



ASIA CLEAN ENERGY FORUM 2026

Beyond Transition: Building Secure, Resilient, Inclusive, and Intelligent Energy Systems

8–11 June | ADB Headquarters, Metro Manila, Philippines

Enabling AI Implementation in the Energy Sector in Asia and the Pacific

10 June 2026 | 4–5:30 p.m. (GMT+8)

Jamila Amodeo
Senior Energy Specialist (Smart Energy Systems)
Energy Sector Office, Sectors Department 1
Asian Development Bank
jamodeo@adb.org

Did you know?

AI IN ENERGY	VALUE	SOURCE
Average ROI on AI investments	170%	IEA, 2025
Predictive Maintenance ROI	200-300%	Vattenfall, Siemens Energy Case Data
Renewable Forecasting accuracy improvement	15-30%	Terna, 2024
Operational Technology (OT) data engineering spent as % of AI budget	65%	Wood Mackenzie, 2025
Pilots stuck before production	71%	McKinsey, 2025
AI Adoption rate	33%	IEA, 2025

Source: AI in Energy and Utilities – Complete 2026 Guide | The Thinking Company

What is the reason for the 33% AI adoption rate?

Choose top three reasons

Lack of policy,
governance &
standards

Limited data
availability

Lack of corporate
policies

Increased
cybersecurity
vulnerability risk

Lack of AI talent

Limited budget

Distrust of AI-
generated
recommendations

Other

ADB Energy Policy - Strategic Objectives



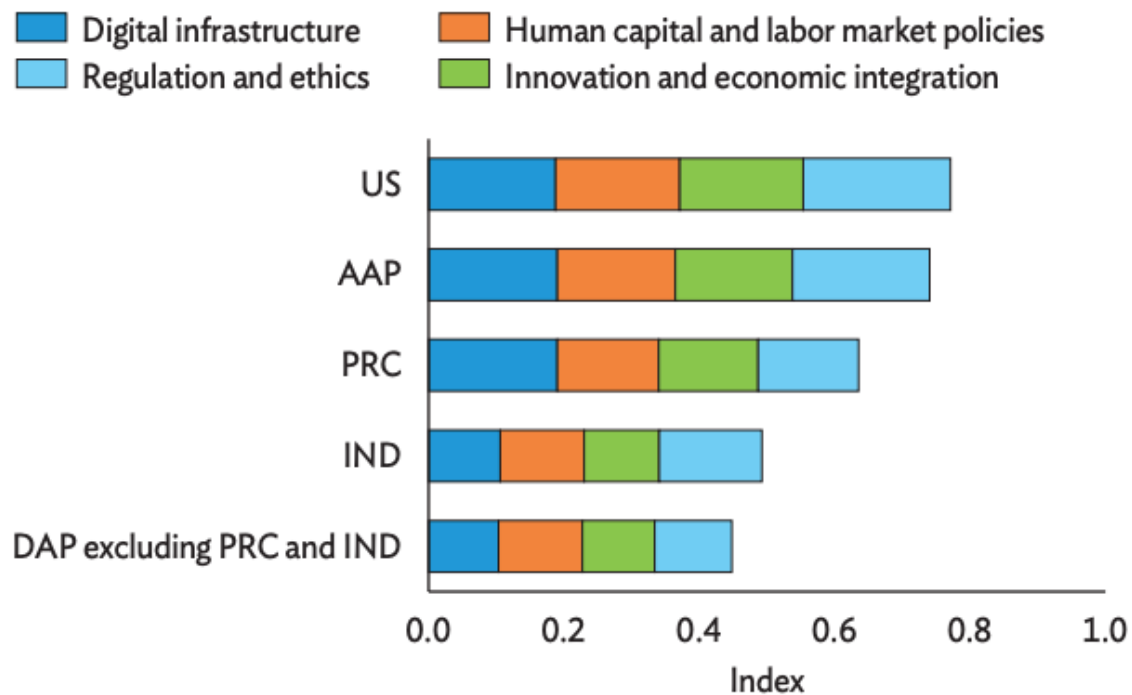
- **Energy security and resilience**
- **Universal energy access** (reliable, affordable energy for all)
- **Low-carbon transition** (including nuclear energy, methane emissions, and critical minerals)
- **Environmental sustainability**

