Dr. Nasser Saidi's interview "Ahead of The Curve" with The Buzz Business on CEBC's pioneering role in MENA's clean energy transition, Nov 2024

The interview with Dr. Nasser Saidi, in his capacity as the Chairman of the Clean Energy Business Council (CEBC), appeared as a Buzz Business article in Nov 2024. The focus was on CEBC's pioneering role in MENA's clean energy transition. The article titled "Ahead of the Curve" is copied below:

Ahead of the Curve

CEBC's pioneering role in MENA's clean energy transition

As climate change increasingly impacts economies and lives across the globe, the Middle East and North Africa (MENA) region finds itself at a crossroads. Here, in a land rich with fossil fuels but increasingly exposed to climate challenges, the need for a shift towards clean energy and sustainable practices is critical. Leading this charge is Dr. Nasser H. Saidi, founder and chair of the Clean Energy Business Council (CEBC), an organization fostering collaboration between the public and private sectors to catalyze the region's transition to a cleaner future.

Dr. Nasser's journey to the helm of CEBC has been as varied as it is impressive. With a career that spans academia, government, central banking, and senior positions in finance, he is no stranger to the complexities of building something from scratch. "I've always valued freedom and the ability to

think independently," he says, reflecting on his time contributing to establishing the Dubai International Financial Center, which started with just a few companies and grew into a global hub. This drive to create and innovate independently has become the backbone of his leadership at CEBC—a vision not only for clean energy but also for MENA's potential to become a global leader in climate solutions.

CEBC was born from an urgent need for more than dialogue; it was a call to action for the region's leaders to reimagine MENA's place in the global energy landscape. Dr. Nasser understood that while the region has long been defined by its fossil fuel wealth, it also possesses vast untapped potential for renewable energy, particularly solar. "This part of the world is blessed with some of the highest solar irradiation on Earth," he explains. "With partners like ACWA Power, ENOC, ENGIE, and ABB at the forefront, we're already seeing impressive advancements in solar capacity and innovative projects that could one day redefine energy systems globally."

CEBC's initiatives are built to tackle a diverse range of challenges, from energy efficiency to hydrogen innovation, emobility, and climate finance. Yet, Dr. Nasser emphasizes that the real breakthrough lies in fostering strong, lasting partnerships with both public and private sectors. This commitment to collaboration is evident in CEBC's Annual Summit, now in its 12th year, which brings together policymakers, industry leaders, and technology innovators to align on regional sustainability goals. This year's summit, themed "Strategic Levers for Decarbonizing MENA," will be held at Expo City Dubai, reflecting the growing regional commitment to decarbonization and sustainability. "By bringing government and regulatory bodies to the table, we're creating the conditions for action," Dr. Nasser says. "CEBC is not just an organization; it's a platform for real change in MENA's energy future."

The MENA region, he points out, is uniquely positioned in the

global fight against climate change, with opportunities that extend beyond renewable energy into areas such as water desalination, desert agriculture, and district cooling. These technologies are critical in a region where temperatures are rising, and water scarcity is a daily reality. "Cooling alone accounts for up to 70% of peak energy demand in the Gulf," Dr. Nasser notes. "We've pioneered district cooling systems that are not only more energy-efficient but can be powered by renewable sources. This technology could become a model for the world."

As climate disasters continue to reshape economies, MENA countries face both an urgent challenge and a significant opportunity. CEBC is working to help the region balance its reliance on traditional fossil fuels with the need for renewable energy development. According to Dr. Nasser, this transformation will require considerable investment and policy reforms, especially in terms of reducing fossil fuel subsidies and attracting private financing to fill funding gaps. The International Monetary Fund estimates that MENA will need to invest up to 4% of GDP annually to build climate resilience and meet emissions targets—a staggering number, but one Dr. Nasser sees as achievable with the right public-private partnerships. "For every dollar invested in climate adaptation, we see a return of ten in economic benefits," he says, highlighting how companies across the region can drive these returns by investing in clean energy solutions.

The private sector, he believes, will play a pivotal role, especially with national initiatives like Saudi Arabia's Vision 2030 laying the groundwork. "The goals set forth in Vision 2030 offer a roadmap for the private sector to contribute to decarbonization through investments in clean energy technologies and sustainable practices. Companies like ACWA Power, ABB, Totalenergies, BEEAH, and other CEBC partners are proving what's possible with large-scale solar and wind projects that have the power to reshape our entire region."

CEBC, he adds, has been instrumental in creating platforms for private sector leaders to engage directly with policymakers, facilitating cross-border clean energy projects that address regional needs while also setting an example for the world.

Looking to the future, Dr. Nasser sees energy efficiency as a vital component in achieving MENA's net-zero ambitions, especially in high-energy sectors like construction, transport, and infrastructure. CEBC has recently partnered with the Advancing Net Zero Volunteering Team to launch a white paper focused on retrofitting existing buildings—a crucial step in reducing energy consumption across the region. He believes this focus on efficiency, combined with technological advances like AI-driven energy management and smart grids, will be key to MENA's sustainable development. But Dr. Nasser stresses that the most critical driver will be awareness, both public and governmental. "We're at a tipping point where climate adaptation isn't a choice; it's a necessity," he says, echoing the urgent tone that has defined his work and vision.

What are CEBC's key achievements to date?□

"I'd say the most critical achievement is public awareness. Climate and clean energy are now part of our regional discussions, which is something we couldn't have imagined a decade ago. Today, we have ministers in charge of climate portfolios, notably in the UAE, and I hope other countries follow. Our partnerships are creating regulatory frameworks that involve both government and the private sector in the transition to clean energy."

