

CLEAN ENERGY BUSINESS COUNCIL: TOWARDS A GREENER WORLD

COMPOSED OF ORGANIZATIONS from private and public sectors, the Clean Energy Business Council (CEBC) is focused in the promotion of a greener world by advocating renewables, energy efficiency, smart grid, energy storage and clean energy technology and solutions. It is the stage of stakeholders to convene with ideas, technologies and projects and also the platform for dialogue between member sectors to develop policies that will forward the use of clean energy across the MENA region.

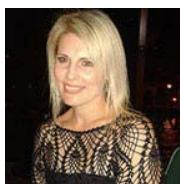
THE PERSONS BEHIND

Sharath Coorg is the Director of Acquisitions & Project Finance at ACWA Power, a leading project developer and one of CEBC's Founding members. Sharath was born in India and specializes in emerging markets covering both conventional and renewable energy projects. His job includes traveling to many countries, working on power and water desalination projects in Saudi Arabia, UAE, Czech Republic, Germany, Mozambique, and Vietnam.

Sarah Fitzgerald is GM at the Clean Energy Business Council. With a background in communications, she got involved in the not-for-profit sector doing fundraising for various charities. A New Zealander, she moved to Dubai with her husband and her young daughter five years ago beginning her career in renewable energy with the Middle East Solar Industry Association, before joining the Clean Energy Business Council in 2014.



Sharath Coorg
Director, Acquisitions and
Project Finance at ACWA Power



Sarah Fitzgerald
General Manager, CEBC



THE CLEAN ENERGY BUSINESS COUNCIL

GineersNow: Are you an educational institution, social enterprise, non-profit or private company?

CEBC: Clean Energy Business Council (CEBC) is a non-profit organization dedicated to promoting clean energy including renewables, energy efficiency, smart grid, energy storage and clean energy technology and solutions for the environmental sector. Established in 2008 by a group of leading institutions, companies and individuals who recognized the potential for a clean energy revolution in the MENA region, CEBC creates a forum for stakeholders to come together to exchange ideas, share information and facilitate projects. CEBC provides a platform to further dialogue between the public and private sectors to develop much needed policy and regulation to help drive the implementation of clean energy across the MENA region.

GN: How big is your company?

CEBC: CEBC is a membership organization comprising almost 100 members from private and public sectors which include Masdar, Dubai Supreme Council of Energy, Dubai Carbon Centre of Excellence, Ethihad ESCO, Oman Regulatory Authority, Schneider Electric, First Solar, Enel Green Power, Adenium Energy, Enerwhere, Ashurst, Itron, and Latham & Watkins, among others. CEBC is governed by a Board of Directors, under the helm of His Excellency Dr. Nasser Saidi, former Chief Economist for Dubai International Finance Centre (DIFC) and former Minister of Trade & Economy and Industry of the Lebanese Government.

With offices based in Masdar City, CEBC's mandate covers the Middle East and North Africa region and employs a staff of three, in addition to a voluntary Advisory Committee who provide guidance on technical matters and policy and regulatory recommendations.

GN: Describe your mission, vision and values.

CEBC: CEBC's mission is to establish a leading forum for companies and government entities focused on the development and deployment of clean energy in the MENA region and to promote the clean energy industry beginning to flourish in the region, informing the wider community of the benefits of the sector. We support and assist governments, industries and communities in the region to meet low-carbon targets and sustainability goals; and through collaboration with government agencies and other stakeholders, we aim to drive policy development and regulation and financing of this rapidly developing and exciting sector. By developing strategic alliances with research institutions, international associations, media and intergovernmental organizations, we work together to drive the delivery of clean energy solutions for MENA and coordinate and disseminate data and information to ensure relevant benchmarking and transparency in the sectors' development.

GN: Where is this company headed? What's your future expansion plans? Describe briefly your strategic goals.

CEBC: 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. This transition to a low-carbon economy presents significant opportunities with potential benefits such as growth in economy, creation of jobs, new innovations and technical developments, productivity growth and entrepreneurship, and the development of clean and renewable energy financing such as Green Bonds and Sukuk will help attract new investors. CEBC has been working with the government sector to implement a Green Sukuk, and with the UAE's open and developed international financial sector, we see potential for the UAE to become the global hub for renewable and clean energy financing.

ADVOCATING CLEAN ENERGY

GN: What is clean energy as defined by your company?