Responsible AI's Key Impacts on Asia and the Pacific



- Regional increase of economic output over the next decade: 14.7%
- Estimated largest share of AI driven economic value generated by AI: 40% of \$11 Trillion global market

AI Preparedness Index



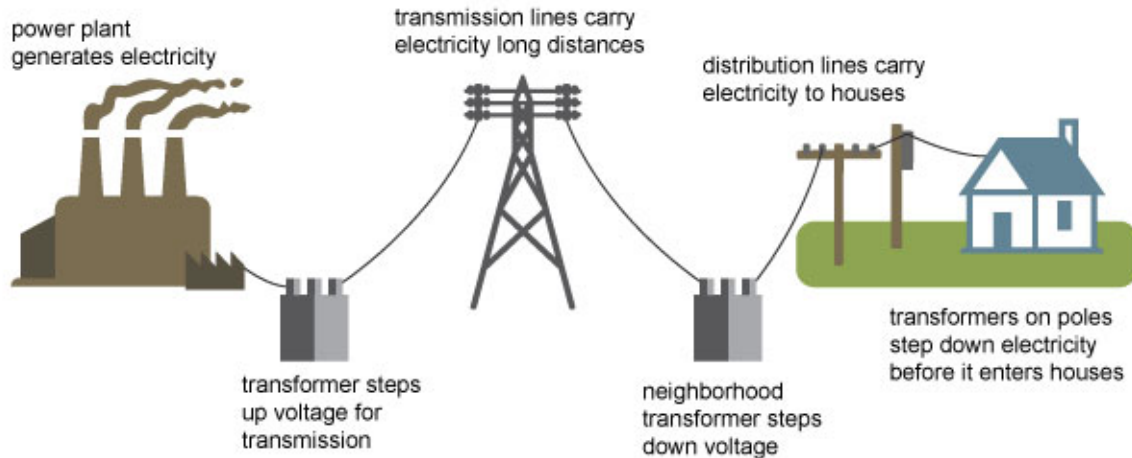
AAP = advanced Asia and the Pacific, AI = artificial intelligence, AIPI = Artificial Intelligence Preparedness Index, PRC = People's Republic of China, DAP = developing Asia and the Pacific, IND = India, US = United States.

Source: Fernando, Roshen, and Ed Kieran Reyes. 2026. "Special Topic: AI Readiness and Economic Impacts in Asia and the Pacific." In *Asian Development Outlook April 2026*, 44–58. Manila: Asian Development Bank. <https://www.adb.org/sites/default/files/publication/1135881/ado-april-2026-special-topic.pdf>

