KGID Spring 2022

KIAT - WB Collaboration

Industrial Technology and Energy ODA
Korea Institute for Advancement of Technology (KIAT)

Sharing Hope, Sharing Future
01

KIAT at a glance
<table>
<thead>
<tr>
<th>KAB</th>
<th>KEITI</th>
<th>KIEP</th>
<th>KOCOAL</th>
<th>KPC</th>
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<td>KOAMI</td>
<td>KOTRA</td>
<td>K-WATER</td>
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</table>
KIAT at a glance

Comprehensive Industrial Technology Support Organization for promotion of industrial technology innovation and policy development

- Innovation Policy Research and Planning
- Human Resources Development
- Development of Materials and Components Industry
- Regional Industry
- Support for enterprises
- Technology Transfer & Commercialization
- **International Technology Cooperation**
  - R&D with technologically advanced countries
  - Development cooperation with emerging nations (ODA)
02
KIAT’s ODA
KIAT, as the duly authorized agency of MOTIE, provides grant based ODA specifically focusing on Industry & Energy.
Main Sectors

Manufacturing
- Machine Tools
- Die & Mold
- Textile
- Smart Factory
- Cool/Cold Chain
- Electromobility

Agriculture & Fisheries
- Agricultural Machinery
- Food Processing

Energy / Natural Resource
- Electrification
  * Renewable Energy (solar, wind, mini-hydro)
- Energy Management
  * smart grid, microgrid

Environment
- Waste Management
- Water Treatment
- Soil Restoration
KIAT’s Development Cooperation

Cooperating with 28 Countries

Uzbekistan
- Textile Technopark
- Photovoltaic Generation
- Agricultural Machinery R&D Center
- National e-Trade Platform
- Digital Healthcare Platform
- Smartfarm Innovation Center
- Eco-friendly Agricultural Machinery
- TASK for Textile
- TASK for Agricultural Machinery

Kazakhstan
- TASK for Textile & Renewable Energy

Mongolia
- TASK for Textile
- TASK for Agricultural Machinery

Turkmenistan
- TASK for Textile & Renewable Energy

Azerbaijan
- TASK for Die & Mold

Iran
- TASK for Water Treatment
- TASK for Food Processing

Morocco
- TASK for Solar Energy

Senegal
- Power Grid Stabilization with Energy Storage System

Nigeria
- Stand-alone mini-grids

Uganda
- TASK for Food Processing

Sri Lanka
- Floating Solar PV
- Peak Reduction ESS

Ethiopia
- Eco-friendly Energy Town
- Textile Technopark
- Water supply infrastructure construction
- Agricultural Mechanization Center of Excellence

Tajikistan
- Solar PV and ESS
- TASK for Textile

Kyrgyzstan
- TASK for Textile

Laos
- Eco-friendly Energy Town

Vietnam
- Incubator Park (Completed)
- Agricultural Machinery
- TASK Center
- Railway (Track) Safety Enhancement

Philippines
- Distribution Voltage Upgrade
- Die & Mold Technical Center
- TASK for Food Processing
- TASK for Agricultural Machinery

Indonesia
- Machine Tools Technical Center
- Remediation of Mercury Contamination
- Solar charged e-vehicle system
- TASK for Die & Mold
- TASK for Textile

Cambodia
- Microgrid & Charging Station
- TASK for Food Processing

Guatemala
- TASK for Textile

Colombia
- Waste Water Treatment
- Water Treatment Technopark
- Gas Emission Reduction Device to Old Diesel Construction of
- Hybrid Power Plant in Bogota
- USME Self Generation System, Sucre
- Solar MG, La Guajira
- TASK for Automotive

Ecuador
- Microgrid in the Galapagos
- TASK for Food Processing

Peru
- Smart Distribution Network
- TASK for Leather

Paraguay
- TASK Center for Automotive and EV Supply
- TASK for Automotive
- TASK for Food Processing

Honduras
- Green Energy Island Project
  In Guanaja, Bay Islands

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- Textile Technopark
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  In Guanaja, Bay Islands
03

KIAT-WB Collaboration
KIAT-WB Collaboration

MoU

- WB* - KIAT MoU (Aug 2018)
  * Energy & Extractives Global Practice

Goal

- Advance access to affordable, reliable, and sustainable and modern energy
KIAT-WB Collaboration Sector

**Electrification**
- renewable energy (solar, wind, mini-hydro) microgrids
- hybrid power plant (e.g. solar + diesel backup + ESS)

**Efficiency**
- Automated Metering Infrastructure (AMI)
- Distribution Automation System (DAS)
- Supervisory Control and Data Acquisition (SCADA)
- Frequency Regulating ESS

**Other subjects as coordinated**
Collaboration Project Models

DEMONSTRATION

(KIAT) scalable project
→
(WB) replication

(KIAT) scalable project
→
(WB) scaled up project

PARALLEL FINANCING

(KIAT) component
∈
(WB) lending operation

Involves soft infrastructure only

KNOWLEDGE TRANSFER

(WB) lending operation
→
(KIAT) complementary assistance

Commissioned by KIAT
What’s included in the ?