How optimistic are you about the region's clean energy transition?□

"I am cautiously optimistic. The region's leadership has a clear vision of what's needed, and we're seeing an unprecedented level of commitment to clean energy and climate adaptation. Yet, challenges remain—subsidies for fossil fuels need to be removed, and people's perceptions around the 'cost' of energy must shift. Still, I am inspired by the strides we've made and confident that with ongoing collaboration, we can achieve real, lasting change."

What advice would you give to companies in the private sector?□

"Start with energy efficiency—look at your own operations, from building temperatures to energy sources, and be ready to invest in clean technologies. Long-term success will depend on this. I also advise companies to get involved with CEBC or similar platforms to stay aligned with national goals and regulatory developments. The future will belong to companies who adapt early and invest in sustainable practices."

Looking ahead, Dr. Nasser's vision for CEBC reflects both urgency and optimism. As the region grapples with the realities of climate change, CEBC stands as a catalyst, turning MENA's unique challenges into opportunities. With the right partnerships and a clear focus, CEBC is not just imagining a cleaner future—it's building one.



"CEBC isn't just an organization; it's a platform for real change in MENA's energy future."

Dr. Nasser H. Saidi, founder & chair, Clean Energy Business Council (CEBC)

Comments on the landmark power project of GCC Interconnection Authority and Iraq in Arab News, Jun 24 2023

Dr. Nasser Saidi's comments appeared in an Arab News article titled "<u>Electrical transmission line connecting Afar in Saudi Arabia to Yusufiya in Iraq inaugurated</u>" published on 24th June 2023.

The comments are posted below.

Crucially, the agreement underscores part of what Nasser Saidi, Lebanon's former economy and trade minister and founder of Nasser Saidi & Associates, calls "the regionalized globalization by the GCC.

"Integrated electricity grids, such as between Saudi and Iraq, result in greater power efficiency, improved management of electricity grids and network economies, lowering costs for all the countries involved," he told Arab News.

"It allows the creation of a GCC-augmented electricity market and electricity trading across borders. In parallel, Saudi, the UAE and other GCC countries are heavily investing in renewable energy (mainly solar) for their power generation," he said.

"Eventually, the GCC can export solar-based electricity green energy to not only neighboring countries (Iraq, Jordan, Egypt and Yemen) but also to India and across North Africa into Europe. Already, a GCC-India undersea electricity connector is planned. A new energy infrastructure map is emerging."

There also, said Saidi, wider possibilities and vision for the agreement that have the potential as stated by Prince Saud and Al-Mitiwiti to garner greater energy security and economic benefits for the region.

"The integration of basic infrastructure — water, electricity, transport and logistics (ports and airports) — is a major building block of greater economic integration between the GCC and its regional partners, enabling the deepening of regional trade and investment links," Saidi explained.

He added: "Infrastructure integration fosters economic development. It creates jobs in countries such as Iraq, Jordan, Egypt, Lebanon and Syria that have traditionally been reliant on exporting labor, helping them combat the present brain drain."

Moreover, as Saidi stressed, the greater integration of these countries with the GCC enables partners to participate in global value chains through the region, generating higher value exports (rather than low-value commodity exports such as phosphates) and diversify their economies.

All of this is taking place during a time of great change for world energy markets.

"The GCC countries are now pursuing an active international trade and investment strategy leading to 'regionalized globalization', at a time when the rest of the global economy is fragmenting and there is attempted US, EU and allies decoupling from China," he added. "Strategically, regionalized globalization can lead to greater geopolitical stability."

"A New Global Energy Map: On the Road to COP28", Presentation at the 10th CEBC Annual Summit, 31 Jan 2023

The presentation titled "A New Global Energy Map: On the Road to COP28", was given by Dr. Nasser Saidi as the opening keynote address at the 10th CEBC Annual Summit held in Dubai on 31st January 2023.

In his speech, Dr. Nasser Saidi, in his capacity as Chairman of the Clean Energy Business Council, spoke about the emergence of a new global energy map, its financing requirements as well as deep-dived into the energy transition in the GCC region & combating climate change.

"Landscape of Low-Carbon Hydrogen Market: a MENA perspective", Keynote address at the "Canada Advancing Clean Energy" event in Abu Dhabi, 19 Jan 2022

Dr. Nasser Saidi, in his capacity as the Chairman of the Clean Energy Business Council (CEBC), gave an opening keynote titled "Landscape of Low-Carbon Hydrogen Market: a MENA perspective", at the "Canada Advancing Clean Energy" event held in Abu Dhabi on the 19th of January 2022.

The presentation addresses the nascent state of the hydrogen market as well as exploring the current market for hydrogen projects in the Middle East & North Africa region before summing up with key takeaways (copied below):

- Global Hydrogen market is still in its infancy: need to build the foundations of a sustainable market
- Develop strategies & roadmaps on hydrogen's role in energy systems
- Hydrogen can become an important component of the energy transition and decarbonisation policies, accounting for 22% of final energy use by 2050
- Hydrogen in MENA: 47 projects, total investment \$55bn,5.3 mn tons
- GCC can become major producers and exporters of hydrogen helping to de-risk their fossil fuel assets
- Renewable/Clean Energy producers should form an alliance/organisation to develop the industry and market

"Clean Energy Market in MENA: Finance, Mobility, Hydrogen, Energy Efficiency", Keynote presentation at the CEBC-

Enterprise Ireland event, 5 Oct 2021

Dr. Nasser Saidi, in his capacity as the Chairman of the Clean Energy Business Council, gave a keynote address at the CEBC-Enterprise Ireland High-Level Seminar & Networking Event held at the Capital Club in Dubai on the 5th of October 2021.

