

Transforming Women's Lives through Infrastructure
–Sector Training on Gender Mainstreaming
Transport – Water – Energy 4-7 October, 2021

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Lessons learned from South Asia:
Moving from centralized to
decentralized energy systems

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A. WHY FOCUS ON GESI in ENERGY SECTOR



ENERGY TRANSITION: OPPORTUNITIES

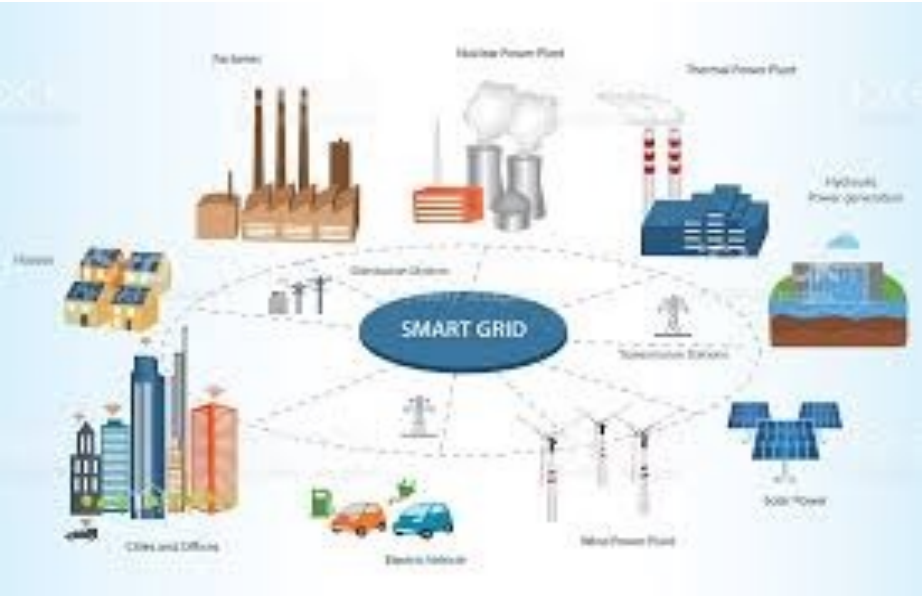
- **Low-carbon energy transition** entails structural change in energy systems (technologies and fuels, infrastructure, policies, markets and institutions) ► *smart grids* and *renewable energy systems*
- **Energy technology innovation driven by the** rising energy demand and the commitment to mitigate climate change ► operational and energy measures: *smart meters* (net meters), *smart appliances* and *energy efficient resources*
- **Leapfrogging technology and social equity gaps:** areas which have poorly-developed technology or economic bases can move themselves forward rapidly through the adoption of modern systems without going through intermediary steps.



Last mile connection & in-house wiring

Full electrification (e.g. Power for the Poor)

Energy-based livelihoods (newly electrified area)



Smart grids bring in a new paradigm of active distribution that can change the role of the **consumer**, **communities** and **society** transforming “passive” users into “active” players – both as producers and consumers (► prosumers)

Distributed generation (► RE, community-based decentralized systems); micro-grids; battery storage; smart meters; hydrogen powered system



A photograph of a man and a woman standing in a grassy field. The man is on the left, wearing a white cap and a light-colored t-shirt. The woman is on the right, wearing a yellow and orange headscarf and a red top. In the background, a large wind turbine is visible against a blue sky with some clouds. The scene is set on a grassy hillside.

B. ACHIEVING GENDER CORPORATE TARGETS



GESI & ENERGY: A FRAMEWORK

A. Achieving gender-related corporate targets



55% of ADB operations categorized as Gender Equity (GEN) and Effective Gender Mainstreaming (EGM), by 2030 ► impetus to mainstream centralized and decentralized systems operations.

B. Advocating for gender and energy



[Secondary information and data](#) ► ADB GESI Diagnostics of selected sectors + G&E Toolkit and Tip-sheet (2018)

C. Supporting evidence-based advocacy



[Primary information and data](#) ► Impact Evaluation of ADB-financed energy projects

D. Engaging in energy sector policy dialogue and research



► Tariff appraisal + Energy Technology Innovation in South Asia: Implications for GESI (2018)]

E. Developing capacity of ADB staff, energy sector agencies and utilities on issues and networks



**SARD portfolio = 23 EGM projects*





**C. GESI IN ENERGY SECTOR PROJECTS:
SARD EXPERIENCE IN CENTRALIZED & DECENTRALIZED ENERGY SYSTEMS**

BAN: Power System Enhancement and Efficiency Improvement Project (AF) (2020)