For Demonstration and Parallel Financing Model

• Grant ODA in the amount of USD 10m, appx

Engineering
Construction / Installation
Procurement of Equipment and Tools
Capacity Building (local or/and in Korea)
O&M Plan Establishment
Any Other Complementary Activities
## KIAT-WB Collaboration Projects

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Country</th>
<th>Project Title</th>
<th>Status (as of Jan 2022)</th>
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<tbody>
<tr>
<td>2019</td>
<td>Senegal</td>
<td>Frequency Regulation System with Battery ESS Package</td>
<td>under implementation ('20-'22), USD 13m</td>
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<tr>
<td></td>
<td>Nigeria</td>
<td>Stand-alone Microgrid in FCT</td>
<td>under implementation ('21-'23), USD 14m</td>
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<tr>
<td></td>
<td>Philippines</td>
<td>Photovoltaic Micro-grid in Cebu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vietnam</td>
<td>Rooftop Solar</td>
<td></td>
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<tr>
<td>2020</td>
<td>Bangladesh</td>
<td>Electricity Distribution Modernization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nepal</td>
<td>Distribution System Automation and Demand Mgmt</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tanzania</td>
<td>Battery ESS for frequency regulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tajikistan</td>
<td>Construction of Solar PV and ESS and Sughd and VMKB</td>
<td>Launch in 2022 ('22-'25), USD 14m</td>
</tr>
<tr>
<td>2021</td>
<td>Ethiopia</td>
<td>Ethiopia: Frequency Regulation for Ethiopia for East Africa Power Pool</td>
<td></td>
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</table>
**Project Case**

**Frequency Regulation System with BESS Package, Senegal**

**Overview**

Provide 10 MWh FR-ESS at a substation near Dakar to supplement the increasing level of RE integration in Senegal.

**Budget** ~USD 13m  
**Project Duration** 2020-2022

**Main Activities**

- Site and utility engineering & installation
- Equipment procurement
- Training of operating and maintenance personnel

**Outcome**

- Grid stability and improved system operation (manual → automatic) leading to reduced number of power outages by 20%
04

Overall Timeline
Collaboration Process (N-2 yr)

N-2 year
Scoping Study

N-1 year
Budget Deliberation by the Korean Government

N year ~
Implementation

Grant ODA Projects involving **hard infrastructure**
(construction, system installation, equipment supply, etc.)

**must be in compliance with**
the “N-2 process”.
## Overall Timeline (N-2)

### N-2 year
- **Scoping Study**

### N-1 year
- **Budget Deliberation by the Korean Government**

### N year ~
- **Implementation**

<table>
<thead>
<tr>
<th>Year</th>
<th>Step</th>
<th>Actor</th>
<th>Activities</th>
<th>Date*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N-2 Year</strong></td>
<td><strong>Project Identification</strong></td>
<td><strong>WB TTL</strong></td>
<td>1. Complete the Project Proposal Form 2. Submit to ESMAP</td>
<td>TBD by ESMAP</td>
</tr>
<tr>
<td><strong>(2022)</strong></td>
<td></td>
<td><strong>WB EEX</strong></td>
<td>3. Collect submitted project proposals 4. Submit project proposals to KIAT</td>
<td></td>
</tr>
</tbody>
</table>
|               |                                     | **KIAT**    | 5. Select firms through an open bidding process  
|               |                                     |             | a) A call for proposals (30 days)  
|               |                                     |             | b) Evaluation and Selection  
|               |                                     |             | c) Sign contracts                                                      | (KST) May 16, 2022 |
|               | Scoping Study Implementation         | **Firms**   | • A kickoff meeting (video conf) with WB  
|               |                                     |             | • Conduct the scoping study based on the Project Proposal under the supervision of KIAT | Jul~Dec 2022  |
|               |                                     | **WB TTL**  | Facilitate (monitor, provide guides, support communications, etc.)       |               |
|               | Completion                           | **ALL**     | Share results of the Scoping Study                                         | Feb 2023      |
Selection Criteria

Priority in the National Development Plans

Scalability
(another source of funding, prospects for Korean Firms to participate)

Areas of Expertise

Relevance to other projects
(WB lending operation, EDCF, private investment, etc.)
• Not all requests proceed with scoping studies.
• Funding for implementation is not guaranteed.
Limitations

2022 WB-KIAT Collaboration Project Proposal Guidelines

- This document is intended to provide the overview of the KIAT-WB collaboration and guidelines to complete the project proposal form to apply for the 2022 WB-KIAT Collaboration Project, implemented by the Korea Institute for Advancement of Technology (KIAT) and funded by the Ministry of Industry, Trade and Energy of the Republic of Korea (MOTIE).

- WB TTLs are requested to submit the Project Proposals by the date set by the Energy and Extractives Practice Group, which will then forward to KIAT by April 22, 2022.

I. Introduction to WB-KIAT Collaboration Projects

1. Overview

The Korea Institute for Advancement of Technology (KIAT), one of the major government organizations under the Ministry of Trade, Industry and Energy of the Republic of Korea (MOTIE), mobilizes various resources and programs on MOTIE’s behalf, one of which includes grant ODA for industrial and energy development. KIAT has been cooperating with client countries through development cooperation projects employing modern industrial and energy technology for mutual growth.
Thank you!

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