ADB

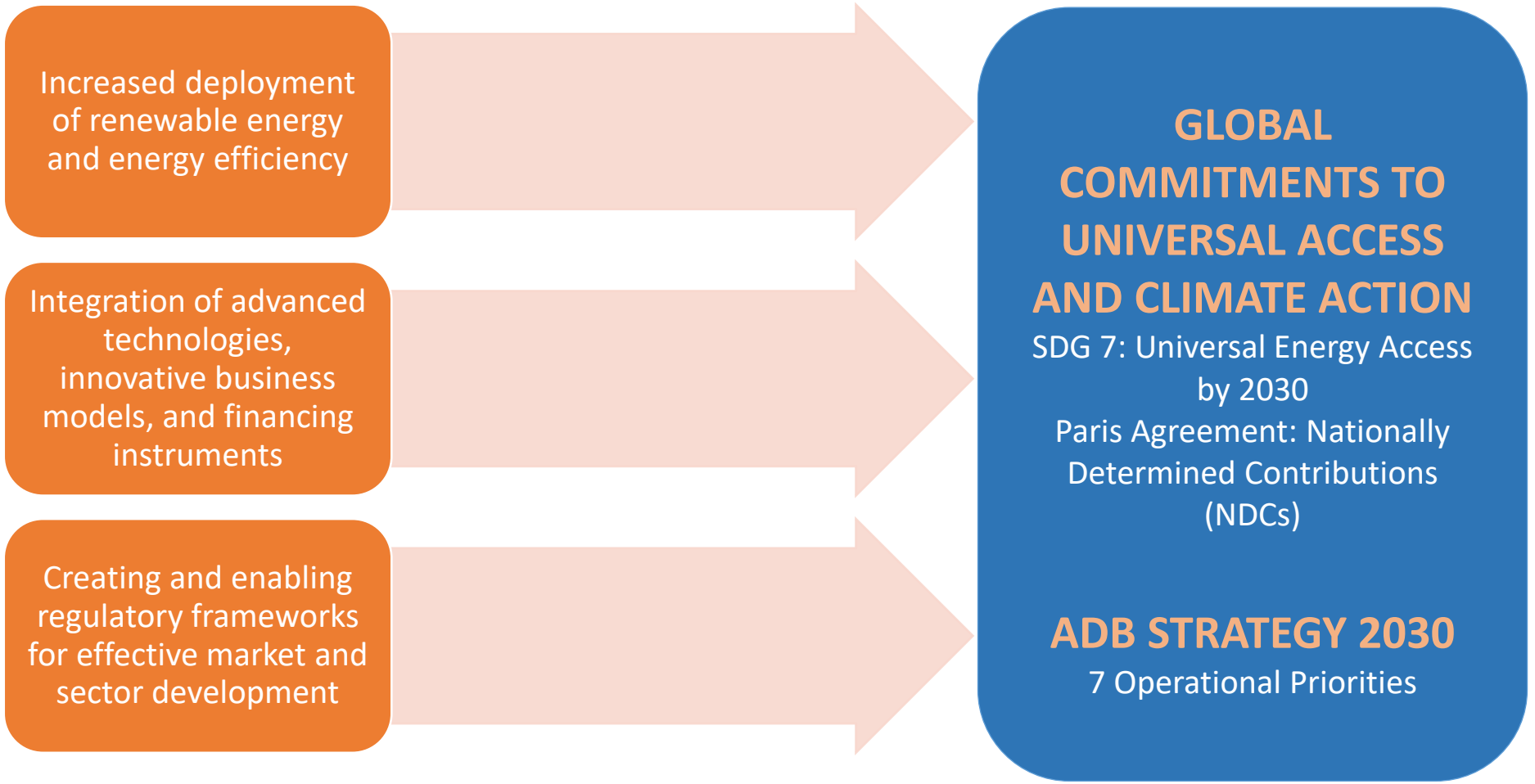
Energy Sector Group

27 October 2021

Kee-Yung Nam, Principal Energy Economist
Sector Advisory Service Cluster–Energy Sector Group

