



High-Level Technology Fund



ASIA and the PACIFIC

The Asia-Pacific region has made significant progress in economic development and poverty reduction, and many countries have attained upper middle-income country status.



As a result, the region's development needs have become more diverse and new development challenges have emerged.

- Many developing member countries expect infrastructure with high efficiency, functionality, and faster service delivery.
- Other countries face persisting development challenges that conventional technology does not adequately address.

High-level technology (HLT), innovative approaches, and a combination of different technologies can have a high impact on addressing these development challenges.



CHALLENGES

However, many developing member countries (DMCs) find it challenging to introduce HLT projects.

- HLT often originates in developed countries, and policy and decision makers in DMCs may not be familiar with the implementation of new and advanced technologies available in other countries.
- The skills and experience required to adopt, operate, and maintain HLT are limited in some DMCs.
- Financing can also be a constraint if the initial investment cost of a project incorporating HLT is higher than adopting conventional technology.



HIGH-LEVEL TECHNOLOGY FUND

Thus, the **ADB High-Level Technology Fund** was established in April 2017 as a **multi-donor trust fund** to provide **grant financing**.

It complements other funds by specifically promoting the integration of high-level technology and innovative solutions into ADB projects in **40 developing member countries in Asia-Pacific**.

- **Contribution:** \$40 million over 2 years from Government of Japan (so far)
- **Fund Manager:** SPD/SPOP



HIGH-LEVEL TECHNOLOGY

1. Technology that is new or needs scaling-up in the country.

2. ADB has not yet extensively supported.

3. Have at least one of the HLT characteristics.

Improves **efficiency** and **productivity**

Increases **functionality** and **access** to services

Introduces innovation in **processes, methods, techniques**, and the use of new improved **equipment** and **materials** in **construction, operations, and maintenance**

Reduces **environmental and social costs**

Reduces **life cycle cost**, increases **durability**, and improves long-term performance efficiency

Enhances the **scaling up** of HLT and **market opportunities** for scale-up

Promotes synergies and increases scale and impact through **cross-sector collaboration**

USE OF FUND

The HLT Fund supports

- ✓ technical assistance (TA),
- ✓ investment projects,
- ✓ direct charges, and
- ✓ other instruments.

Consulting services	Goods and works
<ul style="list-style-type: none">▪ feasibility studies▪ advisory services▪ capacity building▪ pilot and demonstration components▪ knowledge transfer▪ Others	<ul style="list-style-type: none">▪ equipment▪ plants▪ pilot and demonstration components

MAXIMUM FUNDING

- **TA or investment project: \$5 million**
- **Direct charges: \$150,000**
- **Subproject for pre-concept proposal based TA: \$500,000**

