Scientific and Technological Community Statement on Energy as an SDG

I am making this statement on behalf of the science and technology community.

Today we are faced with a situation where the lack of development, or the inequality of it, has brought us face to face with the prospects of rising social unrest and extreme human vulnerability exacerbated by the threat of climate change. Undoubtedly, the adaptive capacity of higher developed societies is significantly higher than that in poorer societies that do not have well developed infrastructures and institutions.

The production and consumption of energy, which is so essential to driving development, is paradoxically also a major contributor to the emissions of greenhouse gases and therefore to the phenomenon of climate change. As such, it is imperative upon the global community to ensure that neither does the threat of climate change deny access to energy to any person, nor does the challenge of satisfying energy demands aggravate the threat of climate change. The world needs to transform its energy systems to meet the twin objectives of providing energy for development and mitigating the threat of climate change.

The Global Energy Assessment (GEA), by assessing a broad range of resources, technologies, and policy options which support such transformations, identified forty-one alternative integrated scenarios or 'pathways' which simultaneously meet all of the goals (i.e., increasing energy security and stabilizing future mean global climate change at 2°C) and at the same time increase global prosperity and well-being. What this reveals is that there exists sufficient flexibility in countries to define, for their own special context, environment and development friendly energy pathways (contributing to both mitigation and adaptation). However, ensuring that we remain true to the calls upon the energy system to deliver on development, in its broadest sense, and climate change simultaneously will require a specific universally accepted goal on energy.

The transformation towards sustainable future energy systems, evaluated in the GEA, and mapping on well with the sub-goals of the Sustainable Energy for All initiative, requires:

- immediate action and the avoidance of 'lock-in' to energy demand and supply patterns counterproductive to sustainability goals;
- radical improvements in energy efficiency, especially in end-use, focusing on both new developments and retrofits;
- decarbonization through the rapid escalation of investments through greater shares of renewable energy and smart grids enabling more effective utilization of renewable technologies; and
- universal access to modern forms of energy and cleaner cooking through micro-financing and subsidies.

Science and technology inputs are urgently required, in support of such a goal, to establish real potential, to match technological advancements and supply characteristics with demand patterns on a systemic basis, to develop alternative business models that would deliver the transformations in the time frames needed, to study socio-economic behavior responses and to inform policy/regulatory frameworks for greatest effectiveness. The international science community is well prepared with the tools and techniques, and to undertake further research, that would support such transformations in energy systems and sub-systems when adopted in a goal oriented fashion.

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