BUSINESS OPPORTUNITIES

Energy Sector Operations Guiding Principles



BUSINESS OPPORTUNITIES

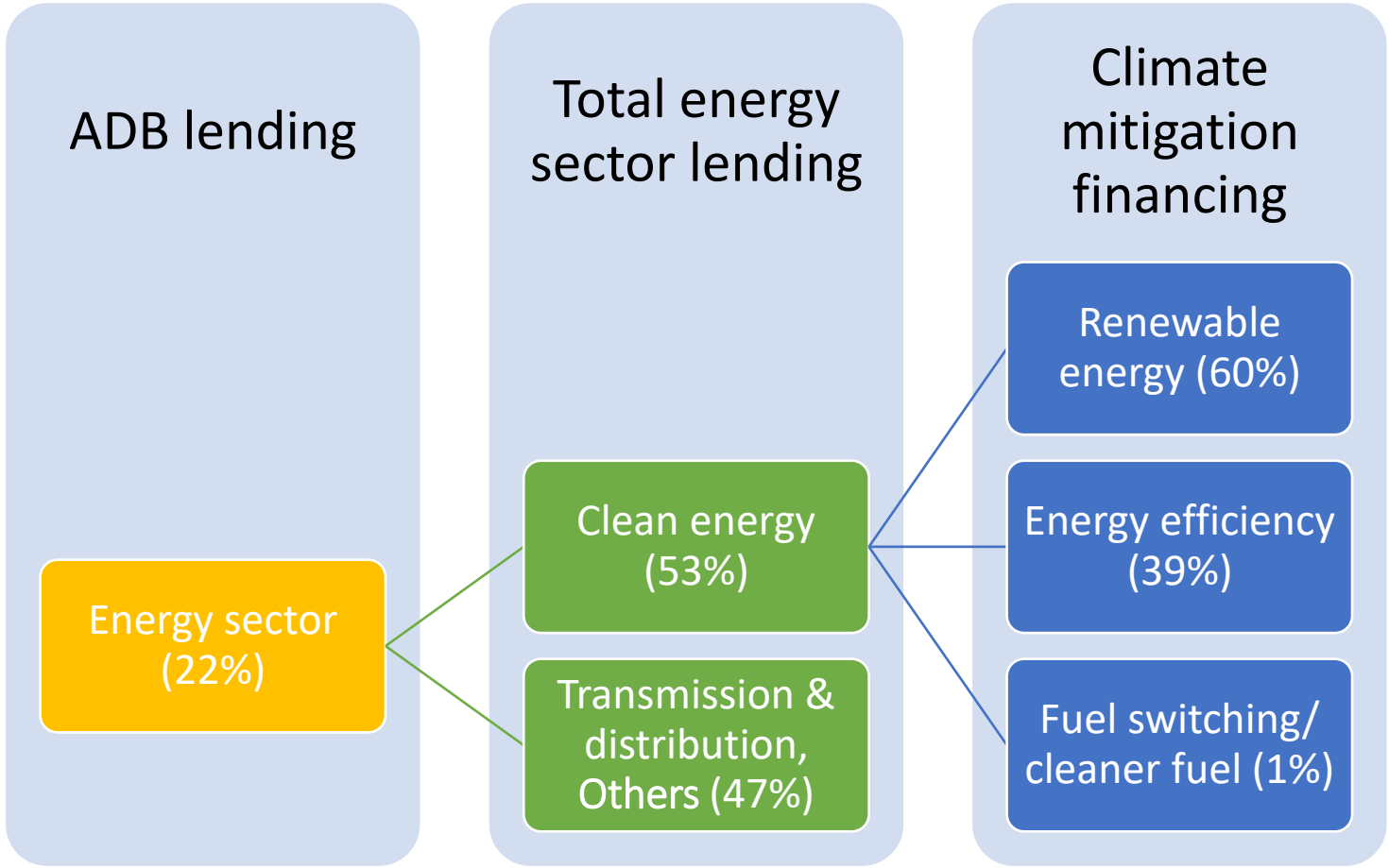
Energy Sector Contributions to S2030

7 Operational Priorities

Increased access to clean energy to meet basic needs, income generation through RE employment	OP 1: Addressing **remaining poverty and reducing inequalities**
Job creation and skills development for women in RE; productive use of women's time for income generation	OP2: Accelerating **progress in gender equality**
Climate change mitigation and **adaptation**, air quality improvement, energy water nexus	OP3: Tackling **climate change, building disaster resilience**
Supporting energy smart buildings, electric vehicles, **microgrids, waste-to-energy, and demand-side energy efficiency**	OP4: Making **cities more livable**
Distributed renewable energy applications in irrigation and agriculture (e.g. solar pumping), biomass-to-energy	OP5: Promoting **rural development and food security**
Promoting energy sector reforms and enabling clean energy development	OP 6: Strengthening **governance and institutional capacity**
Promoting energy connectivity, cross-border clean energy trade, and knowledge exchange	OP 7: Fostering **regional cooperation and integration**