JFPR

IND: MP Energy Efficiency Improvement Investment Program (2011), with TA

TA

BHU: Alternative Renewable Energy Pilot Project (2020)

▶ *Pilot-test small-scale on-grid solar PV systems and support energy-based livelihood skills development [women/DAGs]*

BAN: Rupsha 800 MW Combined Cycle Power Plant Project (2018) (G-T&D)

▶ *10 kW solar system installed with energy efficient appliances and two IT and science laboratories for the boys' and girls' schools*

JFPR

IND: Scaling up Demand Side Energy Efficiency Sector Project (2019)

▶ *Energy-efficient technologies (smart meters, distributed solar PV systems and e-vehicles) supported with focus on end-user awareness and capacity development (women/DAGs).*

JFPR

MLD: POISED (2019)

▶ *Solar-diesel hybrid grids on outer islands (160) & Greater Male Region installed, incl. HH demand-side management programs targeting women consumers to improve energy efficiency.*

NEP: Electricity Grid Modernization Project (AF) (2021)

▶ *Training for Electricity User Cooperatives (EUCs) members on energy-based livelihoods; electricity efficiency and safety awareness (women/DAGs)*

SRI: Supporting Electricity Supply Reliability Improvement Project (2016)

▶ *RE systems established with: training on energy-based livelihoods and safe use of electricity equipment; (women's employment in O&M of hybrid RE systems; and support to time-saving infrastructure (small seawater desalination plant, small water storage tanks, an ice-making factory, refrigeration facilities, and public street lighting).*



BAN: Power System Enhancement and Efficiency Improvement Project, with JFPR Grant

Design features	Results
Conduct a survey on women-led energy-based livelihoods in project-covered areas	<ul style="list-style-type: none"> • Around 50 small business identified through the survey in the project areas
Provide training to new or recently electrified below-poverty line (BPL) HHs [target: 200 people with at least 30% women]	<ul style="list-style-type: none"> • 500 BPL consumers including 45% women trained on energy-based livelihoods and business development services
Provide end-user education to new or recently electrified HHs [target: 1,000 end-users with at least 40% women]	<ul style="list-style-type: none"> • 1,600 BPL consumers including 41% women trained on safe and efficient electricity use of energy
Provide technical skills training [target: 200 people from BPL HHs with at least 40% women]	<ul style="list-style-type: none"> • 1,100 end user consumers including 46% women trained on technical skills on distribution grid, service line and HH wiring maintenance and troubleshooting; energy auditing and energy management certification; simple and routine electrical repairs
At least 30% women employee in 5 rural electricity cooperatives (<i>Palli Bidyut Samitis</i>, PBSs) trained	<ul style="list-style-type: none"> • 500 rural electricity cooperatives staff with 30% women trained on GIS data collection & mapping and shared experiences with other PBS employees

*A gender analysis of Bangladesh Rural Electrification Board (BREB) corporate structure will be carried out and GESI strategy developed.

IND: Madhya Pradesh Energy Efficiency Improvement Investment Program, with TA

Design features	Results
Poor female headed households (FHHs) (100%) with power connections provided new meters and 24-hour supply	<ul style="list-style-type: none"> 98.8% of FHHs have 24-hour power connections ^a (Source: NSSO Time User Survey 2019).
10% increase in women-headed, start-up energy-based enterprises	<ul style="list-style-type: none"> 43.9% (from 116,368 in 2012 to 167,392 in 2019) women-headed enterprises in MP.
20,000 women entrepreneurs trained to access financial and microcredit services, market linkages and access	<ul style="list-style-type: none"> 20,729 women members of 2,803 self help groups (SHGs) in Program-covered areas trained to gain access to energy-based income-generating business opportunities.
500 women SHGs provided with energy related micro enterprise development services across 32 districts	<ul style="list-style-type: none"> 1,023 women trained. 517 women trained as business development services (BDS) providers. 590 women upgraded their existing enterprises into energy-based enterprises. 63 women accessed BDS through SHG assistance.
500 women in SHGs trained as trainers for the implementation of gender sensitive user awareness and energy conservation programs.	<ul style="list-style-type: none"> 506 women in SHGs trained



**INDIA GENDER EQUALITY
RESULTS CASE STUDY**
 ENHANCING ENERGY-BASED
 LIVELIHOODS FOR WOMEN
 MICRO-ENTREPRENEURS

ASIAN DEVELOPMENT BANK

Note: ^a The National Sample Survey Office (NSSO) works under the Ministry of Statistics and Program Implementation (MoSPi), GOI and conducts periodic socio-economic surveys in India.

