25th April 2020
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Sustainability and the Future of Engineers and Practitioners in Energy in the post-COVID 19 era

Reflections from the webinar organised and hosted by the Energy Institute – Young Professionals Network (YPN), in collaboration with the Emirati Engineers Abroad (EEA).

On the 22nd April 2020, the Energy Institute YPN joined forces with the Emirati Engineers Abroad (EEA) and invited a panel of speakers to share their insights on how the COVID-19 pandemic will shape the energy industry, globally and in the Middle East, and what the implications for the careers of young professionals might be. Considering the implication son sustainability can be economic, social and environmental and shape the future socio-economic, environmental and socio-political realities the panel was carefully selected for this webinar.

The panel was moderated by distinguished Emirati Scholars Dr Waddah Ghanem who is the Hon Chairman of the Energy Institute in the Middle East and Dr Ghanim Kashwani a post-doctoral researcher at the NYU, Abu Dhbai and featured Mr. Christof Ruhl (Harvard Kennedy Business School), Mr. Steve Scalet (ENOC), Mr. Sanjiv Singh (WIRE Consulting, Dubai, UAE) and Mr. Toby Robins (ex CEO of IEMA, UK).

The panel discussion was opened with a Lenin quote provided by Mr. Steve: "There are decades where nothing happens, and there are weeks where decades happen" – which is an accurate representation of how most us have been feeling over the past weeks while following the news from around the world and embracing the new reality of social distancing and living under a lockdown. What followed was a fascinating discussion that voiced many fears and challenges that our society is facing today, but also provided positive insights on how this global crisis can become an opportunity – both for the energy industry as a whole, as well as for the individual careers of engineers and practitioners.

1. Impact on the Global Economy

Over the period of the lockdown, preliminary estimates indicate a 35-50% decline in economic activity due to the restrictions imposed due to the spread of COVID-19. How fast and in what manner the global economy will return to pre-COVID levels is up for debate as forecasts which initially projected a "V-shaped" recovery curve following a 6 to 7 week period of lockdown are being constantly re-assessed and revised. While certain regions, such as Europe and North America, are expected to be hit the hardest with an impact of 5% to 6% on the global GDP, forecasts show that full recovery will only be observed in 2021 – 2022. Economies that are still recovering from the global financial crises of 2008-2009 are expected to be hit the hardest. However, due to the lack of data

on regions such as Africa, Latin America and some parts of Asia, the impacts on those economies are not known.

One of the most likely global challenges resulting from this will be the disruption of the food supply chain. The World Food Program is expected to experience significant setbacks and countries are likely to refocus their efforts on developing their own supply chains. In the UAE, the development of the dairy industry in the Al Ain farms can be showcased as an exemplary activity – looking at the shelves of your local stores today, you may have noticed the prevalence of local dairy products that increasingly replace imported brands. Similarly, other sectors are working towards absorbing the shocks in demand and planning on the course of action when demand once again improves after the lift of the lockdown measures.

2. Energy Industry

Mr. Christof argued that the energy sector is on the receiving end of the turbulence in the global economy – currently seeing an unprecedented reduction in demand. The demand for oil has dropped by a third, from around 100 million barrels per day (bpd) to around 65-70 Million bpd. This drop is mainly driven by the reduction in global transport due to mobility restrictions to contain the spread of the virus. The panellists debated whether the oil producing countries missed the “golden era” of high oil prices and failed to employ sufficient diversification measures, amplifying problems that we are experiencing today.

Because of the low oil prices and the reduction in government subsidies, the global energy mix in the short term may not follow its previous trajectory of increasing the share of renewable energy. Furthermore, during times of uncertainty, energy security may be more important to the public than the energy mix as the world falls back on conventional and reliable energy sources. For example, in order to accelerate the recovery, China has started re-opening their coal-fired power plants due to the availability and cost-effectiveness of fossil fuels when compared to renewables.

For renewable energy sources to be competitive, governments would have to increase subsidies during a time when the economy has been adversely impacted and these additional funds are redirected towards COVID-19 response programs. On the other hand, the exposed volatility of the oil and gas industry may re-direct private investments (most notably Private-Public Partnerships) towards financing more sustainable solutions in the long term.

