



ASIA CLEAN ENERGY FORUM 2026

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

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



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Contextual Risk Intelligence for Resilient Clean Energy Systems in Asia From Screening to Adaptive Implementation

9 June 2026 | ADB Headquarters, Metro Manila, Philippines

ADB Office of Safeguards-Policy Team



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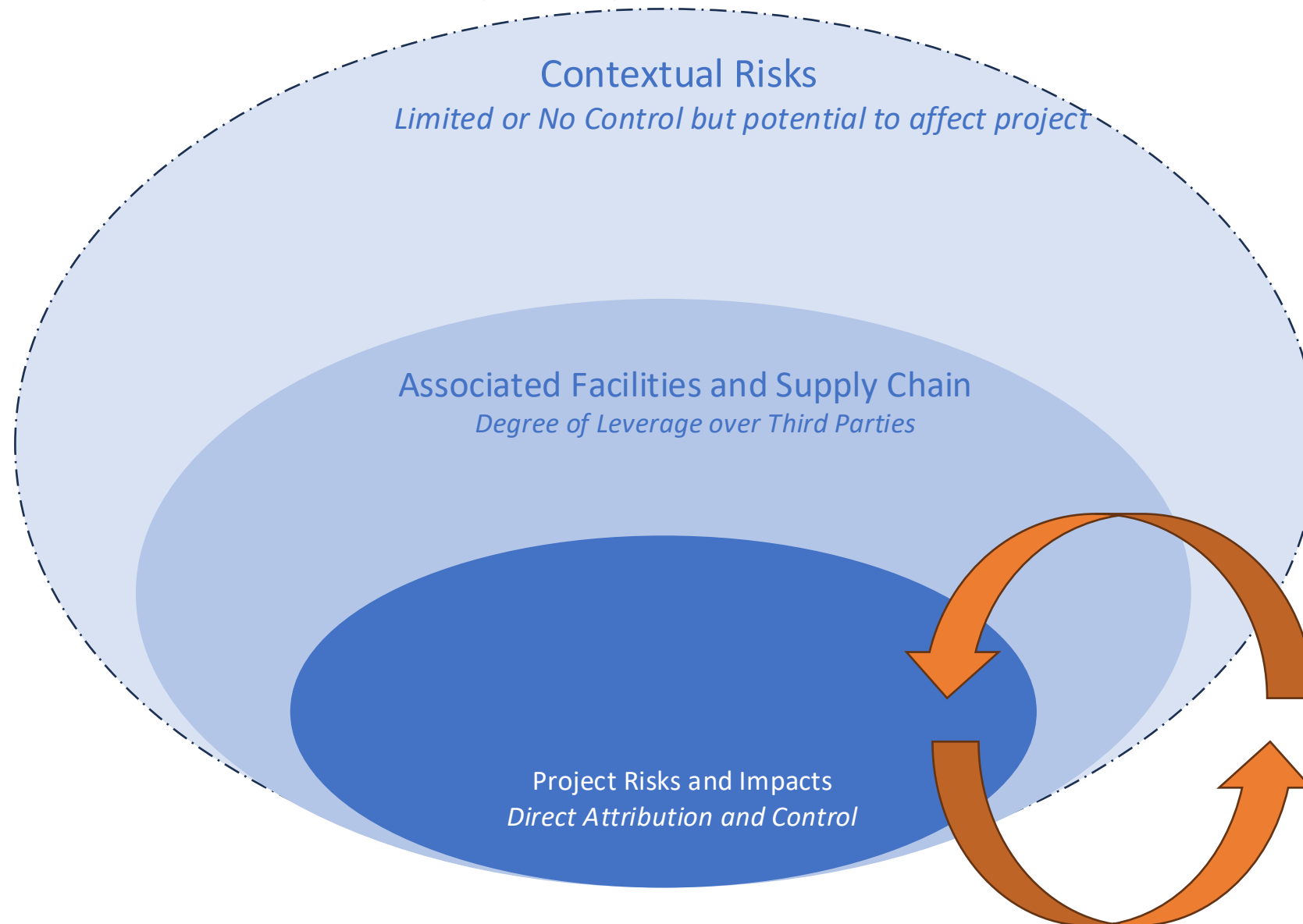
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What is Contextual Risk?

Environmental, Social, and Governance Framework



Contextual risk should refer to all **events, factors or dynamics occurring in the broader environment which affect programming or operations, and vice versa**, yet are beyond the control of organizations or individuals for all operations and projects.



