Carney, Governor of the Bank of England, has highlighted three broad channels through which climate change can affect financial stability. He names physical risks affecting the insurance industry; climate change liability risks due to claims arising from climate change; and transition risks. Transition risks will crop up as changes in policy and technology result in a reassessment of the value of a large range of assets that emerge once they have been stranded. Citigroup forecast that the total value of stranded assets could be over $100 trillion in a 2015 report (based on $70 per barrel of oil, $6.50/MMBTU of gas and $70 per tonne of coal).

The bottom line is that the GCC faces three direct risks from climate change: physical, as heat, rising sea levels and water scarcity become reality; economic, as wealth destruction ensues vast oil reserves becoming stranded assets; and financial, with a banking and financial sector highly dependent and exposed to the oil and gas sector.

What should the GCC countries do? To counter these existential threats, they need to accelerate their economic diversification plans, develop and implement decarbonisation strategies and develop neighbourhood climate risk mitigation policies. The nations have tentatively embarked on this path.