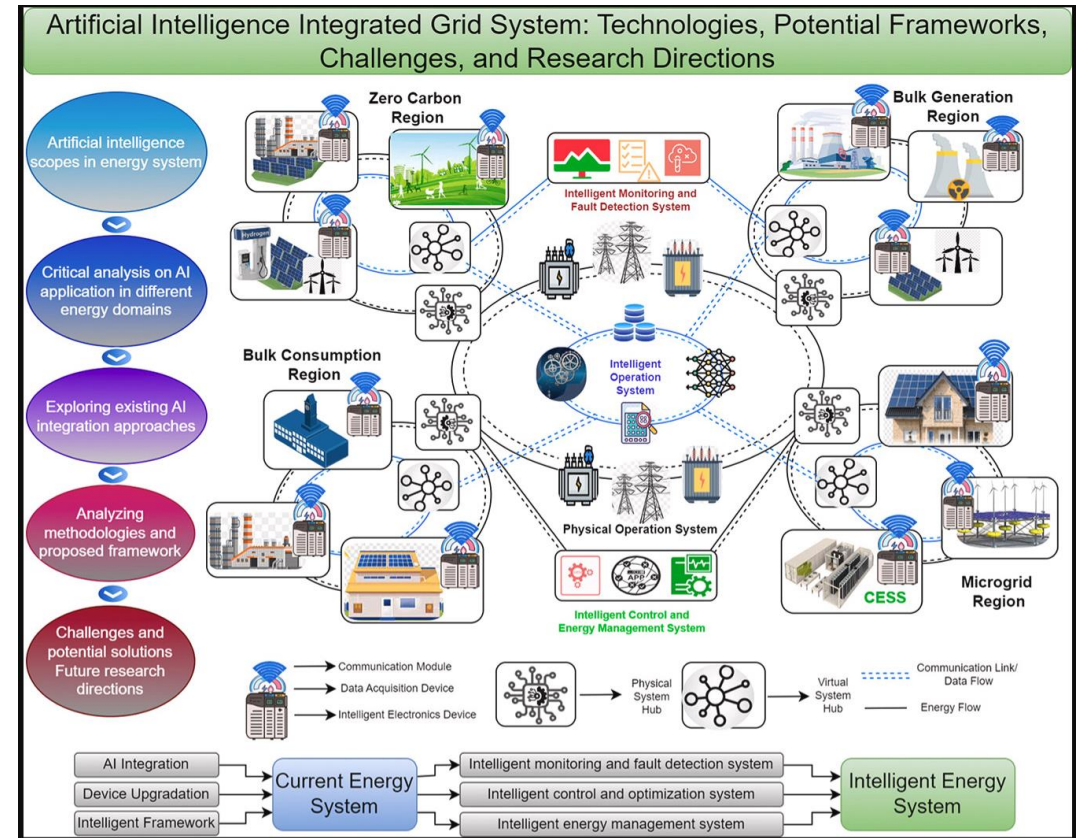
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AI Enabled Transition from Legacy Systems to Decentralized, Digitalized & Diversified Energy Grid

Electricity generation, transmission, and distribution



Source: Adapted from National Energy Education Development Project (public domain)



