



Monthly Sustainability Newsletter

CHAIRMAN'S MESSAGE

September 2017, Vol. 1, Issue 8

Dear members, partners and friends,

It is my pleasure to introduce the September issue of the Monthly Sustainability Newsletter from the Al-Attiyah Foundation. This issue is devoted to the broader topic of sustainable development in the energy sector.

There is continuing discourse on the global energy mix, particularly in relation to the transformation of the energy industry and the challenges facing the sector. Sustainable development is undoubtedly one of the biggest challenges the world is facing, and the energy sector is not immune from the global societal quest to attain better quality of life.

The energy sector, especially oil and gas, has played a crucial role in industrialization since the beginning of the last century. Developing countries, in particular, will continue to rely on oil and gas to power growth in many areas, such as in transportation, electrification and industrialization. The use of hydrocarbon products in modern society is increasingly pervasive, and hydrocarbon derivatives will continue to play an important role for many years to come, even in a future where energy systems are shifting to low-carbon models. However, the way we produce and utilize energy needs to be effective, efficient, sustainable and whenever possible renewable. There is good news - according to latest data, more disadvantaged people are gaining access to electricity at a faster rate than ever before. However, the share of renewable energy is not growing at the same speed and energy efficiency improvement is also lagging behind. A recent report from the International Energy Agency stated that in high-income countries, energy efficiency is now the largest source of energy, because energy saved is energy that can be used elsewhere. In effect, we can strengthen the link between economic growth and energy demand just by improving energy efficiency.

This month's issue explores the importance of energy access, the sustainable development drivers in the energy sector and the role of the sector going forward.

THIS MONTH'S HIGHLIGHTS

Energy, Poverty and Sustainable Development.

Drivers of Sustainable Development in The Energy Sector.

The Role of the Energy Sector.

Upcoming Events

Oct 29 QGBC Annual Conference

Nov 28 8th Bosphorus Summit

Dec 5 CEO Roundtable Series 6

Important Announcement

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CEO Roundtable Series 6

"Energy Outlook to the Year Ahead"

Date: 5th December 2017

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3rd QGBC Annual Conference – Qatar

Date: 5th 29 – 31 October 2017

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8th Bosphorus Summit – Turkey

Date: 28 – 30 November 2017

Energy, Poverty and Sustainable Development

The energy sector can support poverty reduction. Around one in seven or 1.1 billion people globally lack access to electricity and almost 3 billion still cook with polluting fuels like kerosene, wood, charcoal, and dung. Without electricity women and girls have to spend hours fetching water, clinics can't store vaccines, children cannot do homework at night, people cannot run competitive businesses, and countries cannot power their economies.

In Africa, the electricity challenge can be daunting.

Take a country like Ethiopia with a population of 91 million people, of around 68 million people still are living in the dark. Even countries with energy access often have a highly unreliable service; one in three developing countries experience at least 20 hours of power outages a month. And in some parts of the world, there has been an increase of total grid failure. In addition, even when power is available, it can be prohibitively expensive. Many countries in Sub-Saharan Africa face electricity costs as high as 20-50 US cents per kilowatt-hour against a global average close to 10 US cents.

Inclusive economic growth is the single most effective way to reduce poverty and boosting prosperity. Yet most economic activity is impossible without adequate, reliable and competitively priced modern energy. When



people lack access to electricity, they have no sewing machines or rice mills or pumps for irrigating crops. Without electricity, businesses cannot run at night and it's close to impossible to attract companies to an area that could otherwise provide jobs and opportunities to young people.

In Liberia, a country in West Africa where just two percent of the population has regular access to electricity, it is abundantly clear that the creation of jobs and opportunities is impossible without energy. Energy and the poverty trap highlights two truths - People in poverty are the least likely to have access to power. And those people are in turn more likely to remain poor if they stay unconnected. This is why access to energy is so important in the fight against poverty.

(Source: www.un.org, www.iaea.org)



Energy Sector Outlook In 2040

If nations abide by Paris Agreement pledges



Increase in Renewables



Widespread use of Electric Vehicles

Source: www.iaea.org



Drivers of Sustainable Development in The Energy Sector

Energy Efficiency:

Over the past 20 years, a number of countries have made enormous strides in reducing their energy intensity. China is the giant in this regard, saving as much energy as it consumed between 1990 and 2010. Although when considering that China's economy is still about twice as energy intensive as Japan's, it is evident that there is still room for improvement. If we fully apply all the energy efficiency technologies that are already available today, we could cut energy consumption dramatically by about a third. However, only a fraction of this potential is currently being realized. Through a combination of energy efficient technologies, smart building design, and new renewable roof-top energy technologies, it is already possible to produce buildings that are zero net energy users. In many cases, they are generating solar energy that is going back into the grid for others to use.