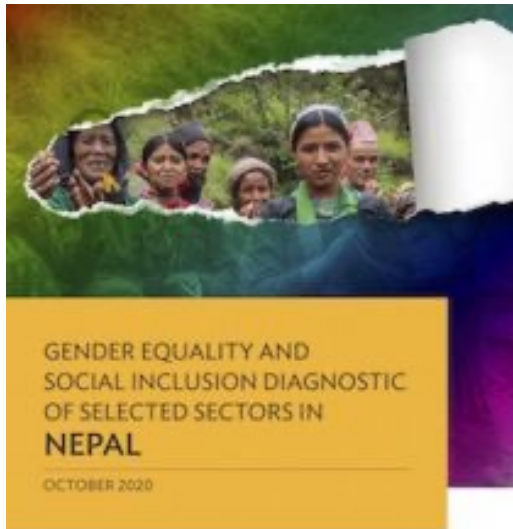
MLD: Preparing Outer Islands for Sustainable Energy Development (POISED) Project

Design Features	Results (as of December 2020)
Promote women’s employment and training during subproject construction and O&M of electricity assets on the islands	<ul style="list-style-type: none"> • RE and career guidance sessions for school children (incl. parents and teachers) for Grades 8–12 conducted in 109 islands [Total 6,745 students, with 3,292 (52%) women/girls]. • Female staff encouraged to join ongoing skills training for island level last mile connections and customer services, with 11/ 146 female staff trained in customer service for mini grid systems.
Create a HH demand-side management program to improve energy efficiency, targeting female HH consumers, with islands’ Women’s Development Committees (WDCs)	<ul style="list-style-type: none"> • Awareness campaigns on gender aspects of RE conducted in 111 islands, with dedicated sessions targeting WDCs (249 women) n 49 islands
Create an enabling environment for developing women’s microenterprises	<ul style="list-style-type: none"> • Preparations for installation of ice-making factories in four islands to be managed by island councils in partnership with WDCs underway.
Train FENAKA and STELCO staff in gender-inclusive community outreach approaches	<ul style="list-style-type: none"> • 121 technicians and 15 head office staff of FENAKA trained to implement the roadmap for RE mini-grid systems and scale-up proven solutions.
Incorporate gender mainstreaming in the development of roadmap for outer island transition to RE	<p>MLD Renewable Energy Roadmap (2020), with IRENA support, commits the Ministry of Environment and Energy to:</p> <ul style="list-style-type: none"> (a) train female staff of utilities in implementing RE mini-grid systems; (b) increase the number of female technicians and engineers; (c) ensure continuity of career guidance sessions for Grade 8-12 school children and promote women-run enterprises supplied with solar systems.



D. KNOWLEDGE PRODUCTS

ADB

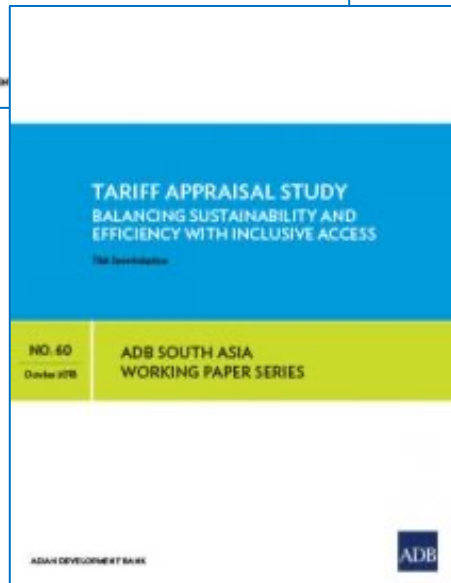
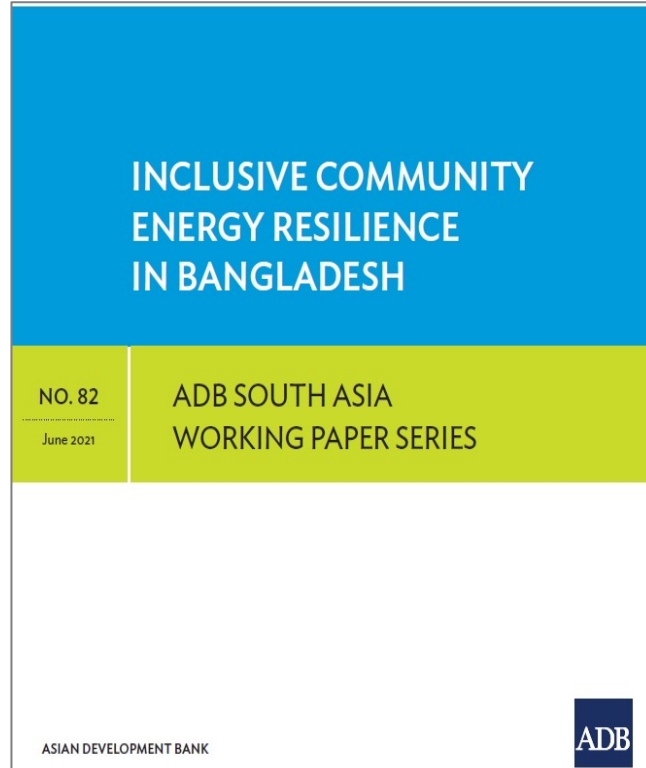
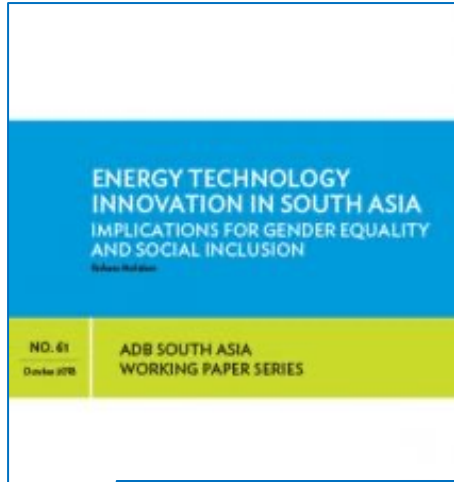


