Accelerating Green Finance for Post COVID-19 Recovery in ASIA

ASIFMA Webinar on Sustainable Finance and the Role of Technology and Data

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28 October 2020
SDGs: Some Progress…much more to do

• A lot more needs to be done in Asia despite progress

• COVID-19 will have severe negative impact on most SDGs

• 2020: 0.7% economic contraction in developing Asia, the first time in 6 decades – 3.8% in SE Asia

• Youth job losses possibly doubling post COVID-19: 10 - 15 million jobs may be lost across 13 countries in Asia Pacific in 2020

Source: Refinitiv Sustainable Finance Review 1H 2020
Source: Sustainable Development Report 2020 (J Sachs et al; Bertlesman, SDSN, Cambridge)
Investments Needed: Massive...with gaps

- **UN Estimates**: $3-$5 trillion annually, globally for SDGs

- **ADB**: Developing Asia needs $26 trillion investments in infrastructure from 2016 to 2030, or **$1.7 trillion per year**, to maintain growth, eradicate poverty, and respond to climate change (climate-adjusted estimate)

- **The GAP**: Even before COVID-19, the region faced a substantial investment gap **$459 billion per year** ($907 billion p.a. if including social infrastructure)
Private Capital Resources Available ...but constrained flows

- **OECD**: Pension fund assets rose to $32 trillion in OECD area and $0.7 trillion in 29 other selected (non-OECD) reporting jurisdictions in 2019

But

- Key finance flows - scarce and slow growth for many ASEAN countries - constrains ability to achieve SDGs

- Low levels of domestic revenue mobilization (below $600 per person versus $15,000 in high income countries) - limits ability of governments to fund services and public investment

Stimulating sufficient quantities of quality private investment is a key challenge to unlocking private contributions toward the SDGs...from project approach to pooled approach?
Green Finance for Post COVID Response: A Critical Way Forward

**Green Finance**: As a cross cutting theme across several SDGs, green finance provides a clear roadmap for countries to achieve their SDGs and Paris Agreement Goals.

- **Green bonds** in Asia Pacific (incl Japan) in 2019 - record high of $47.6 billion; China - majority - US$22.9 billion in proceeds

- **ASEAN** Green bond market 2019 –ASEAN issuance doubled $7.8bn; cumulative ASEAN issuance since 2016 at $ 13.4bn; still small globally - 3% of global total and 16% of the Asia-Pacific

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Green finance denotes all financing instruments, investments and mechanisms that contribute to a "climate plus" approach, impacting on both climate and environmental sustainability goals. Green finance promotes a reduction in greenhouse gases and improved climate resilience, air and water quality, ecosystems, biodiversity, and use of resources. ACGF, 2020
Green and Sustainable Bonds: Interest Post COVID is growing in ASEAN

- **Thailand PDMO Sustainability Bond, August 2020:** First sustainability bond by a sovereign in Southeast Asia.
  - Raised THB30 billion (about $964 m)
  - Oversubscribed three times
  - To finance green infrastructure (Mass Rapid Transit Orange Line (East) Project) & social impact COVID-19 recovery projects (health, jobs, SMEs)

- **NHA Social Bond, September 2020:** NHA’s maiden social bond; one of the first by an SOE
  - Raised THB6.8 billion
  - To finance affordable housing and promote sustainable communities

- ADB already being asked to develop 2 more green, sustainability, SDG bonds in Indonesia and Thailand
This publication suggests green finance mechanisms that could be used by countries in ASEAN but also wider afield to develop and accelerate green recovery strategies.

The paper provides both examples of green finance mechanisms - such as de-risking pooled facilities and green bonds – as well as innovative concepts – such as green securitization and COVID-19 recovery bonds; that could be used by governments in their green finance strategies.

The overall point of this mechanisms is to leverage public funds to catalyse private capital to the largest extent possible.
Digitalisation: Another important element for sustainable development

1) Address regional disparities and ensure more access to technology, including an equitable expansion of investments in digital infrastructure to close the “digital divide”, while addressing cyber security.