Titled "Clean Energy Market in MENA: Finance, Mobility, Hydrogen, Energy Efficiency", the presentation discussed:

- (a) Clean Energy Ecosystem in the MENA region
- (b) New investment in renewable energy, by region & sector
- (c) Climate Finance in MENA
- (d) E-mobility in MENA
- (e) Hydrogen in MENA: an infant, but rapidly developing market
- (f) Energy Efficiency in MENA
- (g) Green post-Covid19 transformation presents a major diversification opportunity for MENA; How can MENA grow & develop its Clean Energy market?

"The 50 trillion dollar question: Closing the

emerging markets' capital gap", The Economist's virtual event, 25 Nov 2020

Dr. Nasser Saidi joined a panel discussion titled "The 50 trillion dollar question: Closing the Emerging Markets' Capital Gap", organised by The Economist and supported by Standard Chartered, on 25th November 2020.

The topic overview is as follows:

The goal of ESG impact alongside financial returns is becoming the new default for investors. Today, the UN's Principles for Responsible Investing represents more assets than it ever has. The flurry of social-bond issuing this year, far above 2019 levels, to underpin the covid-19 economic recovery, is also testament to this upward trend. The implications should be heralded across the board. Sustainable finance will underpin the world's ability to meet the 2030 Agenda and the Paris Agreement. It is also key to international development, as emerging markets race against time to transition to low-carbon and climate resilient economies. For now though, sustainable investments tend to be skewed to the West. The irony is that if impact is the bottom line, then emerging markets — where the impact of every dollar is disproportionately greater should be top of mind. There is a growing imperative to transfer a portion of the estimated 50 trillion dollars under asset management into sustainable projects in emerging markets, if we are to make an impact on decarbonising.

Watch the discussion below:

"The case for new green deals in the Gulf", article in Aspenia Issue No.89-90, Oct 2020

Dr. Nasser Saidi's article titled "The case for new green deals in the Gulf" appeared in Aspenia Issue No 89-90, issued in Oct 2020, and is posted below. A PDF file of the article can be downloaded here.

The case for new green deals in the Gulf

The world is in a "new oil normal", with permanently lower prices. The oil rich countries of the Gulf need to diversify and focus on clean energy alternatives. Europe has a significant role to play here, too, as the EU and the GCC should develop a strategic techno-energy partnership.

The Gulf Cooperation Council (GCC) is weaving its way through two major shocks. Covid-19 and the Great Lockdown resulted in a collapse of oil prices, against a background of climate change and global energy transition. The imf projects an estimated 4.9% decline in global growth this year, with cumulative output losses to the tune of over 12 trillion dollars for the 2020-21 period. Within the GCC, growth is forecast to shrink by 7.1% in 2020, before, optimistically, rebounding by 2.1% next year.

One unintended consequence of the current health crisis has been a record decline in global oil demand, along with emissions reduction and cleaner air as lockdowns were imposed across the globe. I would venture that we are currently in a "new oil normal", with permanently lower oil prices. It is imperative, therefore, that the GCC's recovery model include a strong clean energy policy component and structural reforms,

alongside a recasting of its economic diversification model and social contracts. The current GCC economic model — over-dependence on fossil fuels, pro-cyclical fiscal policies and generous government subsidies — are unsustainable in the medium to long term.

THE PATH LESS TRAVELLED. As countries enter the second phase of the Covid pandemic of easing restrictions along with social distancing norms, there are two divergent paths for economic activity. One track is that government stimuli, together with lower fossil fuel prices, result in diminished incentives to invest in clean energy and clean tech. This will lead to a business-as-usual mode, to a pre-Covid-19 path. Crises and disasters (sars, 9/11, the 2008 Great Financial Crisis) have been associated with temporary dips in carbon emissions, with a 1.5% decline in output associated with a 1.2% drop in co₂. Emissions pick up again, typically with a vengeance, once activity recovers. Recent history provides evidence: it is estimated that following the global financial crisis in 2008-09, carbon emissions increased by 5.9% as a result of policy stimuli.

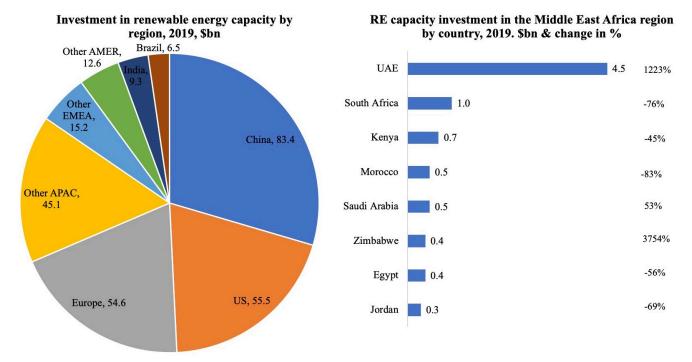
The second path is a green one wherein countries implement cop21 commitments and energy transition policies, moving to "Green Deals". This could take multiple forms: we could accelerate the decarbonization of power and road transport, place greater emphasis on energy efficiency investments, phase out subsidies, launch policy incentives to reduce carbon emissions and make a concerted effort to provide no bailouts for industries or business models that are not viable in a low-carbon world. Proactive fiscal policies can help nations become more climate-resilient through investment in climate resilient infrastructure and cities, along with instruments to transfer climate risks to markets (carbon taxes and carbon trading).