1. Full ADB financing portion

- When the TA/project comprises HLT in its entirety

2. Incremental cost of HLT integration

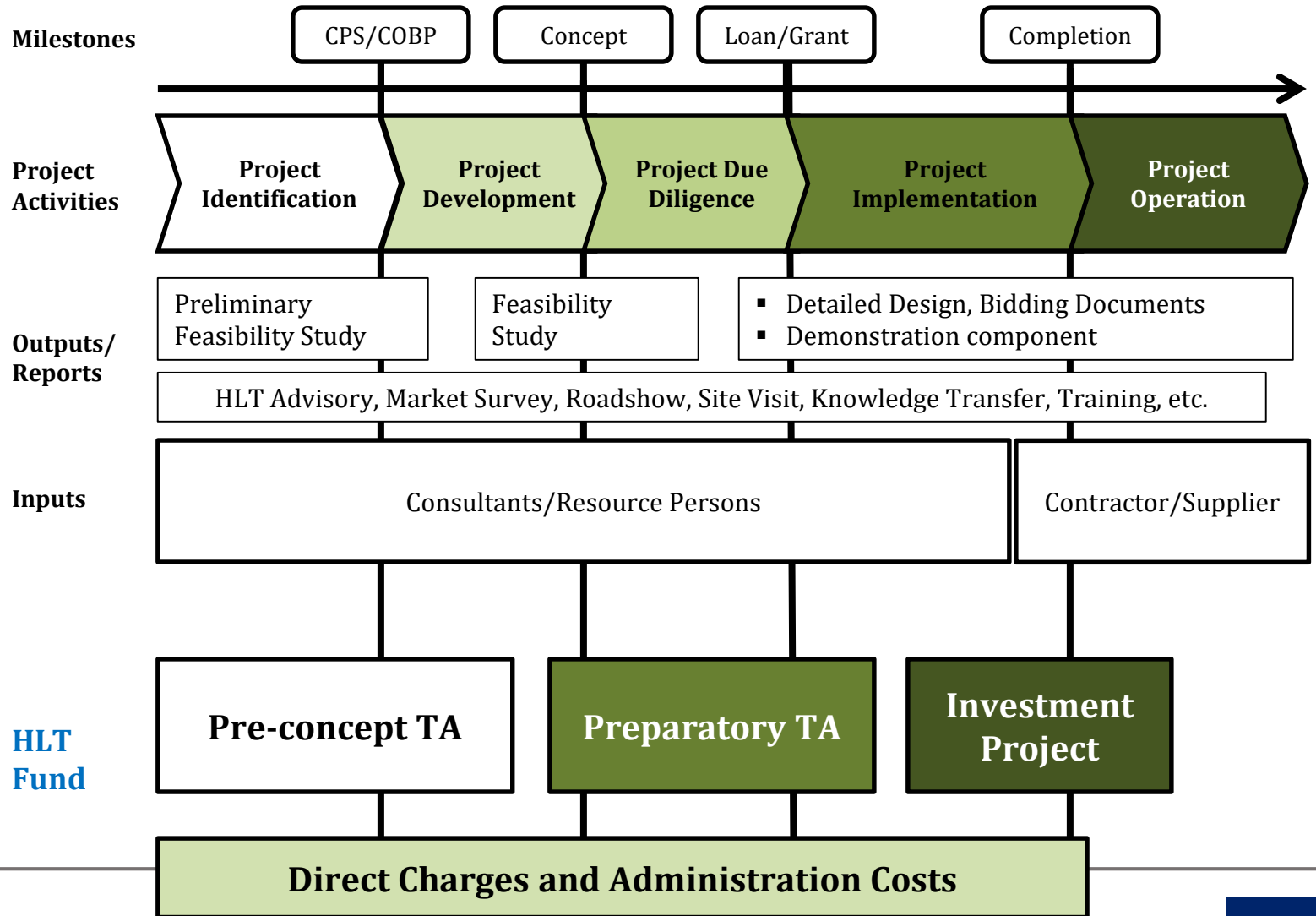
- When it is easy to identify the additional cost of HLT introduction

3. Up to 30% of the total cost of TA/project

- When it is difficult to identify the additional cost of HLT introduction

USE OF FUND

Project Stages



PRE-CONCEPT PARTNERSHIP TA

Also, through the Pre-concept Partnership TA, the HLT Fund can be used to identify and develop an HLT project at an early stage of the project cycle, even before the country programming, based on proposals by *technology providers*.

- **SCOPE:**

- Proof-of-concept, Pilot, or Preliminary feasibility study on sector specific priority HLT
- Innovative solutions on specific development challenges

- **FUNDING:**

- Subproject funding ceiling at \$500,000
- Technology firms covers the cost beyond the funding threshold

