

# Integrating Battery storage with Renewables: A Techno-economic Analysis (On-grid and Off-grid Solutions)

7th May 2024 | 9:00 AM – 1:00 PM | Marriott Hotel Karachi, Pakistan

**Overview:** Harnessing electricity through renewable energy sources (RES) like wind and solar has gained traction in the global energy landscape significantly for the last decade. RE technologies have proved to be highly cost-efficient sources of energy and contribute to sustainable development goals (SDG-7) while reducing dependence on fossil fuels. Despite their popularity in the developed countries, RES have become a subject of critique in developing countries like Pakistan. The major arguments on RES include their variability in generation and it is often said that the variational nature of RES makes them unreliable. However, the variability of RES can be best dealt with by integrating cutting-edge technologies like Battery Energy Storage Systems (BESS). The hybrid proposition of RES coupled with the BESS offer multiple advantages like the firm capacity and peak support. Along with these, the hybrid system of RES coupled with BESS also alleviates the issues of frequency regulation and provides grid-stability and various on-grid and off-grid solutions.

**Purpose:** Considering the importance and need of this hybrid system in the power sector of Pakistan, Renewables First (RF) and Policy Research Institute for Equitable Development (PRIED) have jointly conducted a comprehensive study on the integration of BESS with RES. The study “Integrating Battery storage with Renewables: A Techno-economic analysis” delineates the various uses cases of the BESS integrated with renewables and shows how this hybrid proposition serves the purpose of meeting the variational nature of demand in Pakistan’s power sector. Further, it is also suggested that these hybrid systems can also be used by RE developers to offer customized products to their consumers as per their demand profiles.

The study will be launched on 7th May 2024 Tuesday 9:00 AM at “Marriott hotel Karachi”. The event will be attended by notable public and private stakeholders, including industry experts, RE developers, BESS manufacturers, academia professionals and private sector representatives.

## Agenda:

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<b>09:00 AM – 09:30 AM</b>	Morning tea & networking	
<b>09:30 AM – 09:45 AM</b>	Welcome & introductory remarks	Renewables First (RF) / Policy Research Institute for Equitable Development (PRIED)
<b>9:45 AM – 10:00 AM</b>	Keynote speech	Mujtaba Khan – CEO, Reon Energy

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<b>10:00 AM – 10:30 AM</b>	Integrating Batteries with REs - A Techno-economic Analysis	Presenter: Ubaid Ullah Khan, Renewables First
<b>10:30 AM – 10:45 AM</b>	Presentation from One Network	Presenter: One Network team
<b>10:45 AM – 11:15 AM</b>	Tea break	
<b>11:15 AM – 12:00 PM</b>	Panel discussion	<ul style="list-style-type: none"> <li>• Aysha Ahmed, RE-Empower</li> <li>• Ovais Fazal, Liberty mills</li> <li>• Faisal Murad, ENA Pakistan</li> <li>• Abu Bakar Ismail, Amreli Steels</li> <li>• Altaf Gul Muhammed, Yunus Textiles</li> <li>• Anila Fatima, One Network</li> </ul> <p>Moderator: Samir Ahmad CEO, Energy Futures</p>
<b>12:00 PM</b>	Closing remarks	Renewables First / PRIED
<b>1:00 PM</b>	Lunch	