According to IRENA's 2020 "Global Renewables Outlook: Energy Transformation 2050", decarbonization of the global energy

system — away from fossil fuels to renewables — could <u>generate</u> <u>98 trillion dollars in cumulative growth</u>, adding an extra 2.4% to global gross domestic product. This is a conservative estimate that does not even take into account the negative growth effects of climate change and rising temperatures.[1]

CLEAN ENERGY AND CLEAN TECH INVESTMENTS. Governments in the GCC have been vocal supporters of renewable energy projects despite their vast fossil fuel reserves. The Covid-19 crisis has temporarily slowed deal-making in renewable energies in recent months, and this will likely affect investment levels in 2020. In comparison, renewable energy investments in the wider Middle East and Africa slipped 8% to \$15.2 billion in 2019, from a record total of 16.5 billion in 2018.[2] The uae was the biggest investor in renewables in the region last year, with the massive 4.3bn Al Maktoum iv solar project, while Saudi Arabia is accelerating investments, with a total 502 million dollars invested (including a windfarm project). Record-breaking bids in renewable energy auctions in Saudi Arabia and the uae have made solar power cost-competitive with conventional energy technologies. The United Arab Emirates is already ahead of the curve in terms of deployed energy storage to support its grid during high demand hours with two NaS battery storage projects in Abu Dhabi and Dubai.

Figure 1 . Investment: Global vs. Middle East

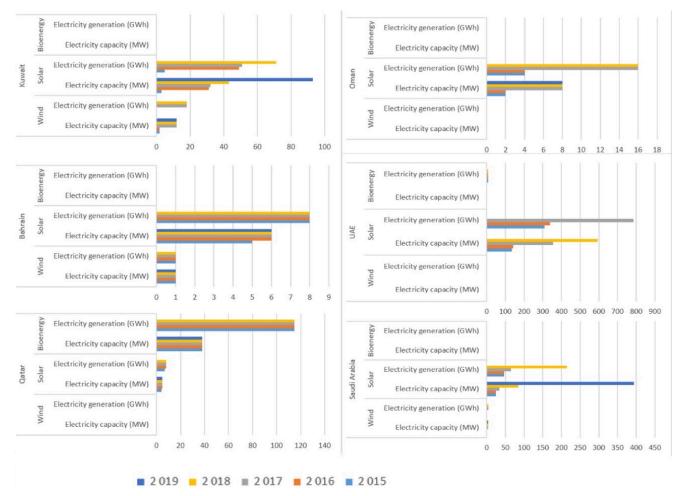


Source: Global Trends in Renewable Investment 2020

During the pandemic, governments have reiterated their commitment to support renewable energy policies. Recent announcements — Oman's financial closure of its Ibri ii plant, uae's upcoming plans to develop the world's largest solar power plant (2 gigawatt) in Abu Dhabi's Al Dhafra region (at a historically low price of 1.35 us cents per kWh), came just hours after Dubai awarded a contract for a project (part of a solar park designed to produce 5 gigawatts by 2030) to generate power at a tariff of 1.7 us cents per kWh, confirm the region's commitment to the sector.

New renewable energy projects in the region are becoming increasingly reliant on private funding (versus government support previously). Private power developers, who can borrow internationally at historically low interest rates, are helping to lower financing costs thereby leading to even cheaper power. The bottom line is that growing private sector participation in energy projects along with technological innovation that is rapidly lowering the cost of renewable energy production and storage, will accelerate the energy transition in the Arabian Peninsula.

Figure 2 . Electricity generation and capacity in the GCC



Source: IRENA Statistics.

NEW GROWTH MODELS. The new oil normal presages permanently lower real oil prices and the prospect that plentiful fossil fuel (including shale), with increasingly ubiquitous, cheap renewable energy, along with energy transition policy and regulatory measures, will lead to an increasing proportion of fossil fuel reserves becoming stranded assets. This poses an existential threat to the GCC countries, though they are among the world's low-cost producers. The imf estimates that the GCC's net financial wealth (estimated at 2 trillion dollars at could be depleted by 2034, with non-oil wealth depleting within another decade.[3] The policy imperative for the GCC goes beyond recasting economic diversification strategies that are vulnerable to pandemics, development and growth models, with a focus on developing "green deals" as well as "blue deals" (given the vulnerability of GCC coastal areas to climate change). All this, while supporting increased economic digitization too. The current combined crises are a wake-up call for GCC governments to

design economic recovery programs accelerate to decarbonization and encourage investment in cost-competitive sustainable technologies. Pre-Covid, there were an estimated 6,722 active infrastructure projects with a combined value of more than 3.1 trillion dollars planned or under way in the GCC. These plans should be radically revised to invest in climate resilient infrastructure covering energy, water, transport and cities. Such a well-planned recovery would cut pollution, reduce the outsized carbon footprint of the GCC and also lead to job creation: each million dollars invested in renewables or energy flexibility is estimated to create at least 25 jobs, while each million invested in efficiency creates about 10 jobs.[4] The added macroeconomic benefit is that the GCC would release oil supply for export rather than subsidize wasteful domestic energy-intensive consumption and production activities.

Figure 3 . Energy transition in the Middle East OPEC nations, 2050

	Thousand jobs	Increment from current plans
Renewables	816	169%
Solar	365	223%
Bioenergy	139	156%
Wind	236	259%
Energy sector	3317	12%
Renewables	816	169%
Energy efficiency	1059	11%
Energy flexibility & grid	433	17%
Fossil fuels	975	- 24%
Nuclear	35	- 35%

Source: IRENA, "Measuring the socioeconomics of transition: focus on jobs", February 2020.