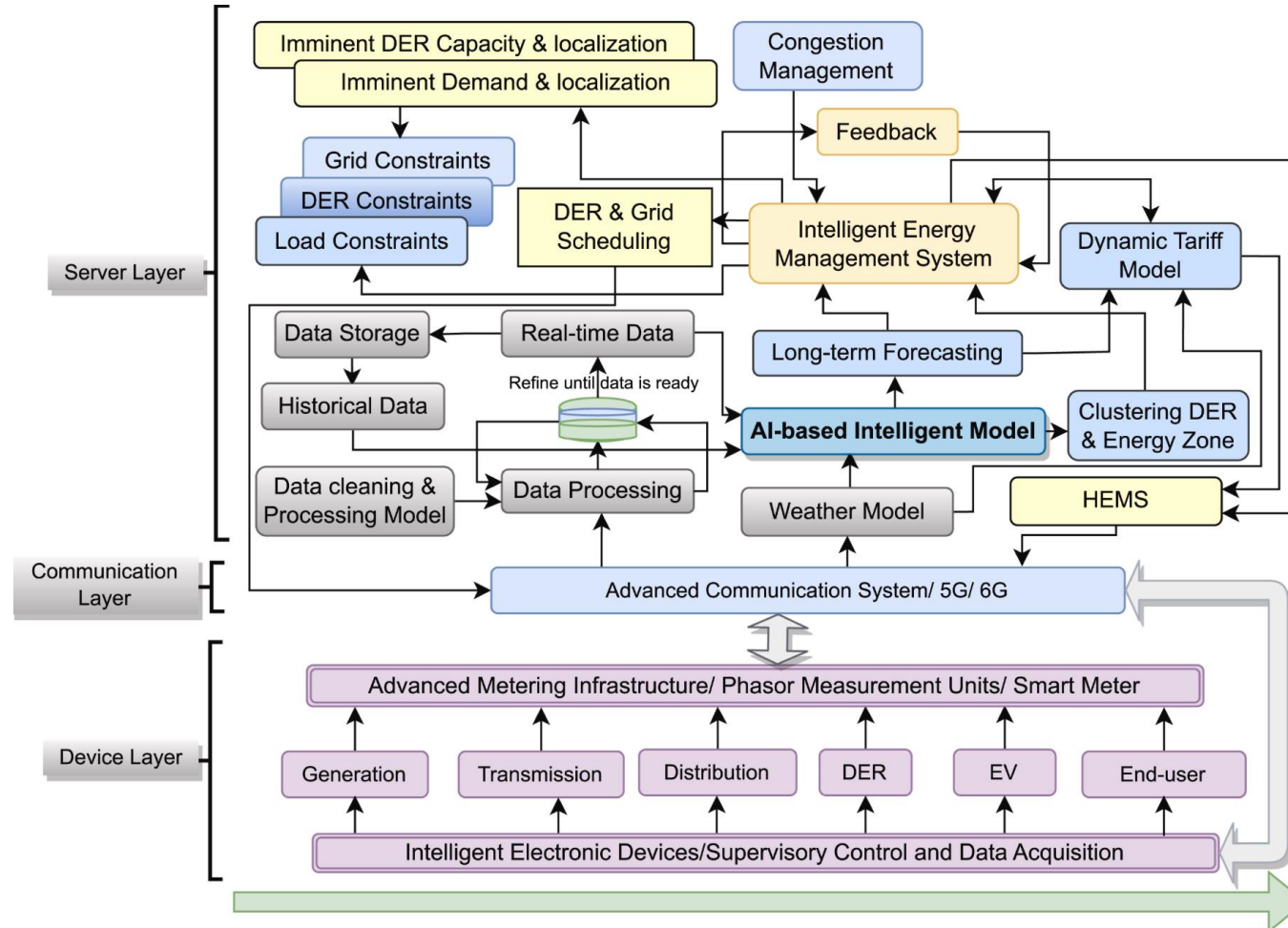
Source: Science Direct, Renewable and Sustainable Energy Reviews 211 (2025)

1. AI Governance - Standards

ISO /IEC AI Standards (2023 – 2026)	Regional
42001: First Standard for the AI Management Systems (AIMS), for establishing, implementing, and improving AI governance	ASEAN: Guide on AI Governance and Ethics (2024-2025)
22989: Establishes the foundational terminology and core concepts of AI ecosystem.	EU AI Act (2024 – 2027)
23894: Provides guidance AI-specific risk management, helping organizations align with frameworks like NIST AI RMF	US: NIST AI Risk management Framework (AI RMF)
42005: Provides guidelines for AI system impact assessments non society and the environment	US: NIST Cybersecurity Framework Profile for AI (CSF)
42006: Requirements for the 3 rd party audits & certs	Joint ISO, IEC and ITU Seoul Statement on AI, 2025
38507: Governance implications for decision makers	
5338: Robust AI applications	
27090: Cybersecurity for AI systems - threats & mitigation strategies	