Innovation in Technology:

Rapid technological progress is bringing down the energy cost for everyone, especially the cost of renewables. We are now seeing massive new investment in well-known types of renewables - like hydropower - as well as cutting-edge technologies like geothermal, solar and wind. The drop in the unit cost of solar photovoltaics alone to around one-third of what they cost in the year 2010, has helped put solar energy on a cost-competitive basis with traditional forms of energy in an increasing number of places. Between 2010 and 2012, we saw a four percent increase in the uptake of modern renewable energies globally. East Asia led the world in this regard, representing 42 percent of new renewable energy generation. Many countries have adopted policy incentives to encourage the use of renewable energy. Low-cost solar home systems have helped countries like Bangladesh and Mongolia bring energy to low-income households who would otherwise be living in the dark. Bangladesh now has the largest national off-grid electrification program in the world. Starting in 2003, the program is now connecting over 850,000 households to safe solar power every year. Since 2010, more than half of new power generation capacity built around the world has been renewable.

Electrification:

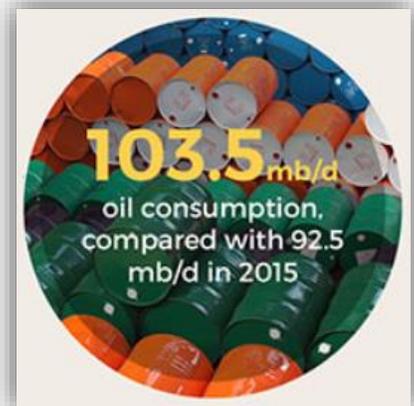
Electrification of many sectors has been identified as a key contributor to meeting demand while reducing emissions. The replacement of technologies that still run on combustion, like gasoline vehicles and heating systems, with alternatives that run on electricity, like electric vehicles and heat pumps, ensures that the majority of energy consumption comes from the power grid. Once the majority of sectors are electrified, the generation of that electricity can be controlled from a one-point source, i.e, power plants. This in turn leads to continuous improvement at the source at a faster sustainable rate.

Energy Sector Outlook

In 2040



Natural Gas Overtaking Coal



*Continued Increase in Oil
Consumption due e to increased
Energy Demand*

Source: www.iea.org



Natural Gas:

Natural gas-fired power plants have significantly lower emissions, releasing between 40 and 60 percent less CO₂ than coal-fired power plants. Natural gas is also a cleaner-burning alloy to renewable energy sources, like wind and solar, because natural gas-powered generators can back up other power sources much more quickly, when wind and sun are limited. In addition to utilizing natural gas for power generation, other uses are being investigated, such as in the transportation sector. Natural gas can provide a cleaner source of power for the world's small but growing fleet of electric vehicles and there is growing momentum and excitement about the potential of LNG in heavy vehicles, such as trucks, ships, barges and trains.

Climate Change:

With 196 countries adopting the Paris Agreement in December 2015, the world has now agreed on a blueprint for how to keep global temperature rise well below 2 degrees Celsius. Under the Paris Agreement, each country has to set forth a climate action plan (a Nationally Determined Contribution – NDC), which describes the targets of the country, and the means for reaching the target. These NDCs provide some direction to companies and organizations, on the role they can play, and how the new climate policies will impacted them. The energy sector is particularly driven by these targets as it currently contributes up to 60% of global greenhouse gas emissions.

(Source: www.worldbank.org, www.environmentalleader.com)

The Role of the Energy Sector

Oil and gas exploration and production are often pioneer economic activities in relatively undeveloped areas and can lead to further economic and social reform, including migration, spontaneous settlement, agricultural activities and infrastructure development. The challenge to society in the coming years will be to ensure continued development - to help the billions of people now in poverty, while at the same time managing the necessary oil and gas activities in order to mitigate the negative impact on the environment and valuable ecosystems on which we all depend.



Energy companies are now finding that, in addition to legal and regulatory incentives to operate in an environmentally responsible manner, there are also strategic, operational, reputational and financial reasons as well. For many companies, especially those that operate internationally, environmental and social issues have as much potential to harm their bottom line as financial issues.

(Source: www.un.org)

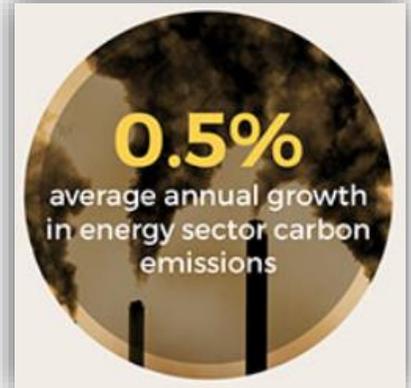
Journal Reference

[https:// www.un.org](https://www.un.org)
[https:// www.worldbank.org](https://www.worldbank.org)
[http:// www.iaea.org](http://www.iaea.org)
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Information

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Energy Sector Outlook In 2040



Small Annual growth in Carbon Emissions

But even then, energy sectors CO₂ Emissions are not on track for a 2 °C scenario.



Energy Sector needs to become Carbon Neutral

Source: www.iea.org