BUILDING BLOCKS OF A RECOVERY PROGRAM. I see four major steps to be taken in order to launch a successful recovery in the Middle East.

- 1. Structural reforms. The lowest hanging fruit is the phased elimination of fuel and utilities subsidies that are a drain on government finances. Removing subsidies up fiscal resources to provide financial incentives for the ubiquitous use of clean energy and clean technology within the broader framework of a "zero net emissions policy". Regional cooperation is required to support renewable energy growth across the region through a GCC integrated grid, unification of environmental standards along with a removal of barriers to trade and investment, to benefit from large economies of scale and avoid costly and wasteful duplication. A regional GCC grid could change global infrastructure by creating an energy corridor to East Africa, to Europe through Egypt and to India and Pakistan through a sea cable. Power exports would compensate the GCC for the gradual secular decline of fossil fuel exports through the export of higher valueadded solar power.
- 2. <u>De-risk fossil fuel assets</u>. Across the GCC, state-owned enterprises (soes) and government-related enterprises (gres) are majority owners and operators of upstream and downstream oil & gas (the power sector), while also investing heavily in renewables (even increasing their market share of new capacity relative to private firms in recent years). Given the growing risk of oil & gas reserves becoming stranded assets, the GCC states need to repurpose their soes and gres to support and survive a low-carbon energy transition plan. Saudi Arabia has recently shown the way through the partial privatization

- of Aramco. The privatization of oil & gas assets should be part of an overall strategy of sharing the risk of potentially stranded assets with investors. Proceeds of the privatization of fossil fuel assets need to be invested in a transformation of the economies of the GCC, sustainable diversification based on partnership with the private sector, with a strategy focused on investing in human capital and sectors capable of competing in increasingly digitized economies.
- 3. Green financing is integral to fuel climate change policies, for a low-carbon transition. Introducing carbon taxes should be the main plank: such taxes would not only raise revenue and increase energy efficiency, they would provide part of the funding decarbonization strategies. The imf finds that large emitting countries need to introduce a carbon tax that rises quickly to 75 dollars per ton by 2030, consistent with limiting global warming to 2°C or below. For a country like Saudi Arabia, revenues from a carbon tax (35 to 70 dollars per ton of emissions) could raise some 1.9% to 2.7% of qdp in revenue[5] in addition to reducing pollution, and being the most effective tool for meeting domestic emissions mitigation commitments. The other plank for the capital rich GCC is "green finance". The financial centers of the region could become regional and global centers for new energy financing, for the issuance of "green bonds" and Sukuk, as well as for facilitating the listing of Clean Energy and Clean Tech companies and funds. Ideally, this should be complemented with the creation of Green Banks to finance the private sector. Such institutions would support energy efficiency policies, retrofit where necessary, make climate risk mitigation investments and so on. The imf has estimated an annual financing gap of 2.5 trillion dollars through 2030 to attain the global targets set through the Paris Agreement and the broader un sdgs. Climate finance reached record levels of \$360bn

- in 2019 but this remains a tiny fraction of the required amount.
- 4. The Covid pandemic has accelerated the digitization process as people, governments and businesses have shifted online. The digitization of the energy sector is next through investments in smart grids, smart city technologies and the deployment of new digital technologies, low-cost cloud computing, the IoT, big data analytics, artificial intelligence and blockchain. This is an unprecedented strategic opportunity for the GCC countries to participate in the Fourth Industrial Revolution through the digitization of their dominant energy sectors, with massive "soft" (including training and building digital human capital) and "hard" investments by industry, prosumers, and governments to increase transform their economies and increase overall productivity growth.

GEOECONOMIC CONSEQUENCES. The year 2020 will likely witness the largest decline in energy investment on record, mostly due to Covid. A reduction of one-fifth - or almost \$400 billion is expected in capital spending compared with 2019.[6] Fossil fuel supply investments (e.g. exploration) have been the hardest hit while utility-scale renewable power has been more resilient, but this crisis has touched every part of the energy sector. As the energy transition progresses in the European Union and the United States becomes a net energy exporter, it implies less energy dependence on GCC. This lessens the region's geopolitical and geoeconomic importance. How should the GCC react? First of all, greater regional economic integration is required, with a focus infrastructure and logistics: energy, water, transportation, digital highways. As noted above, a new energy infrastructure would enable the GCC to shift to selling renewable-energybased electricity to Europe (via an interconnected power grid), to East Africa, but also to Pakistan, India and East

Asia. Secondly, the GCC needs to formalize their shifting trade and investment patterns towards Asia and China through new trade and investment agreements with China, Japan, Korea, and the Asean countries. Thirdly, a new extended Gulf security arrangement needs to be negotiated to reduce arms expenditure and focus on economic development. Finally, the EU and the GCC should develop a strategic techno-energy partnership: the Gulf countries could supply solar-generated electricity, while Europe contributes as a renewable energy and climate change technology partner.

China's investment in GCC 2005-2020 GCC's Trade with China (\$ bn) 45 (\$ bn) 12 38.64 40 10 33.53 35 8 30 25 6 20 15 10.75 10 7.72 5.81 GCC-China GCC-Developing Asia 1.42

Bahrain Kuwait

Qatar

Saudi

Arabia

UAE

Figure 4 . China-GCC trade and investment

Source: IMF DoTS, Refinitiv Datastream, AEI's China Global Investment Tracker.