CEBC: A common definition of Clean Energy is any generation that has a lower environmental footprint than conventional (fossil-fuel based) electricity generation technology, although some fossil fuels (natural gas) and fossil fuel technologies (super critical coal) are considered in some jurisdictions to be sources of Clean Energy. The CEBC's definition of Clean Energy includes all renewables technology plus carbon capture and storage and energy efficiency. In relation to energy efficiency, we represent technologies that can help improve supply side efficiency and support demand side measures to improve the efficient use of electricity, such as smart grids and distributed generation.

Applications of clean energy technologies are determined, to a large degree, by the availability of naturally occurring energy resources and how cost effective they are to harness. Obvious technologies relevant to the region include Solar, Wind, CCS, and Energy Efficiency. Technologies with more restricted applications include bio-energy and geothermal.

GN: Why bother? What's the importance of pursuing clean energy?

CEBC: Renewable energy technologies are clean sources of energy that have a much lower environmental impact than conventional energy technologies and offer significant health benefits. Increasing the supply of renewable energy allows us to replace carbon-intensive energy sources and significantly reduce global warming emissions. With the cost of renewable energy decreasing, it is now an affordable and competitively-priced alternative to conventional electricity.

Wind and solar technologies are less prone to large-scale failure because they are distributed and modular. Distributed systems are spread out over a large geographical area, so a severe weather event in one location will not cut off power to an entire region. Modular systems are composed of numerous individual wind turbines or solar arrays. Even if some of the equipment in the system are damaged, the rest can typically continue to operate.

In addition, renewable energy will not run out, ever, while other sources of energy are finite and will someday be depleted.

THE MACRO LEVEL OF CLEAN ENERGY

GN: Where are we today? What is the current situation of renewables?

CEBC: While the MENA region has traditionally lagged behind much of the developed world in terms of uptake of renewable energy largely due to its abundant supply of oil and attractive subsidies policies, the landscape has shifted. We have seen another global first for the UAE with Dubai Electricity & Water Authority receiving a world record-low bid of 2.99 cents/kWh for the 800 MW third phase of its 5 GW Mohammed bin Rashid Al-Maktoum solar project. This comes hot on the heels of the announcement of the Dubai Clean Energy Strategy which aims to provide 7% of Dubai's energy from clean energy sources by 2020, increasing this target to 25% by 2030 and 75% by 2050. Plans also include the establishment of a Dh100 billion Green Fund.

The Abu Dhabi Water and Electricity Authority also announced a tender for a 350MW Solar PV project to be built 120 kilometers east of the capital. The facility would produce enough electricity to power more than 50,000 homes.

Egypt, Jordan and Morocco have also made good progress in their solar bids. Morocco plans to derive more than half of its energy from renewable sources by 2030 with the North African country raising its renewable energy target from 42% by 2020 to 52% by 2030. That 42 per cent will consist of 2 gigawatts each of solar, wind and hydropower. Saudi Arabia's new transformation plan includes 9.5 GW (9,500 megawatts) of renewable energy by 2030 and Qatar recently announced plans for a 1GW solar installation.

GN: Where should we be 10 years from now? Are we on the right track? Are we delayed? Are we progressing?

CEBC: Even as oil price plummeted from its peak in mid-2014, investment in clean energy has seen a surge. Global investment in clean energy increased from USD 316 billion in 2014 to USD 329 billion in 2015, which is the highest ever beating the earlier record set in 2011. This has been achieved in a scenario where the cost of installing clean energy, especially solar PV, has drastically fallen implying much higher capacity installation for the same investment. As mentioned above, we are seeing record low tariffs in solar PV of 3 cents per kWh which is cheaper than any form of conventional power – and record low tariffs have been achieved in wind as well. All these trends point to increasing deployment of clean energy in developing markets which are highly price-sensitive. Global wind installations are forecast to double from current level of 500 GW, and solar capacity is forecast to increase four times from the level of 275 GW over the next ten years. MENA region will contribute a significant chunk of this capacity addition as every country in the region is planning to deploy large capacities of solar (both photovoltaic and concentrated solar) and wind in the coming years.

THE MICRO LEVEL OF CLEAN ENERGY

GN: What are the initiatives / projects that you are doing (or have done) that will drive low or zero emission? What are the future innovations that your organization is pursuing?

CEBC: Employment and human resources will play a key role in the successful deployment of clean energy, and it is our view that the industry needs access to a wider pool of talented individuals. In response to this, we launched CEBC's Women in Clean Energy (WICE) program in 2015 to help address this gap and provide practical steps to encourage more women into jobs in the renewable and clean energy sectors. To date, WICE has established committees in the UAE, Egypt, Jordan, Bahrain, and Saudi Arabia.