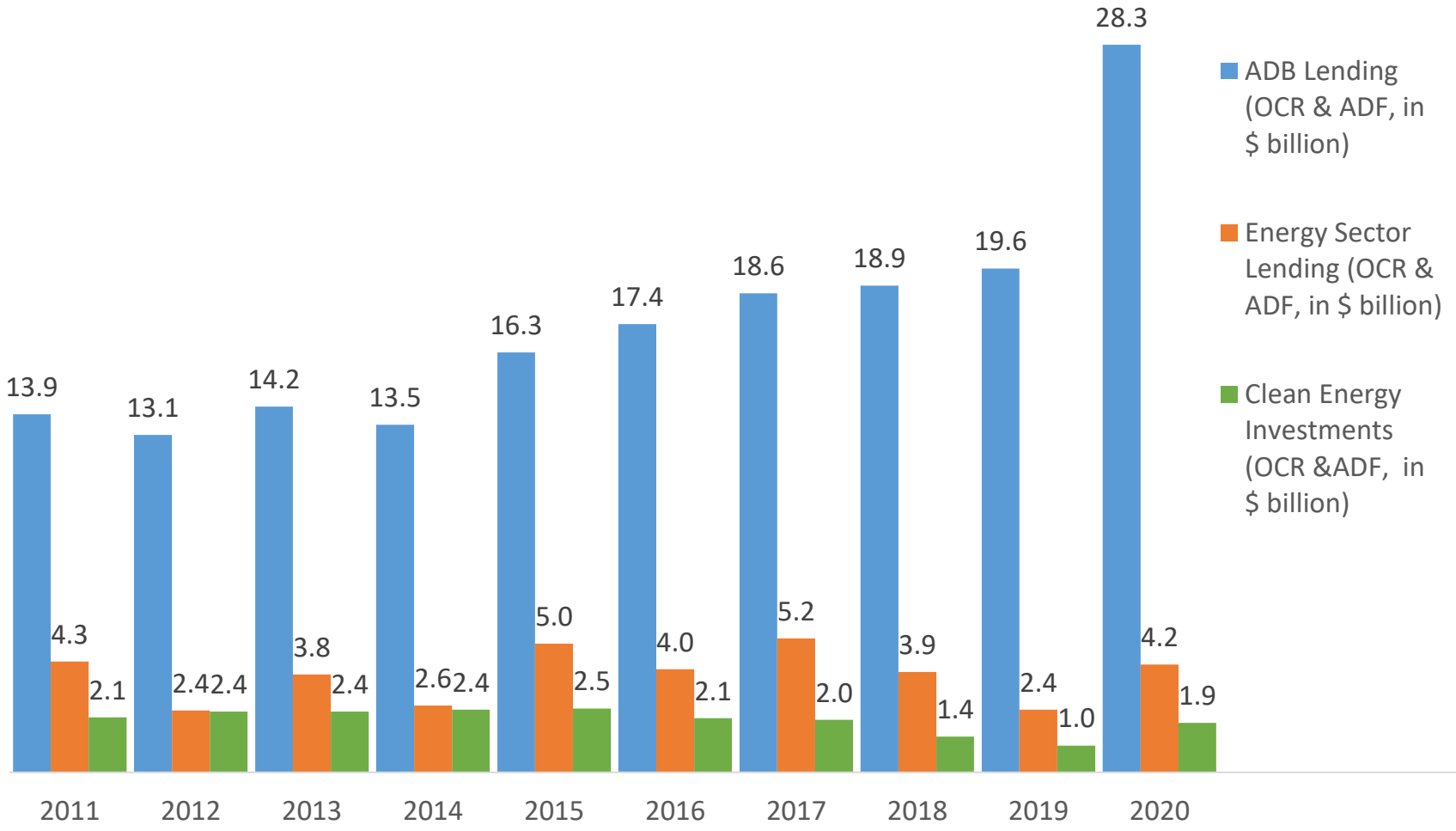
BUSINESS OPPORTUNITIES

Energy Sector Lending, 2011–2020
(annual average share)



BUSINESS OPPORTUNITIES