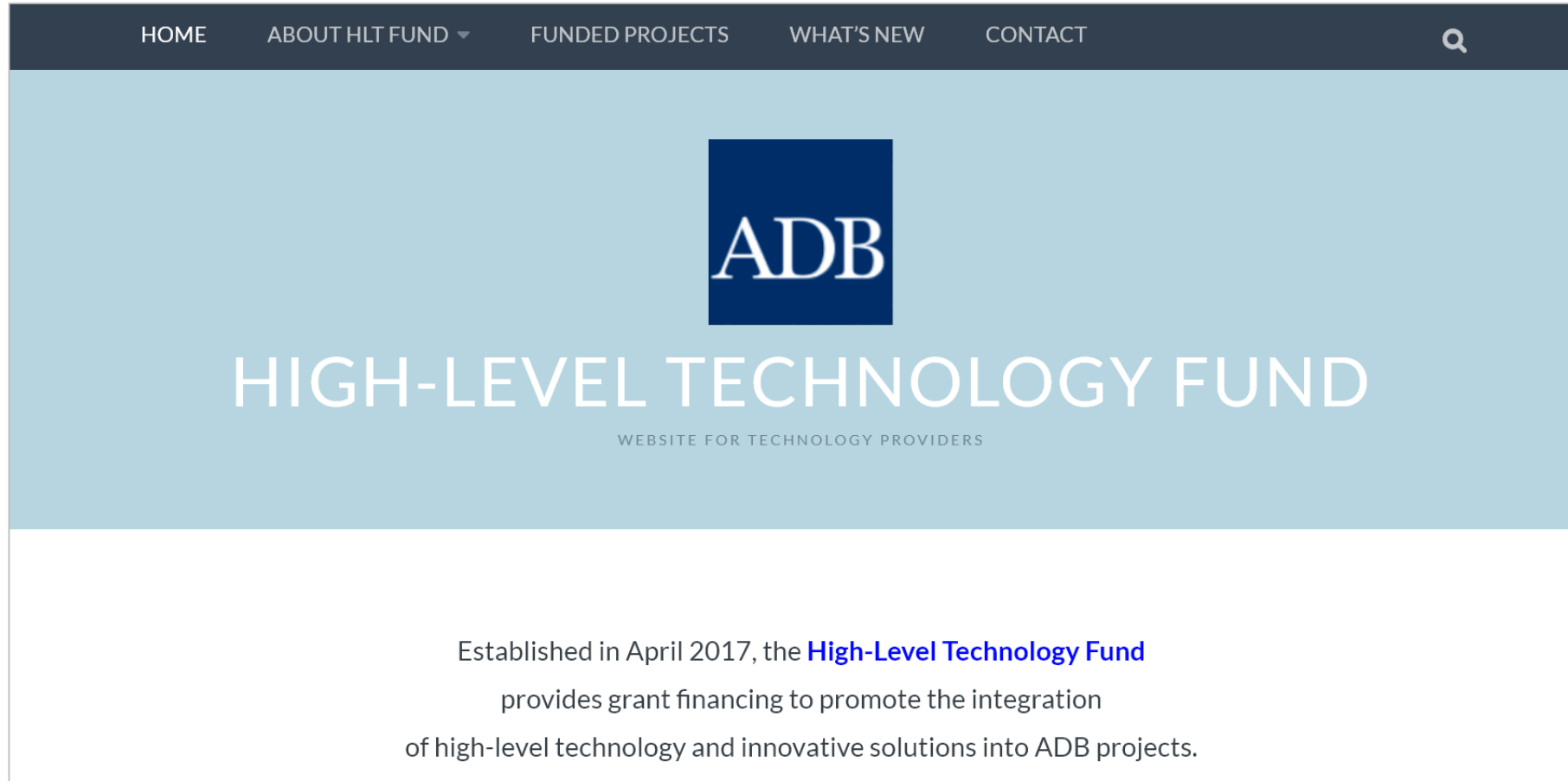
- **PARTNERSHIP WITH FIRMS:**

- Cost sharing above the threshold
- Utilization of technologies, solutions and knowledge
- Downstream business opportunities for firms engaged under pre-concept partnership TA

- **PROCEDURE:**

- ADB prepares technical assistance cluster for the pre-concept partnership TA.
- ADB issues request for Expression of Interest and Proposal.
- ADB selects proposals based on strategic alignments with, among others, country, technology, and business development.
- ADB obtains DMC no objection.
- ADB processes/approves subproject and engages the firm.

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HLT LIST PER PRIORITY SECTOR for 2019 (tentative)

To ensure strategic resource allocation, eligibility for the fund will be based on a technology list determined by the sector groups and donors (updated annually).