CEBC also runs an environmental awareness campaign in schools across the UAE to educate children and the wider community about energy efficiency and the role clean tech can play in creating a sustainable energy future. Key objectives of the program are to empower future leaders, inspire children to consider new technologies as well as stimulate kids to think about what sustainability means to their lives and encourage them to adopt long-term measures to protect the environment. We now have 30 schools registered in the program with a combined student population of 60,000 children.

We also launched a Green Sukuk Working Group to promote the issuance of Sukuk for renewable energy projects. Set up by the Gulf Bond and Sukuk Association, the Clean Energy Business Council, and the Climate Bonds Initiative the group aims to channel market expertise to develop best practices and promote the issuance of sukuk for the financing of climate change investments projects, such as renewable energy projects. This initiative is the first of its kind taken to finance renewable energy projects in the MENA region.

In September 2015, the Sustainable Development Goals (SDGs) was launched at the UN General Assembly defining the start of a new era of global development partnerships. SDG 7 provides for Sustainable Energy to ensure access to affordable, reliable, sustainable and modern energy for all. This holds special importance in the MENA region, with aspirations across the region to scale up the share of renewable energy and energy efficiency in the region's energy mix. To help countries achieve this objective, the UNDP, Regional Center for Renewable Energy and Energy Efficiency (RCREEE) and CEBC have launched a new Arab Sustainable Energy Initiative comprising three pillars – Capacity Development, Sustainable Energy Finance, and Decentralized Energy Solutions.



THE CHALLENGES & THEIR SOLUTIONS

GN: What are the stumbling blocks or bottlenecks in the renewable industry?

CEBC: One of the challenges for clean energy is to compete with conventional energy sources that enjoy several explicit and hidden subsidies from the governments. Governments need to ensure a level playing field by taking into consideration the environmental cost of continued dependence on fossil fuels. Secondly, as the interest rate cycle reverses cost of capital will rise for new projects, this will imply tariffs in the case of capital intensive clean energy deployment will be higher. Also, low oil price will pose a challenge for deployment of clean energy by being a cheaper alternative where the two are pitted against one another.

Technologically, the challenge of clean energy, especially wind and solar, has been its intermittent nature. As a result, these sources cannot replace conventional power as base-load source. The promise of cheap energy storage offers a solution, but the cost of battery storage has to come down significantly to be at par with conventional base load sources.

GN: What do you think the government, private companies and NGO of each country should do to get rid of this?

CEBC: As mentioned above, governments must take into account negative externalities of their dependence on fossil fuel when making decisions on energy policy. In many places, governments have structured carbon tax and incentives for clean energy. But more can be done to reduce dependence on fossil fuels for energy needs. Germany, for example, has unveiled a program to encourage people to shift to electric vehicles. Battery operated vehicles combined with rooftop solar PV installations at household level can be a game changer in many countries in the coming years. There is also an important aspect of educating people in the Government as well as consumers about energy choices and its impact on environment where the NGOs such as CEBC will continue to play an important role.

GN: How do we provide cheap energy in poverty stricken areas? How do we ensure access to clean energy?

CEBC: Free markets are doing a good job of bringing down the cost of clean energy. Off-grid solar PV installations are an attractive solution for remote regions that are not connected by electric grid. In poverty stricken areas, the key challenge is access to capital. Micro-finance organizations can bridge the gap by providing loans or lease options to consumers who cannot afford to invest in a solar PV installation on their own. Further off-grid battery solutions which ensure uninterrupted power supply need to improve in terms of efficiency and cost to make it economically viable for poor parts of the world.

ADVICE TO THE YOUNG ENGINEERS

GN: Please give advice and words of wisdom about renewables to our young global audience. What would you like to tell to the millennials? Any inspiring words that you can share?

CEBC: The world is at the cusp of significant changes in relation to how we produce and consume energy. This will impact all aspects of our lives, the homes we live in, the way we travel from one place to another and how companies organize their operations. Companies that do not change as the energy markets evolve will be left behind, and smaller newer companies will take their place. This would apply to countries as well; the earlier they adopt clean energy as a strategic imperative, the stronger the clean energy eco-system will be and greater the job opportunities for its citizens. For young people who are still in college or have recently graduated, these changes offer opportunities to build a career that will not only be financially rewarding but also help contribute in making our planet a better place for all.

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