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[1] Matthew Kahn et al, in their 2019 paper "Long-term macroeconomic effects of climate change: a cross-country analysis", found that a persistent increase in average global temperature by 0.04 degrees Celsius per year, in the absence of mitigation policies, reduces world real gdp per capita by more than 7% by 2100; abiding by the Paris Agreement limits the temperature increase to 0.01°C per annum, which reduces the loss substantially to about 1%. According to a nasa study, 2010-2019 was the hottest decade ever recorded. A goal of the Paris climate accord was that global temperatures need to be kept from rising more than 1.5°C, but a United Nations report in Nov 2019 found that the world's emissions would need to

- shrink by 7.6% each year to meet the most ambitious aims of the Paris climate agreement.
- [2] See "Global trends in renewable energy investment 2020", Frankfurt School-unep Centre, BNEF report, June 2020.
- "The future of oil & fiscal sustainability in the GCC region, imf Working Paper, January 2020.
- IRENA, "Global renewables outlook: energy transformation 2050, April 2020.
- [5] IMF, "Putting a price on pollution", December 2019.
- [6] IEA, "World energy investment 2020".

Panel discussion "Managing energy transition in the Middle East" at World Energy Week Live, 7 Oct 2020

The collapse in oil demand and prices due to Covid-19 has had a devastating impact on the resource-dominant countries of the Middle East. Will this delay economic reforms and a transition to lower carbon economies, or can this pose an opportunity for the region to accelerate energy transition and economic diversification?

This panel session, broadcast on 7th Oct 2020, was part of the Middle East and Gulf States session at World Energy Week LIVE on the theme "Managing Energy Transition in the Middle East"

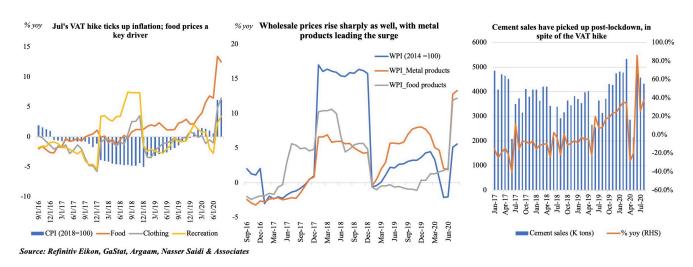
Dr. Nasser Saidi joined an esteemed panel comprising of Adam Sieminski, President, KAPSARC, Adnan Shihab-Eldin, Director General, Kuwait Foundation for the Advancement of Sciences and Robin Mills, CEO, Qamar Energy in a session moderated by Eithne Treanor, Executive Chair, WE Talks, World Energy

The session can be accessed below:

Weekly Insights 22 Sep 2020: Looking beyond Saudi inflation & oil exports

Charts of the Week: Saudi inflation numbers (consumer & wholesale prices) show the impact of the tripling of VAT. For now, a proxy indicator of cement sales is showing a pickup post-lockdown, in spite of the VAT hike. We also track the recent changes in Saudi exports, also to understand the impact on government revenues.

1. Saudi inflation picks up post-Jul's VAT hike



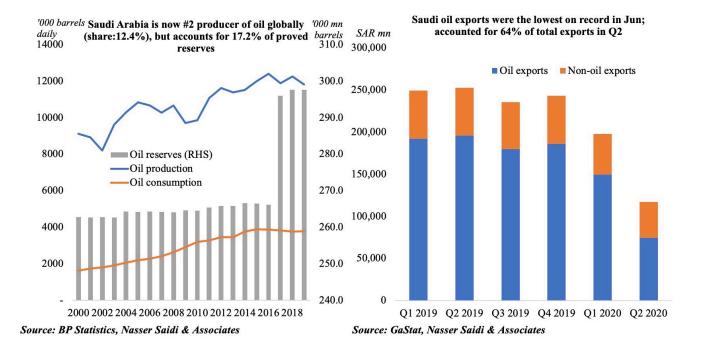
Headline inflation has been climbing in Saudi Arabia from Jul, not surprising given the VAT hike to 15% (from 5% before). The VAT effect is seen across multiple sub-categories, but note that food prices have been ticking up for many months now. Wholesale prices have also increased, similar to when VAT was initially rolled out in 2018, with metal product prices

leading the way: these hikes will also filter down to the enduser.

Household spending will be negatively impacted by the VAT hike (as seen from recent SAMA data), there seems to be an increase in cement sales — a proxy for the construction sector spending — after the expected dip during the lockdown period. This could be a result of work continuing on mega-projects like NEOM in addition to a boost from the housing market. The surge in mortgage loans this year (+94.4% year-to-date, with the value in Jun 2020 more than three-times compared to Jun 2019) and the announcement that homes priced at SAR 850k and below will not be subject to VAT will support the housing market. Risks of a severe slowdown in government spending and/or delayed payments could however affect near-term demand.

2. Oil sector in Saudi Arabia

The latest trade data from Saudi Arabia shows a drop in overall exports in Q2 this year (-53.6% yoy): oil exports were down by 61.8% yoy, and the share of oil exports fell to 64% in Q2 2020 vs 77.5% in Q2 2019. Partly attributable to the OPEC+ cuts and overall weak global demand for oil (given Covid19), this implies a substantial reduction in government revenues from oil (in 2019, an estimated 63% of total revenues was derived from oil). At the same time, non-oil revenue will also have declined: government's postponement of some taxes and fees will bite into revenues and lockdowns would have negatively affected private sector activity.