2) Facilitate a green and resilient recovery by promoting investments that drive economic activity toward low-carbon and resilient practices.

3) Strengthen regional cooperation and integration by improving cross-border digital connectivity, e-customs systems, and electronic cargo tracking systems.

4) Deepen institutional capacity for mobilizing domestic resources to finance public services, while ensuring debt sustainability.

5) Incubate, develop, and congregate small and medium-sized enterprises with entrepreneurship and technology, supported by an aggregated financial, academic, and business ecosystem to help set the stage for tech-based growth.

ADB President highlighted five key policy areas that can support developing economies in Southeast Asia as they return to a path of sustainable growth:

- + 1,700 high-level government officials, private sector representatives, and other stakeholders from 57 countries.
- + 500 start-ups

An ADB fund investing in technology driven businesses
Digitalisation and Emerging Technologies

Table 1. Frontier technologies identified by different organizations

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<tbody>
<tr>
<td>Internet of Things</td>
<td>Fifth-generation (5G) mobile phones</td>
<td>Artificial intelligence</td>
<td>Mobile internet</td>
<td>3D printing</td>
<td>3D Metal Printing</td>
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<td>Big data analytics</td>
<td>Artificial intelligence</td>
<td>Robotics</td>
<td>Automation of knowledge work</td>
<td>Collaborative economy tools</td>
<td>Artificial Embryos</td>
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<td>Artificial intelligence</td>
<td>Robotics</td>
<td>Internet of Things</td>
<td>Internet of Things</td>
<td>Alternative internet delivery</td>
<td>Sensing City</td>
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<td>Neurotechnologies</td>
<td>Autonomous vehicles</td>
<td>Autonomous vehicles</td>
<td>Cloud technology</td>
<td>Internet of Things</td>
<td>Artificial intelligence for Everybody</td>
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<tr>
<td>Nanomicro satellites</td>
<td>Internet of Things</td>
<td>3D printing</td>
<td>Advanced robotics</td>
<td>Unmanned aerial vehicles/robots</td>
<td>Dueling Neural Networks</td>
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<td>Nanomaterials</td>
<td>3D printing</td>
<td>Nanotechnology</td>
<td>Autonomous and near-autonomous vehicles</td>
<td>Airships</td>
<td>Babel-Fish Earbuds</td>
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<tr>
<td>3D printing (additive manufacturing)</td>
<td>Biotechnology</td>
<td>Next-generation genomics</td>
<td>Solar desalination</td>
<td>Zero-Carbon Natural Gas</td>
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<td>Advanced energy storage technologies</td>
<td>Materials science</td>
<td>Energy storage</td>
<td>Atmospheric water condensers</td>
<td>Perfect Online Privacy</td>
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<tr>
<td>Synthetic biology</td>
<td>Energy storage</td>
<td>3D printing</td>
<td>Household-scale batteries</td>
<td>Genetic fortune-telling</td>
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<td>Blockchain</td>
<td>Quantum computing</td>
<td>Advanced materials</td>
<td>Smog-reducing technologies</td>
<td>Materials’ Quantum Leap</td>
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<td></td>
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<td></td>
<td>Advanced oil and gas exploration</td>
<td>Renewable energy</td>
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Source: prepared by the ESCAP team based on OECD, 2016b; World Bank, 2016; World Economic Forum, 2016; McKinsey Global Institute, 2015; Institute of Development Studies, 2016; and MIT Technology Review, 2018

Note: While Financial Times (2017) does not produce a list like in table 1, it argues that advanced robotics, 3D printing and the Internet of Things are the technologies that are expected to transform manufacturing over the next couple of decades.