2. Data Management

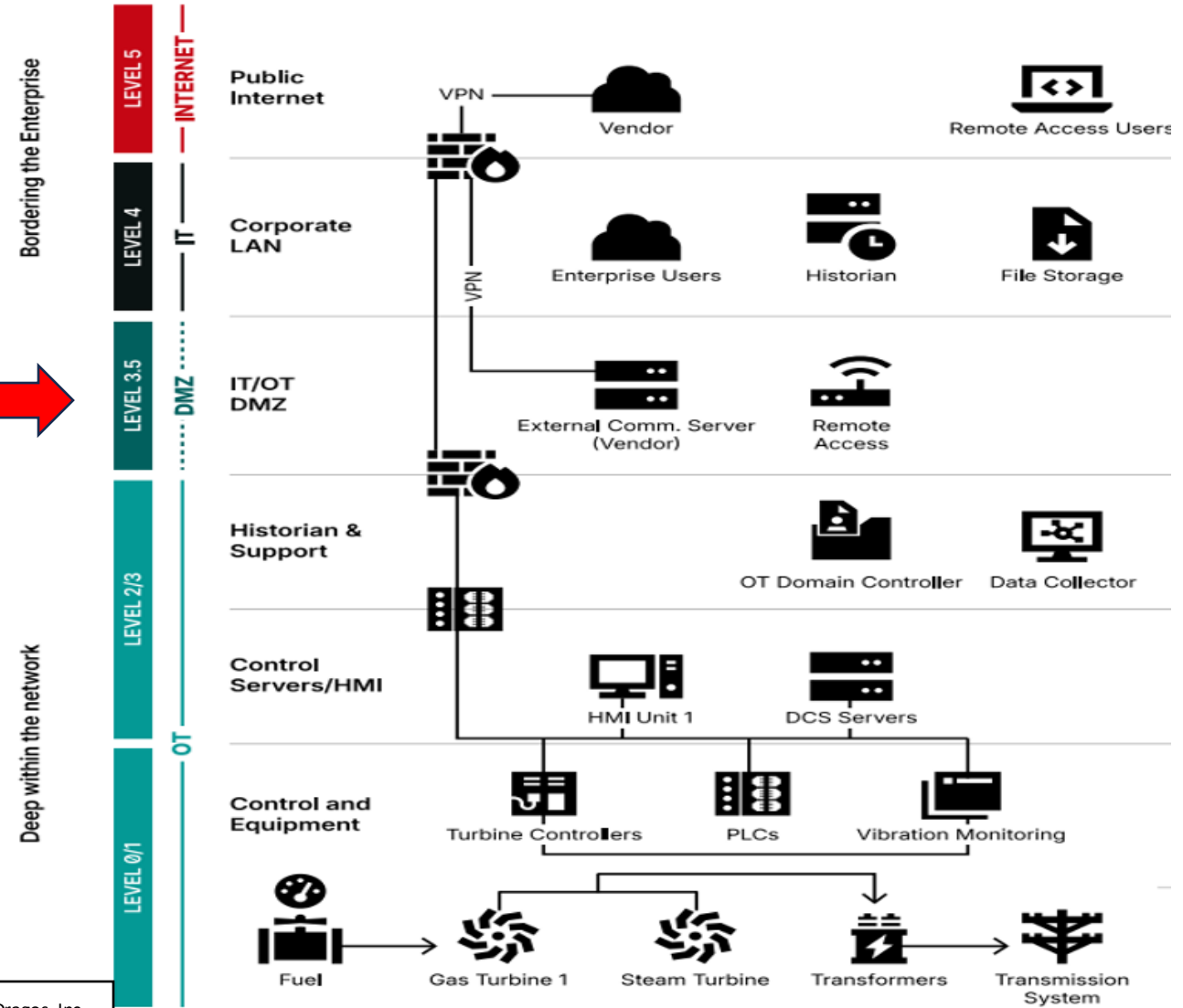
Application trends of AI algorithm in the energy management system



Source: Science Direct, Renewable and Sustainable Energy Reviews 211 (2025)