ADB Lending, Energy Sector Lending and Clean Energy Investments



BUSINESS OPPORTUNITIES

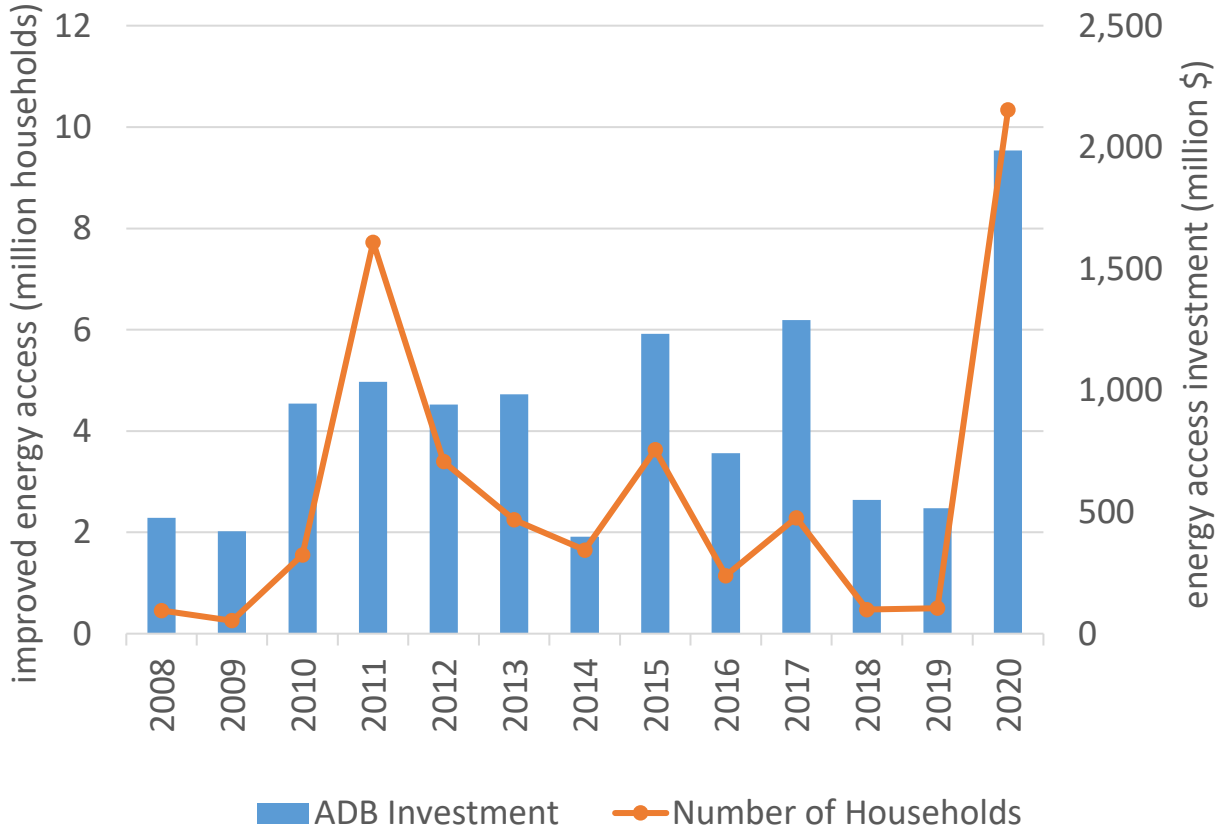
Energy Sector Lending by Sub-Region in 2020 ($ millions)

