WORLD SYSTEMIC FORUM (WSF) 2023
Roundtable Energy and Storage

Key Takeaways

The Summary WSF 2023 Energy and Storage is a wake-up call for concrete action in decarbonization for the energy sector. It is a collection of inputs from a diverse range of thought leaders from the industry, the academe, and from investors in clean energy. Their recommendations, and the foundations that underpin them, were collected in this summary to allow policymakers at the local, national, and regional level to support the energy transition through concrete action.

The key action points from the discussion are as follows:

- Clear communication is the key to guaranteeing commercial availability for new energy technologies. We have to ensure that the value of these is communicated clearly to both policymakers and to the general public.

- Energy policy must move away from fossil fuels that often create geographical dependencies and avoid fragmentation between national policies. New energy policy has to move towards more international coordination. Long-term investment security through cooperation with countries with high export potential for renewable energies and buyers to create an attractive investment environment along the entire value chain in the long term.

- Regulatory regimes should enable and support the adoption of new solutions, rather than restrict them. Enabling this can take the form of incentives and tariff reductions on products that provide clean energy and can be complemented by international development cooperation strategies that enhance access to clean energy and storage technologies. Monopolies in production of clean energy components should be avoided.

- At present, we do not have sufficient sustainability metrics. We need to establish quantifiable standards for this to measure progress in decarbonization. We need to see CO_2 footprint standards through the entire value chain defined and applied in incentivizing sustainable industrial practices, and thus disincentivizing dirty technologies.

- To protect energy systems from cyberattacks, risk assessments must be integrated in approval processes for grid connection. Follow ups must be conducted continuously to identify vulnerabilities and determine potential impacts of an attack.

- Without the rapid expansion of transmission and distribution grids, the energy transformation will not succeed. Regardless, in the short term, grids need to work with smart software solutions to link decentralized renewable energy (RE) generation plants and new users such as the e-mobility sector, industrial processes, and heat supply. The variable nature of Renewable Energy (RE) generation must be mitigated with energy storage systems such as batteries (for short-term storage) and hydrogen (long-term) to ensure the grid can manage the increase in RE. Hydrogen can be integrated with existing gas infrastructure to store excess RE production, which is less costly and wasteful than shutting down wind and solar power plants. Increasing green Hydrogen production is critical for the future of mobility.

- Technological developments must be scaled up and mainstreamed, thus we need sufficient industrial capacity, particularly for human capital in the cleantech sector. This necessitates capacity-building programs that need to start from primary school levels in both public and private education.

- We cannot afford to wait five to six years for a new standards regime to support new energy technologies such as hydrogen and synthetic fuels. We must start with pre-standards from lessons learned and make this available in months rather than years to allow key stakeholders to build upon these standards faster.

- There are two key motivators for societal change: cost and shame or peer pressure. We need to motivate people to make better choices for the sake of society as a whole and make it more difficult to consider dirty energy as a viable choice. A rating system such as the ones used in the appliance or food sector with clear indicators of which choices support more sustainable energy use could be implemented.