GESI Diagnostics of Selected Sectors (incl. energy), based on **secondary data**
(endorsed by SARD DMC Governments)

GESI Diagnostic [► in-depth energy sector assessment], incl.: analysis of GESI-related policy, legal/regulatory frameworks; GESI features of energy programs and projects (**primary data**)



(2) ENGAGING IN ENERGY-SECTOR POLICY DIALOGUE



The paper presents a framework for mainstreaming GESI performance in electricity distribution system planning and establishes a methodology for measuring and comparing community and electricity distribution system resilience to extreme weather events and clarifies how the approach can be tested in Bangladesh.

GESI Mainstreaming self-assessment tool (infra sector agencies)

Objectives

Determine the readiness and capability of the energy agencies and power utilities to engage with ADB in GESI mainstreaming in the energy sector, and their capacity development needs.

Enable ADB to identify potential areas for national and subregional collaboration to advance GESI in South Asia's energy sector.

Structure and Main Contents:

Inspired by the **EDGE and EDGE+** global assessment methodology and business certification standard for gender equality. The tentative titles of the tool's two parts:

○ **Part 1: Core GESI Themes and Topics**

✓ 34 questions that ask for initiatives, related to operational policies, internal operations, external operations, and common GESI mainstreaming elements, that promote **gender equality (binary women-men) and the participation of persons with disabilities**