	Central and West Asia	East Asia	Pacific	South Asia	Southeast Asia	Private Sector	TOTAL
Climate Finance	174	264	6	839	443	272	1,997
- Mitigation	161	264	6	794	424	269	1,917
- Adaptation	13	0	0	44	19	4	80
T & D, Others	277	186	7	838	756	119	2,184
Total	**451**	**450**	**13**	**1,676**	**1,199**	**392**	**4,181**

BUSINESS OPPORTUNITIES

Outcomes from Operations:

Progress in Energy Access



ADB has invested a total of **$2.0 billion** in energy access in 2020, and $10.3 billion cumulatively from 2008 to 2020

It provided energy access (electricity, clean cooking) to **10.3 million households** in 2020, and 35.6 million households cumulatively from 2008 to 2020

Transmission and distribution projects in Afghanistan, Bangladesh, India, Indonesia, Myanmar and Nepal contributed to this upsurge

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Outcomes from Operations:

Climate Impact of Energy Projects

Estimating greenhouse gas emission reduction

- 6.9 million tons of CO_2 equivalent per year—emission reduction (2020)

Assessing climate change impact of projects

- 3.4 GW additional RE capacity installed (2020)
- 8.3 TWh/year RE electricity generation (2019)
- 1.1 TWh/year electricity savings (2019)

BUSINESS OPPORTUNITIES

ADB Energy Sector Knowledge Work

Handbooks, Cases, Guide Notes

- Carbon Capture, Utilization and Storage
- Clean Cooking
- Distributed Renewable Energy Solutions
- Energy Storage
- Hydrogen
- Microgrids
- Smart Grids
- Waste-to-Energy
- Energy Sector Perspective for the Reopening of the Economy (COVID-19)
- Financing Clean Energy in Developing Asia

Technical Notes, Op-ed, Blogs

- No Place for “Dirty Energy” in ADB’s Climate Vision
- The Pandemic May Break Value Chains, But Solar Energy Can Still Shine
- Covid-19 is an Opportunity to Retool Health Sector's Energy Supply
- It’s Clean, Powerful And Available: Are You Ready For Hydrogen Energy?
- Artificial Intelligence and Human Education, Needed to Advance Energy Efficiency
- Managing Infectious Medical Waste During COVID-19 Pandemic

Workshops, Forum, Collaborations

- Asia Clean Energy Forum
- Cooling, Heating, and Cooking Technologies and Business Models
- Green and Low-Carbon Hydrogen Energy
- Carbon Capture, Utilization, and Storage Technologies
- Collaborations with SEforALL and IEA

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Innovative Technologies for Clean Energy

- **EMERGING TECHNOLOGIES**
- smart grids
- energy storage
- carbon capture, utilization, and storage
- green and low-carbon hydrogen
- smart technologies and digitalization

KIRIBATI: South Tarawa Renewable Energy Project ($8 Mn grant)

THAILAND: 10-MW wind power with an integrated 1.88 MWh battery energy storage system ($7.2 Mn equivalent loan)

MONGOLIA: First Utility Scale Energy Storage Project ($100 Mn loan)

INDIA: Bengaluru Smart Energy Efficient Power Distribution Project ($190 Mn loan)

UZBEKISTAN: Navoi Solar Power Project ($13 Mn loan)

BUSINESS OPPORTUNITIES

Projected Energy Sector Lending in 2021–2022

In 2020, energy sector lending is about $4.2 billion

- 48% clean energy
- 52% transmission & distribution, others
- challenges due to COVID-19—resource allocation priorities of developing member countries, field work constraints

In 2021–2022, projected average energy sector lending is $5 billion per year

- clean energy representing about 40–50% of the lending

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Indicative Clean Energy Projects for 2021–2023 (1 of 2)

AFG: Renewable Energy Development (Solar and Wind) Project
BAN: Renewable Energy Project
CAM: Energy Efficiency Sector Development Program
CAM: Energy Efficiency Sector Development Program
BAN: Renewable Energy Development and Efficiency Improvement Project
BHU: Renewable Energy Project
BHU: Hydropower Rehabilitation Project
PRC: Low Carbon Transformation in Urban Areas
PRC: Shanxi Low-carbon and Beautiful Village Development
IND: Scaling Up Demand Side Energy Efficiency Sector Project-Additional Financing