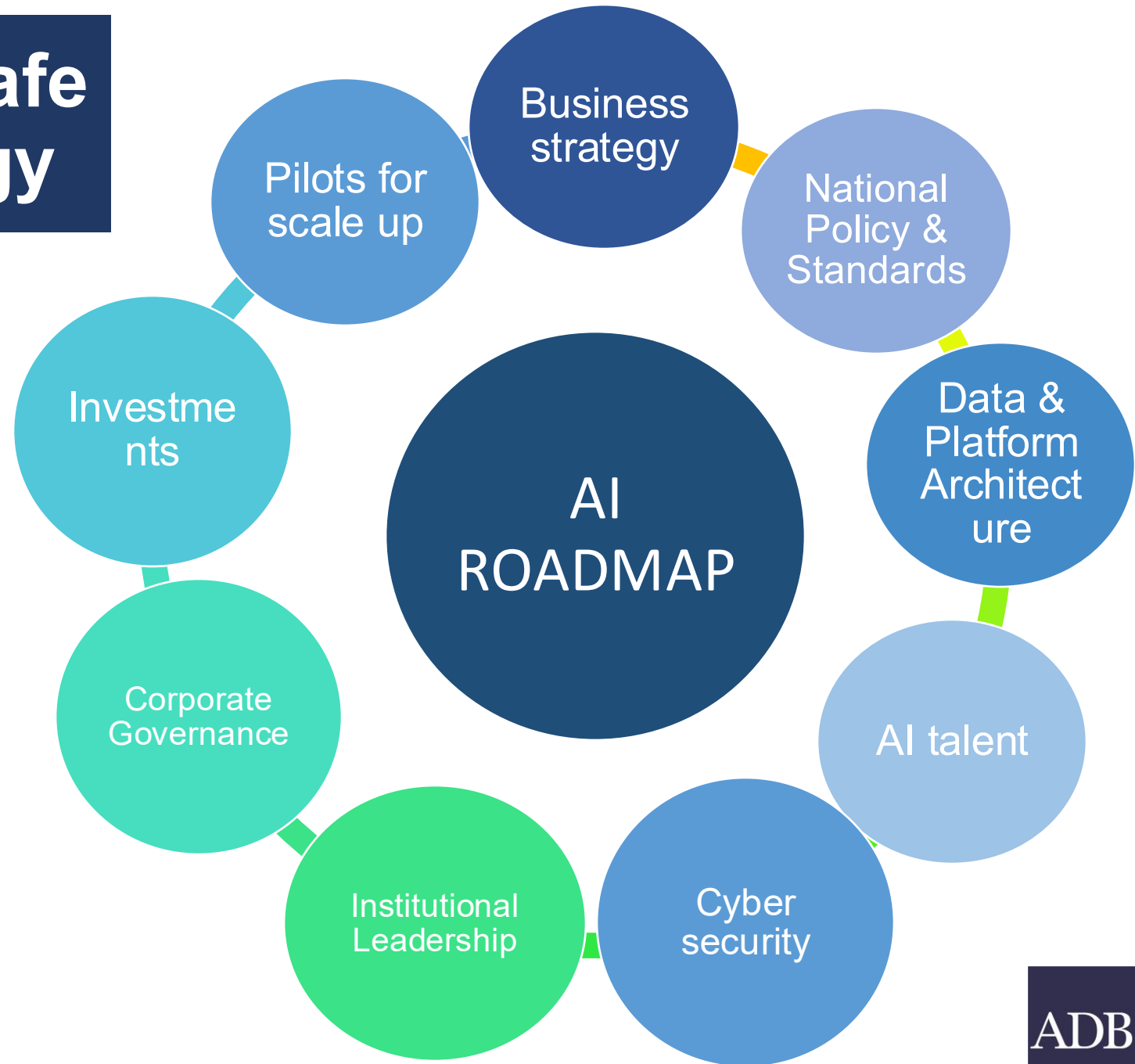
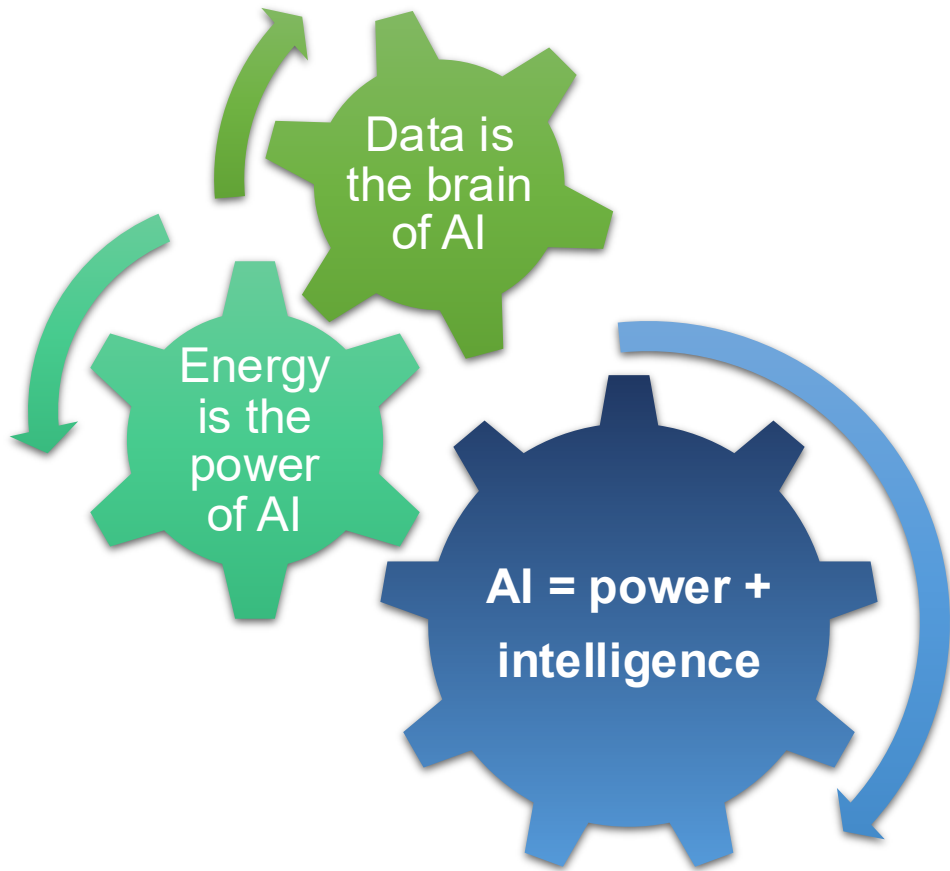
3. Cybersecurity