Energy	Water	Transport	Urban	Health
<ul style="list-style-type: none"> ▪ Climate change mitigation/adaptation technology ▪ Criteria air contaminants reduction technology ▪ Smart grid technology ▪ Energy efficiency technology ▪ Renewable energy technology ▪ Advanced energy system planning and analytical tools ▪ Waste-to-energy technology ▪ Innovative heating and cooling technology ▪ Application of clean energy technology in multi-sectors (e-mobility, irrigation, etc) 	<ul style="list-style-type: none"> ▪ Climate change adaptation (flood and drought management) ▪ Groundwater management ▪ High efficiency irrigation systems including fertigation and pressurized irrigation ▪ Crop water productivity assessment using remote sensing images ▪ Advanced data collection & instrumentation including remote sensing, high-resolution rainfall radar, Lidar, mobile phone application, drones, etc. ▪ Water quality management (including groundwater) ▪ Advanced hydro modeling and data management technology ▪ Asset management systems ▪ Multi-criteria optimization of water-energy-food nexus to inform decision-making ▪ Near real-time decision support system for water resource management ▪ Water accounting of river basins ▪ Salinity monitoring and evaluation of salinity control performance (eg drainage) by handheld geomagnetic induction devices 	<ul style="list-style-type: none"> ▪ Technology for efficient construction methodology, and new materials ▪ Asset management technology ▪ New vehicle/fuel technology for reducing emissions and energy consumption ▪ Improving public transport and freight operation and management ▪ Improving efficiency and safety ▪ Monitoring traffic, data management, traffic information, transport payment system and enforcement ▪ Shared mobility and new sustainable modes ▪ Providing mobility as a service platform and business model ▪ Technology for traffic survey, analysis, and modeling and big data application 	<ul style="list-style-type: none"> ▪ Desalination technology ▪ Remote-sensing technology ▪ Sanitation technology ▪ Smart city technology ▪ Waste-to-energy technology ▪ Water supply and losses ▪ Waste water treatment, smart systems, asset optimization, 3D simulation etc. 	<ul style="list-style-type: none"> • MHealth technology • Unique patient identifier technology and Electronic medical records system • Electronic health documentation management system • Inter-operable health management information system, • Telemedicine, tele-radiology, tele-diagnostics and related technology • Rapid point of care diagnostics • Health and clinical decision support technology • Technology supporting improved physical access to elderly and people with disabilities • Climate change mitigation/adaptation technology in health facilities

REGIONAL: Engagement of a
Water Sector Expert on HLT

Sector: Water
HLT financing amount \$150,000

MONGOLIA: Implementing Innovative
Approaches for Improving
Water Governance

Sector: Water
HLT financing amount \$400,000

LAO PDR: Capacity
Building for Vientiane
Sustainable Urban Transport Project

Sector: Transport
HLT financing amount \$1.5 million

MONGOLIA: Community
Vegetable Farming for
Livelihood Improvement

Sector: Others
HLT financing amount \$500,000

APPROVED PROJECTS, 2018

INDONESIA AND THE PHILIPPINES: Introduction of LIDAR Surveys to Support Water Resources Operations	REGIONAL: Cyber Security Expert	PAKISTAN: Balochistan Water Resources Development Sector Project	REGIONAL: Strengthening Financial Sector Operations in Asia and the Pacific (Supplementary)
Sector: Water HLT financing amount \$60,000	Sector: Others HLT financing amount \$150,000	Sector: Water HLT financing amount \$2 million	Sector: Others HLT financing amount \$500,000
PAKISTAN: The Second Power Transmission Enhancement Investment Program Tranche 3	REGIONAL: Capacity Building Program on Fourth Industrial Revolution Technologies Phase 1	MONGOLIA: Ulaanbaatar Green Affordable Housing and Resilient Urban Renewal Project	Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System (CAPS)
Sector: Energy HLT financing amount \$4 million	Sector: Others HLT financing amount \$150,000	Sector: Urban HLT financing amount \$3 million	Sector: Energy HLT financing amount \$1 million

MALDIVES: Greater Malé Environmental Improvement and Waste Management Project	MARSHALL ISLANDS: Majuro Waste to Energy Project	INDONESIA: Hot Brine Study for Proposed Geothermal Power Generation Project	REGIONAL: HLT Solutions for Communicable Disease Control in the Greater Mekong Subregion
Sector: Urban HLT financing amount \$1 million	Sector: Energy HLT financing amount \$500,000	Sector: Energy HLT financing amount \$100,000	Sector: Others HLT financing amount \$140,000
MALDIVES: South Asia Subregional Economic Cooperation National Single Window	VIET NAM: Climate Resilient Inclusive Infrastructure for Ethnic Minorities	REGIONAL: Asia and Pacific Innovation and Technology Partnership Technical Assistance Project	REGIONAL: Using HLT to Support University of Pacific's Technical and Further Education
Sector: Others HLT financing amount \$500,000	Sector: Transport HLT financing amount \$5 million	Sector: Energy HLT financing amount \$1.5 million	Sector: Others HLT financing amount \$150,000



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