Source: OECD, 2016b.
Digitalisation & Emerging Technologies: Can help leapfrog inclusive development

Figure 2. The Fourth Industrial Revolution is game-changers for oceans

- Advanced sensor platforms
- Drones
- Artificial intelligence
- The internet of things
- New computing technologies
- Real-time and predictive information on ocean conditions and use
- Empowered communities
- Accountability in markets
- Game-Changers
- New ocean machines
- Farming that protects ocean resources
- Biotechnologies
- Advanced sensor platforms
- Artificial intelligence
- New computing technologies
- Blockchain
- The internet of things

Figure 8. Potential economic impact of Internet of Things in 2025

<table>
<thead>
<tr>
<th>Settings</th>
<th>Low estimate</th>
<th>High estimate</th>
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<tbody>
<tr>
<td>Total</td>
<td>$2.9 trillion-11.1 trillion</td>
<td></td>
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<td>Major applications</td>
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<tr>
<td>Human</td>
<td>170–1,590</td>
<td>Monitoring and managing illness, improving wellness</td>
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<td>Home</td>
<td>200–300</td>
<td>Energy management, safety and security, chore automation, usage-based design of appliances</td>
</tr>
<tr>
<td>Retail</td>
<td>410–1,160</td>
<td>Automated checkout, layout optimization, smart CRM, in-store personalized promotions, inventory shrinkage prevention</td>
</tr>
<tr>
<td>Offices</td>
<td>70–150</td>
<td>Organizational redesign and worker monitoring, augmented reality for training, energy monitoring, building security</td>
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<tr>
<td>Factories</td>
<td>1,210–3,700</td>
<td>Operations optimization, predictive maintenance, inventory optimization, health and safety</td>
</tr>
<tr>
<td>Worksites</td>
<td>160–930</td>
<td>Operations optimization, equipment maintenance, health and safety, IoT-enabled R&amp;D</td>
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<tr>
<td>Vehicles</td>
<td>210–740</td>
<td>Condition-based maintenance, reduced insurance</td>
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<td>Cities</td>
<td>930–1,660</td>
<td>Public safety and health, traffic control, resource management</td>
</tr>
<tr>
<td>Outside</td>
<td>560–850</td>
<td>Logistics routing, autonomous cars and trucks, navigation</td>
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Note: Potential economic impact of Internet of Things in 2025, including consumer surplus, is $3.9 trillion to $11.1 trillion.
Thank You

www.adb.org/acgf
Appendix: Background on ACGF

The New Pilot Window: Overview

- **Inclusive Finance Facility**
  - Offers concessional loans to Cambodia, Lao PDR and Myanmar

- **ASEAN Catalytic Green Finance Facility (ACGF)**
  - To accelerate ‘green’ technology and solutions
  - To leverage AIF resources for bridging bankability gaps
  - Offers a two-step pricing loan product
  - Explicit aim to crowd-in private capital
  - Help member countries achieve environmental and climate targets
Launched!

AIF’s new “Green and Inclusive Infrastructure Window” launched at ASEAN Finance Ministers’ Meeting, Chiang Rai, Thailand, 4 April 2019

Witnessed by H.E. Apisak Tantivorawong, Thailand Finance Minister; ADB President; other ASEAN Finance Ministers

Signing of Letters of Support from co-financing, development and private sector partners

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<tr>
<th>Co-financing partners</th>
<th>Knowledge partners</th>
<th>Private sector partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>OECD</td>
<td>ADM Capital</td>
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<tr>
<td>EIB</td>
<td>GGGI</td>
<td>City of London</td>
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<td>AFD</td>
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<td>BNP Paribas</td>
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<td>KfW</td>
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<td>OPIC</td>
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<td>Gov. of Korea</td>
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In-kind contributions
ACGF mission

To accelerate the development of green infrastructure in ASEAN by better utilizing public funds to create bankable projects and catalyze private capital, technologies and management efficiencies.

ACGF ‘value-added’
Combines project origination, project structuring and financing for green infrastructure projects

CATALYTIC
Mobilizing resources and building pipelines

GREEN
Promoting environmental sustainability by scaling up green infrastructure

FACILITY
Pooling and leveraging public capital
Overview of the ASEAN Infrastructure Fund (AIF)

Main Objective: Infrastructure development & mobilization of domestic savings.

Governance: AIF Board chaired by ASEAN member, currently: Malaysia. ADB acts as Administrator and co-financier.
AIF lending operations

- Total loan commitments (2013-2018): $520 million
- Total project value: $3 billion
- No. of projects: 9