Q1 has already posted a budget deficit of SAR 34.1bn, and the IMF estimates (as of June 2020) overall fiscal deficit to widen to 11.4% of GDP this year from 4.5% a year ago. Fiscal consolidation efforts have been a cornerstone of every reform discussion and will likely continue to be — removal of subsidies, reducing public wage bills, raising non-oil revenues — at least in the near-term. This will likely be accompanied by more international debt issuances to finance the deficits, in addition to developing its fledgling local debt market.

The recently released data on world energy from BP shows that though Saudi Arabia is now the second-largest producer of oil globally (behind the US), its proven reserves still account for 17.2% of overall global reserves. But, with the rising rhetoric that oil demand may already have peaked, the pertinent question is whether oil could end up being a stranded asset sooner than later. In this backdrop, with the Covid19 pandemic and a resultant push for climate change policies (before it is too late), it is imperative that the recovery model for Saudi Arabia (and rest of the fuel-exporting nations) includes a strong clean energy policy component within overall reforms, alongside a recasting of its economic diversification model and social contracts.

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Role of Governments and Private Sector Players in accelerating Climate Finance in the Arab States, CEBC-UNDP webinar, 31 Aug 2020

Dr. Nasser Saidi offered the introductory remarks during the Clean Energy Business Council (CEBC) — UNDP Regional Hub (based in Amman, through its regional project "SDG-Climate Facility: Climate Action for Human Security") webinar focusing on the Climate Finance for Resilience in the Arab States region.

The discussions focused on the role of climate finance — public and private — in enabling transformative climate action and to meet the SDGs in a region that is characterized by a diverse set of countries, from highly developed, high income countries, to those that are continuously at risk of falling into poverty traps as a result of ongoing conflict and crises. These discussions are expected to lead to the development of partnerships among different actors to facilitate private investment to address the climate-SDGs nexus in the Arab States region.

The objective of the webinar (recording below) is to understand the experiences of governments and private sector players in accelerating climate finance in the Arab States region, leading to resilient development and growth.

"Tackling the Climate Emergency with Climate Finance", Emirates Environmental Group webinar, 28 Jul 2020

Dr. Nasser Saidi participated as a panelist in the webinar organised by the Emirates Environmental Group (EEG) on 28th of July — under the theme "Tackling the Climate Emergency with Climate Finance". The panel discussion focused on the urgent need for increasing government and private spending on crucial sectors such as health, education, infrastructure, and climate change as well as open up a dialogue about the financial opportunities in the UAE that can be diverted towards combating climate change.

The panel discussion can be viewed below:

"The Economic Consequences of COVID-19 & Impact on Clean Energy", CEBC webinar, 6 May

2020

Dr. Nasser Saidi's presentation titled "The Economic Consequences of COVID-19 & Impact on Clean Energy" was part of the Clean Energy Business Council's webinar titled "A Pandemic, Oil Price Collapse, A Recession: Is the Future still Green?" held on May 6th 2020.

A summary of the webinar is available on the CEBC website (https://cebcmena.com/knowledge-centre/reports-and-publications/) and can be downloaded directly here.

Watch the webinar below:

Radio interview with Dubai Eye's Business Breakfast on UK's new finance minsiter & Lebanon's economy, 18 Feb 2019

Dr. Nasser Saidi spoke with Dubai Eye's Business Breakfast team on various topics ranging from the UK's new finance minister to Lebanon's ongoing economic worries and also corporate governance issues given recent UAE equity-related news.

Listen to the full radio interview at https://omny.fm/shows/businessbreakfast/nasser-saidi-associate s-18-02-2020

Clean Energy Challenges & Prospects, Presentation at the CEBC 7th MENA Clean Energy Summit, 20 Nov 2019

The presentation titled "Clean Energy Challenges & Prospects" was given as the opening keynote address at the CEBC 7th MENA Clean Energy Summit held in Dubai on 20th November 2019.

In his speech, Dr. Nasser Saidi, in his capacity as Chairman of the Clean Energy Business Council, provided an oversight on the clean energy and clean technology developments while outlining the major themes for the MENA region's renewable energy sector.

The focus was on energy efficiency (how it needs to be scaled up), the transformation of transportation (e.g. EVs), energy transition, and financial stability risks rising from climate change risks among others.

Introductory remarks at
CEBC's "ESCO Market in MENA:
Challenges vs Opportunities"

event, 15 Sep 2019

Dr. Nasser Saidi, in his role as the Chairman of the regional Clean Energy Business Council (CEBC), provided the <u>introductory remarks</u> at the event titled "ESCO Market in MENA: Challenges vs Opportunities" that took place on September 15th in Dubai.

Dr. Saidi's presentation explored the current energy use in the Middle East region, before highlighting the benefits and challenges of energy efficiency policies and outlining the role of Energy Service Companies (ESCOs) and their regional experience. The presentation finishes touching on the way forward in energy efficiency reforms and the role of theCEBC in this regard (including the working group on energy efficiency).

"Clean Energy in MENA: Industry & Workforce Readiness", CEBC report launch, 23 Apr 2019

The Clean Energy Business Council (CEBC) launched a survey-based report titled "Clean Energy in MENA: Industry & Workforce Readiness" on 23rd Apr, 2019, at the Capital Club in Dubai.

To download the report, please access the CEBC webpage $-\frac{here}{To}$ To download the presentation, which discusses the climate change-related challenges facing the MENA region as well as the results of the CEBC survey, please click $\frac{here}{L}$.

The future of energy: innovation, technology and geopolitics, Panel discussion at Aspen Institute Italia, 3 Jul 2018

Dr. Nasser Saidi participated as a panelist at the Aspen Institute Italia event titled "Il futuro dell'energia: innovazione, tecnologia, geopolitica" (The future of energy: innovation, technology and geopolitics) on 3rd July 2018.