3. Environment and Decarbonization

The impact of COVID-19 on the environment was a topic that raised significant interest of the webinar attendees during the Q&A session. Various, sometimes unexpected, phenomena have been observed over the past months (e.g. clearing of canals in Venice, Himalayas seen from India, re-migration of certain animal species) – which begs the question of whether it is possible to maintain these trends as the economies recover.

Mr. Toby pointed out that since COVID-19 has posed an immediate threat to our health and wellbeing, strict response measures have been adopted globally to fight the spread of the virus. Climate change, on the other hand, has no apparent immediate threats on

our everyday lives and the mitigation and adaptation measures needed have not garnered the same universal support as the fight against COVID-19.

The prevalent view of the panellists was that it will be difficult to maintain the environmental benefits after the lockdown, unless there is a continued behavioural shift for our communities and specifically in transport and mobility. These could include maintaining work-from-home policies, moving away from private vehicles and embracing ride-sharing, adopting automation and technology, etc.

In regard to the impact on decarbonisation and climate change action, it has been recognised that since ratifying the Paris Agreement of COP 21, countries around the world have not been doing enough to mitigate the long-term negative impacts of climate change – even if the scientific evidence is mostly in agreement that the economic cost of neglecting climate change action heavily outweighs the future costs of adaptation.

For example, this pandemic shows the massive potential to implement and contributes towards the SDGs via different parties of the stakeholders without compromise at the corporation's targets.

The social cohesion pioneered by the public response to COVID-19 shows that the global community can come together when faced with a challenge that threatens us all. It has definitely the potential to deliver the required scale of the shift in attitudes towards sustainability and the environment. This level of social engagement witnessed in many countries can support the transition towards a low carbon economy through social movements (for example, promoted by climate change activists like Greta Thunberg).

The panellists agreed that although the global environmental and climate change agenda may by hit in the short term, the long term structural environmental trends will prevail.

4. Social Aspects

At the time of writing this article, the global death toll has hit around 200,000. The major dilemma has been to maintain the death rates at a minimum with the increased strain on the healthcare systems, while balancing the economic impact of the restrictions and allowing people to return to work and continue working safely. There is no doubt that the pandemic has disrupted the way of doing business and fast-tracked the transition to remote working, while demonstrating its many benefits. It is predicted that employers and organizations will continue to implement remote working practices after the pandemic.

The Middle East is faced with a unique challenge where many foreign workers live in shared accommodation – which makes it exponentially more difficult to exercise social distancing as well as maintain their welfare during their off-work time. The pandemic is very likely to trigger a debate about Health, Safety and Environment (HSE) laws, worker protection rights, fair treatment as well as the approach of companies towards contractors versus full-time staff.

5. Careers

Towards the end of the webinar, Dr Waddah Ghanem Al Hashmi asked the panellists about their views on the future of careers for engineers and practitioners in the energy industry and what good sound advice they could offer.

The panellists agreed that the energy sector is extremely interesting due to its strategic importance as well as its fast-changing nature. There is an opportunity for young professionals to play a major role as the energy industry undergoes a restructuring process with decommissioning of outdated parts of the value chain and replacing them with new technologies, operational practices and solutions to improve performance and maintain competitiveness in the market.

Engineers and practitioners have the ability change the world and if you have right expertise – the world is your oyster. Although data science and digitalization were identified amongst the top "skills of the future", the importance of social sustainability and a variety of transferrable soft skills was highlighted as key for young professionals.

Engineers always present hopes for the mankind and they were the main reason for all the industrial revolutions. Further developments will come and will continue to provide opportunities for innovation. Engineers and practitioners in this space will be the catalysts that will drive that speed of development.

Mr. Sanjiv closed the discussion by urging the audience of young engineers and practitioners: **"Think outside the box about the innovations that the world needs today. As a young engineer, how can you contribute to preventing future crises?"**

6. Parting Thoughts

The webinar provided a great opportunity to bring four diverse experts to provide a myriad of views on very pressing questions considering current unprecedented circumstances relating to sustainability and the energy industry. It is clear now that the he energy sector is due to be restructured, and in this (now rapid) restructuring, there will be various impacts, many positive on the environment and some also on sustainability. The opportunities for engineers and practitioners in the future, especially the innovative young minds will be critical in shaping and creating the transition – this we hope will also bring about more diverse opportunities for these up and coming talents of the true 21st century.

The webinar recording is available on: https://youtu.be/tT25LvDN-HM