Informational Technology (IT) & Operational Technology (OT) Convergence



Source: Dragos, Inc.

Building Blocks for Safe & Trusted AI in Energy



ADB Technical Assistance

PROJECT NAME	COUNTRY	AI USE CASE
Promoting Artificial Intelligence-Enhanced Distribution Grids for Sustainability and Resilience (\$1 million)	Bangladesh	Feasibility assessment, pilot project, development and due diligence, capacity building
Artificial Intelligence-Powered Microgrids to Enable a Futuristic and Reliable Distributed Renewable Energy System (\$1 million)	Sri Lanka	AI framework for microgrids, AI-based network management, pilot lifeline power market, capacity building
Preparing Smart and Green Grid Program (\$1.5 million)	Bhutan	Pilot predictive asset management system to integrate generative artificial intelligence for operating a robust cybersecurity system to protect essential infrastructure and digital assets

ADB's Regional Energy and Digital Initiatives

Pan-Asia Power Grid - \$50 billion mobilized by 2035

- National and subregional grid interconnections, storage, and grid digitalization
 - Investments in cross-border infrastructure to unlock renewable energy at scale
 - Technical assistance to align regulations, standards, and conduct feasibility studies

Asia-Pacific Digital Highway - \$20 billion mobilized by 2035

- Digital corridors, data infrastructure, AI-ready economies:
 - Investments in connected infrastructure for terrestrial and subsea fiber networks, satellite links, regional data centers
 - Policy and regulatory support for cybersecurity risk management, digital and AI readiness skills program

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