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ENERGY, JOBS AND SUSTAINABLE SOCIETIES

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The theme for this session is extremely important and has an overarching impact of different SDGs, where energy will play an important role. The ultimate goal is to ensure sustainable societies inspite of rapid urbanization due to migration of people for political reasons, climate change reasons or any other natural disaster that involves movement of large number of people from one place to another. In other words, we have to find ways so that inspite of all uncertainties adding up at one time steps can be taken to ensure that the systems, frameworks and implementation strategies ensure sustainable societies. The definition of sustainable societies has its own implications and varies vastly from place to place.

This Global SDG 7 Conference is expected to show future pathways to develop sustainable energy supply options in different regions of the globe.

WFEO and its Approach

I would like to present a brief on WFEO and its approach to attaining SDG targets. WFEO is an international organization, founded in 1968 under the auspices of UNESCO and has membership of 90 national engineering institutions representing over 70 million engineers worldwide. WFEO recognized as an NGO at UNESCO and is a member of Major Stakeholder Science and Technology Group at UN. Its outreach is effected through its Standing Committees. WFEO has a wide influence on governments, international agencies, business and academic groups as a respected source of advice and guidance on engineering and technology. In that capacity we are strongly supporting UN Sustainable Development Goals and trying to work out strategies for attaining these goals.

‘WFEO Engineering 2030’ is a Plan to develop engineering capacity to achieve the UN SDGs through our members; and in partnership with educators, governments and industries. Strategic initiative is to address the gap in engineering capacity to achieve the SDGs. Realising that actions for meeting the SDGs needs institutions and programme implementation in a regional context that need similar socio-economic structures, WFEO is coordinating through its members the institution building and capacity building programmes for professional engineering institutions. Mobility of engineers needs to be ensured through mutual acceptance of qualifications and experience as per the International Engineers Mobility Protocol. As the engineering fraternity has a crucial role to play in sustainable development, WFEO is identifying the gaps in different regions and sub-regions and trying to develop advisories so that regions deficient in institutional capacities and skills can undertake rapid capacity building. Over the last three days I have heard most of the participants, (including from Africa) mentioning that other regions will be able to meet SDG 7 targets but, Africa will not be able to attain the targets. I have a different opinion and I think WFEO can play a crucial role in ensuring that Africa-specific actions both in terms of institutions, demonstrable programmes and skills development can be carried out at a fast pace. Appropriate government regulations, policy support and training for an internationally acceptable framework are extremely necessary.

The President, WFEO has emphasized on developing WFEO World Engineering Index to enable comparison of engineering capacity between countries and regions. The policy makers can be informed about the Index and the need for development of appropriate data for engineering, essential to achieve the UN Sustainable Development Goals. A composition of the World Engineering Index will include engineering inputs in terms of engineering capacity and engineering needs and engineering outputs in terms of engineering activity and engineering needs.

Such a WFEO World Engineering Index will drive genuine engagement with the UN for international policies on capacity building for engineering. The idea here is that as companies are now competing to show their rating on the Dow Jones Index for green business and thereby ensuring the total greening of the production and supply chain; WFEO World Engineering Index will motivate business, governments and international agencies worldwide to collectively develop higher levels of delivery mechanism so as to attain the outcomes desirable under Global Agenda 2030.

Issues to be Considered

There are important issues that need to be considered while dealing with energy, jobs and sustainable societies. Global De-carbonisation has to take place at a rapid rate through energy efficiency measures, introduction of renewable sources energy, and changing production and consumption patterns. The experience of the last two years reflect huge introduction of renewable energy based electricity generation capacities both in terms of installed capacities as well as new contracts. This has thrown open the challenge in terms of manpower with appropriate skills at the highest level to the lowest level of activities. At present appropriate manpower does not exist globally. Many of the repetitive tasks will have to shift from manual to automation and robotic systems. The next generation workforce will be of a totally different nature and they will have to be appropriately trained for working on technologies that are more suitable for renewable sources of energy. However, it is certain that a larger number of jobs would be created as it is reflected in studies in different regions of the world.

Potential of Job Creation

As regards the jobs that will be created or supported while moving towards sustainable energy supply systems, various studies have indicated that moving on to the renewable energy systems results in higher job creation. As an example India has set a target of attaining 175 GW of power from renewable energy sources. It has been estimated that a total of 11,16,400 workforce would be required in solar sector by financial year 2022 for achieving a target of 100 GW of solar PV projects across utility and rooftop PV segment. These jobs shall be at different levels of highly skilled manpower, medium skilled manpower and the technician level manpower. A large number of training or skill building programmes have already been launched and it is expected that moving towards larger targets of renewable energy will create more jobs.

Higher level of electricity available from renewable sources of energy both in terms of grid-connected as well as off-grid sources will lead to creation of larger amounts of decent and satisfactory jobs in centralized manner as well as in decentralized manner in rural and remote areas. Even small quantities of off-grid electricity supply will result in productive job or income generation possibilities. No guess has been made on the exact number so far but every study has projected that number of jobs created through sustainable energy supply systems will be larger than centralized fossil fuel base power.

Sustainable Societies

Sustainable societies is an all-pervasive approach. Putrajaya and Masdar are examples of sustainable cities where facilities are created to a planned number of persons, but we have also to think of sustainability of societies in existing rural and urban habitat.

Habitat-III aligns with many of the SDGs, including SDG-11 on making cities inclusive, safe, resilient and sustainable. The New Urban Agenda also sets out aims to end poverty and hunger (SDG 1 and 2), reduce inequalities (SDG 10), promote sustained, inclusive and sustainable economic growth (SDG 8), achieve gender equality (SDG 5), improve human health and wellbeing (SDG 4), foster resilience (SDG 11 and 13), and protect the environment (SDG 6, 9, 13, and 15). The Agenda promotes a vision for cities that is grounded in human rights, and recognizes the need to give particular attention to addressing multiple forms of discrimination, including discrimination against people in slum settlements, homeless people, internally displaced persons and migrants, regardless of their migration status. Sustainable energy supply (SDG 7) has an overarching impact on various SDGs that really are taking care of the habitat. If we watch

carefully each of these SDGs can be attained for sustainable cities by ensuring sufficient sustainable energy supply. The effectiveness will anyhow depend on their success of effective use of systems and processes.

Whereas the above urban agenda talks of life in the urban areas, there is also a need to focus on sustainability of societies in the rural areas to reduce rural-urban migration and bring in stability in ecosystems. In that context energy supply has to ensure improved agriculture productivity and effective rural development which adds to higher income generation possibilities.

Conclusion

SDG 7 therefore becomes an important game changer in creating sustainable societies by the year 2030. I can say with confidence that reliable, uninterrupted, quality energy supply can transform the whole society by 2030. As engineering practices are most crucial for attaining SDG Targets, WFEO is organizing a Global Symposium on “Progressing the UN-SDGs through Engineering” as an event to celebrate 50 years of engineering leadership. WFEO has also considered to study this year the sustainable energy engineering practices to identify gaps and to find solutions so that SDG 7 targets are achieved. WFEO aims at producing a Status Report and Future Pathways for smooth transition to sustainable supply and achieve its targets. My interaction with a large number of participants from international agencies and different countries at this Conference reflects that they expect WFEO to play a crucial role in introducing the change.