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Indicative Clean Energy Projects for 2021–2023 (2 of 2)

INO: Geothermal Power Expansion Project (formerly Geothermal Power Generation Project (Phase 2)
INO: Sustainable Transition Project - DAMRI E-buses
KIR: South Tarawa Renewable Energy Project (Phase 2)
MON: Supporting Renewable Energy Development
MON: MFF Smart grid system development
MON: MFF Smart grid system development (Tranche 1)
FSM: Renewable Energy Development Project, Phase 2
SAM: Alaoa Multi-Purpose Dam Project
TON: Nukualofa Electricity Network Project (Solar Plus Project)
TUV: Increasing Access to Renewable Energy Project - Phase 2

BUSINESS OPPORTUNITIES

Energy Sector: The Way Forward

Increase clean energy investments

- Help develop and demonstrate viability of new renewables beyond solar PV and onshore wind in ADB DMCs
- Develop projects with other sectors to reap scale and scope economies in energy efficiency

Support for more flexible, resilient and smarter energy systems

- Support the deployment of ICT, digital applications, and energy storage in the T&D subsector

Strengthen multi-sectoral approach

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Draft Energy Policy: Guiding Principles

1. Securing Energy for a Prosperous and Inclusive Asia
2. Building a Sustainable and Resilient Energy Future
3. Engaging with Institutions and Framing Policy Reforms
4. Promoting Regional Cooperation to Enhance Energy Security
5. Cross Sectoral Operations to Maximize Development Impact

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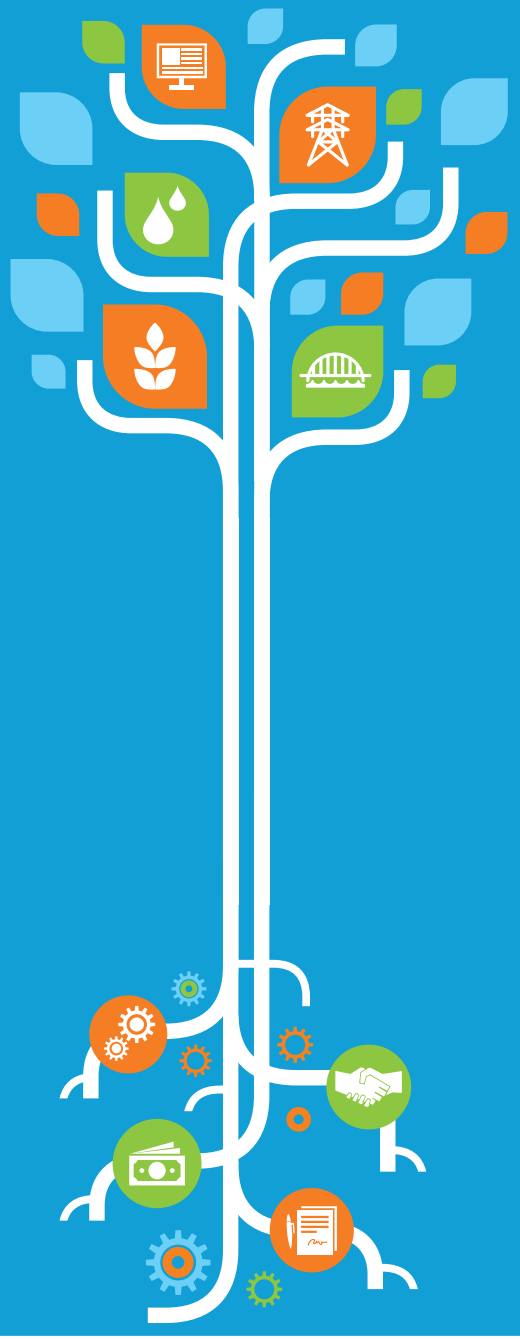

BUSINESS OPPORTUNITIES

Thank you!

KEE-YUNG NAM

Principal Energy Economist, SDSC-ENE

kynam@adb.org

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