Innovation in the field of energy takes place at various levels simultaneously, resulting in a truly "disruptive" combination: new digital technologies (with the growing role of artificial intelligence and blockchains); "smart grids" that permit an improved and increasingly steady coordination between supply and demand; greater storage capacity (batteries of varying sizes) that will make it possible to overcome the problem of discontinuity among renewable fonts; the availability of low-cost abundant, clean energy (low environmental impact) for people and businesses. With the push digital technology generating more rapid transformations, it is not easy to accurately predict the timeframes and means of future efforts; but the direction is quite clear, as is its influence on the daily life of anyone who is going to be using electrical power - i.e. an unprecedented number of persons.

More: http://www.aspeninstitute.it/en/programs/future-energy-i nnovation-technology-and-geopolitics

Opening address at CEBC's Annual Event, 8 Dec 2015

The below speech was delivered as the opening address at the Clean Energy Business Council's annual event held in Dubai on 8th Dec 2015.

Good Morning, ladies and gentlemen, or Alsalamu aleikoum as we say in this part of the world. Welcome to the CEBC's 2015 Annual Event.

We are meeting at a historic moment in time. Global leaders have gathered in Paris to address the imminent threat climate change poses and attempt to finalize an international agreement to limit global warming and adapt to its impacts. Managing climate change is the central challenge facing humanity. But will we take action now or procrastinate as is characteristic of human nature?

Climate change is causing a dramatic shift in the earth's ecosystems and food supply chains. Droughts are escalating, oceans are warming and acidifying, temperatures are increasing and ice-sheets are melting at alarming and unparalleled rates. We have entered the 'Anthropocene age' where humans are systematically destroying their environment, their livelihood, their home and their planet. What is unknown is the extent of destruction and damage that will impact the planet if this is left unchecked.

The recent Intergovernmental Panel on Climate Change Report predicts a global average temperature rise of 4°C or more by the end of this century. Temperature increases of this magnitude have not been seen for tens of millions of years. Too much or too little water has the potential of causing

severe and sustained conflict that could result in the migration of hundreds of millions of people, and decimation of animal, plant life and habitat.

Much of the developed world have already made some commitment to reduce their carbon emissions. The EU aims to lower emissions from a 1990 baseline by at least 40% by 2030. The US has pledged a reduction in its GHG emissions by 26-28% below its 2005 levels. China, a leader in renewable energy investment has set a target of reducing its CO2 emissions per unit of GDP by 60-65% on 2005 levels by 2030. But to achieve these targets robust policy and regulation needs to be developed, and implemented locally.

Closer to home, the UAE announced plans to increase its low-carbon energy contribution to the overall energy mix from 0.2% in 2014 to 24% in 2021 by implementing energy efficiency measures, feed-in tariff reforms and demand-side management initiatives. Last month, the government unveiled the *Dubai Clean Energy Strategy 2050* which will see 7% of the emirate's energy come from clean energy sources by 2020, increasing to 25% by 2030, with a target of 75% by 2050. Plans also include the establishment of a Dh100 billion Dubai Green Fund as well as the DEWA Innovation Centre, which will house research and development laboratories in the field of clean energy with an estimated investment of 500 million dirhams.

Many other Middle East and North African countries are following suit with ambitious renewable energy programs underway including Morocco, Egypt, Kuwait, Jordan, Qatar, Saudi Arabia, Oman, Turkey, Bahrain, Iran and others.

Recent innovation and technological change imply that there is no trade-off between decarbonisation and economic growth. The transition to the *new climate economy* presents significant opportunities for growth inducing investment, job creation, new innovations, productivity growth and entrepreneurship, and the development of clean and renewable energy financing such

as Green Bonds and Sukuk that will create a new asset class. The appetite is definitely there: green bond issues to pay for low carbon energy projects reached \$36.6bn in 2014, more than triple the previous year.

We at the CEBC have been working closely with the Dubai Supreme Council of Energy to implement a Green Sukuk. The UAE's open and developed international financial sector has the potential to become a global hub for renewable and clean energy financing.

The CEBC is incredibly excited about the future of clean energy in the MENA region as we see a major shift towards the adoption of renewables and clean-tech solutions, along with the necessary regulatory frameworks.

Job creation and human resources will play a key role in the new energy economy and its successful deployment. It is our view that the industry needs access to a wider pool of talented individuals. CEBC's Women in Clean Energy program, which will be launched later in the morning, aims to help address this gap and will provide practical steps to encourage more women into jobs in the renewable and clean energy sectors.

It is my great pleasure to be joined today by distinguished guests and regional government representatives who will share the latest developments and insights into their country's current activities, future plans and lessons learned. On behalf of the CEBC Board of Directors I would like to thank all of our guest speakers and share our deep appreciation for our international guests towards their valuable contributions to today's discussions.

I would also like to thank our sponsors ENGIE, Adenium Energy Capital, Latham & Watkins, Unidaan, Concentrating Systems, and Fleishman Hillard for their generosity and support. As a not-for-profit organization, it is through sponsorship and funding

from our members that we are able to deliver events such as this.

Let me end by quoting Christiana Figueres head of the UN Framework Convention on Climate Change, "never before has a responsibility been in the hands of so few". You are pioneers of a new age. I would like to encourage you to get more involved in CEBC's activities and networks. Please feel free to speak with any of our team during the day — we would be pleased to assist in any way.

Thank You.