○ **Part 2: Vulnerability and Marginalization**

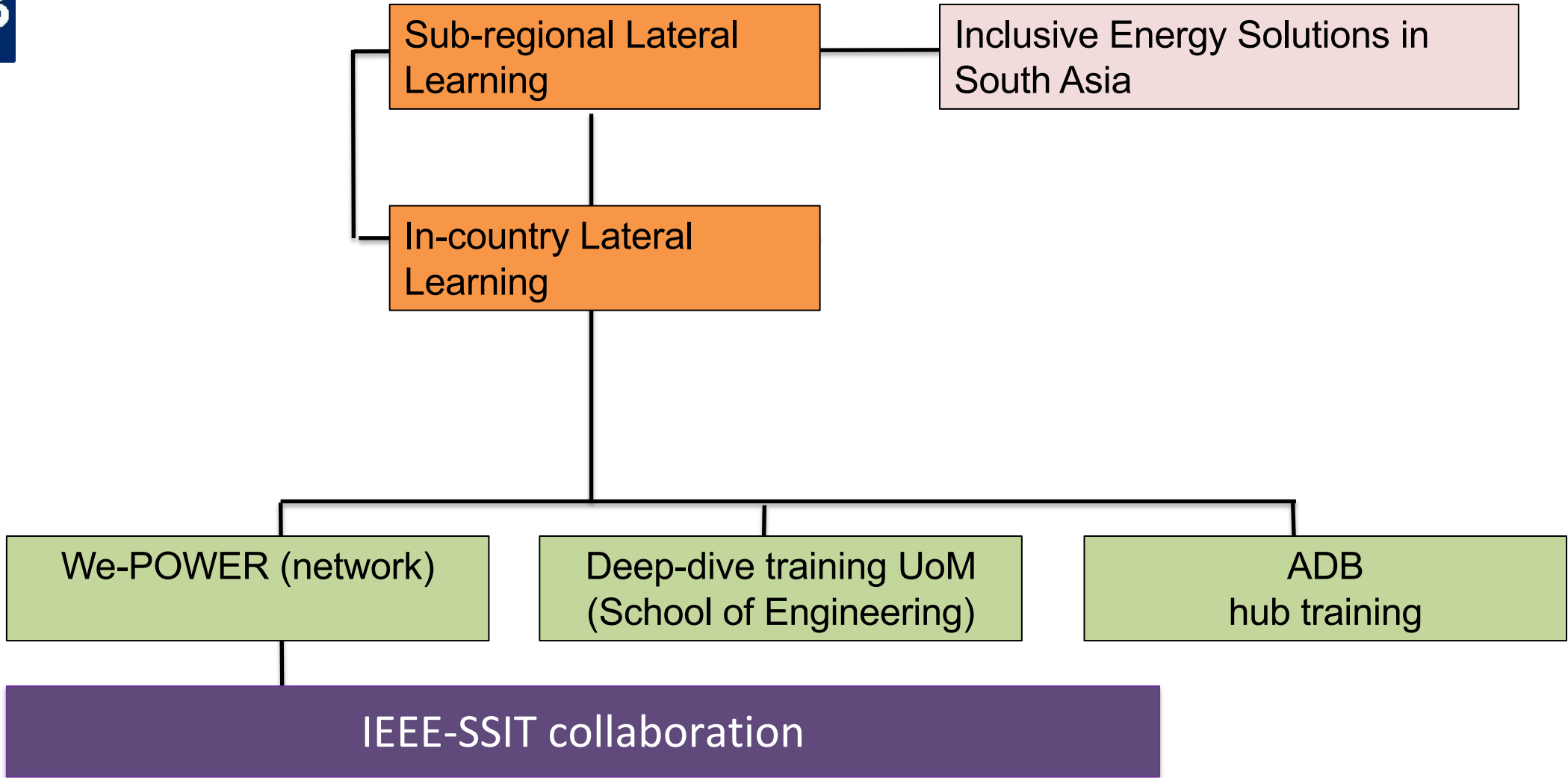
✓ 18 questions on GESI mainstreaming efforts, related to **other excluded and vulnerable groups (e.g., LGBTI+, marginalized ethnic groups and castes)**, which not all ADB's partner energy agencies and power utilities may be ready to tackle given their national contexts.



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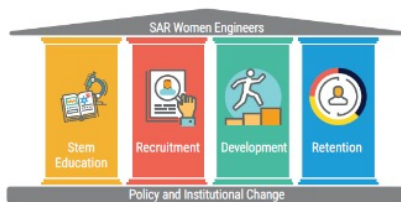
**E. DEVELOPING CAPACITY OF
ADB STAFF, SECTOR AGENCIES and UTILITIES**

ADB



- **We-POWER: Women in Power Sector Professional Network in South Asia** (WePOWER) is a regional network comprising energy-sector utilities, professional associations, CSOs, and private companies to support workforce participation of women in energy projects and utilities and promote normative change for women and girls in STEM.
- **We-POWER Partners** (29) [strategic (ADB, WBG); institutional (energy sector agencies/utilities and academic/training institutes); and individuals] collaborate to achieve the network's objectives and implement its work program.
- **We-POWER Pillars:** We-POWER Partners formulate and implement incremental gender activities along five strategic pillars: STEM Education, Recruitment, Retention, Professional Development, and Policy and Institutional Change.

- **Bhutan Local Chapter We-POWER** is the 1st local chapter established in SARD DMCs, aimed to engage government agencies, universities, private-sector companies, professional associations, local government, and CSOs to promote women participation in energy projects and utilities, and promote normative change regarding women in STEM in Bhutan.
- **Members** include, a.o.:
 - Bhutan Power Corporation
 - Druk Green Power Corporation
 - Ministry of Education
 - Ministry of Labor and HR Department of Youth and Sports
 - Department of Renewable Energy, Department of Hydropower Systems, Ministry of Economic Affairs
 - Royal University of Bhutan
 - Royal Education Council
 - College of Science and Technology Jigme Wangchuk Power Training Institute
 - Jigme Namgyal Engineering College
- Achievements across the five pillars submitted at Annual Meeting to We-POWER Secretariat (ADB/BHRM).



** Between February 2019 and February 2021, We-POWER Partners have implemented around 840 activities and benefitted around 14,800 women and girls.*