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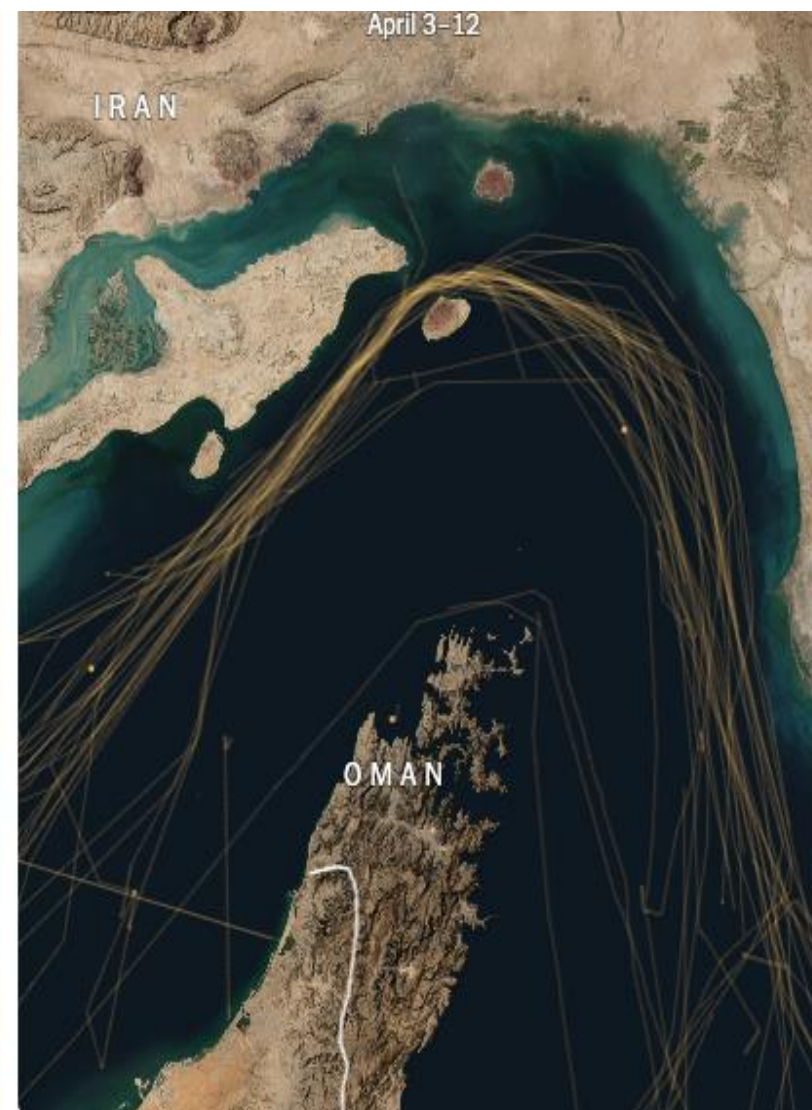


Image (Map)Source: [New York Post](#):

84%

of Middle East crude oil & LNG transiting Hormuz was Asia-bound
(2024)- [EIA \(2025\)](#)

\$126/bbl

Peak Brent crude March 2026 — Largest oil supply disruption in
recorded history- [IMF \(March 2026\)](#)

50+ GWH

Strait of Hormuz closure creates complexity for global energy
storage markets [Energy-Storage.News. \(2026\)](#)

**Contextual risk is now a primary performance
determinant in fragile markets**



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TEN CONTEXTUAL RISK DOMAINS

01 Governance Quality

Rule of law, corruption, regulatory predictability

02 Land Administration

Land registry completeness, tenure security, disputes

03 Social Inclusion & Equity

Free, Prior and Informed Consent (FPIC), gender/ethnic inclusion

04 Labor & Supply Chain

Labor rights, forced labor, single-source supply dependency

05 Digital Infrastructure

Cybersecurity capacity, Internet of Things (IoT), data governance

06 Climate & Disaster

Climate risk index, flood and cyclone hazard mapping

07 Geopolitical Dynamics ★

Mineral supply chains, maritime transit route risk, state fragility

08 Fiscal & Debt

Debt-to-Gross Domestic Product (GDP) ratio, utility cost-recovery

09 Community Resilience

Vulnerability index, social cohesion, adaptive capacity

10 Institutional Capacity

Ministry capacity, enforcement record, project delivery



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ARTIFICIAL INTELLIGENCE (AI) AS AN ENABLER OF CONTEXTUAL RISK INTELLIGENCE

THE AI OPPORTUNITY

Pre-identification of Known Risks

Synthesizes country, sector, and community signals to surface risk flags at scale, reducing weeks of expert review to minutes

Early Warning Systems

Tracks governance deterioration, social tension, climate anomalies, and cybersecurity threats, triggering adaptive project alerts

Scenario and Sensitivity Analysis

Models contextual risk evolution under political transition, climate stress, and digital disruption scenarios

Portfolio-Level Intelligence

Aggregates risk profiles across Financial Intermediary (FI) portfolios, scalable solution to Environmental and Social Standard 9 (ESS9) oversight challenge

RESPONSIBLE AI: 5 PILLARS

1

Accountability & Risk Tiering

2

Human-in-the-Loop Validation

3

Data Protection & Privacy-by-Design

4

Bias Auditing & Local Data Inclusion

5

Transparency, Explainability & Capacity Building



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LIVE CASE STUDY The 2026 Hormuz Crisis: Contextual Risk Transmission to Clean Energy — Asia-Pacific

28 Feb	2 Mar	8 Mar	15 Mar	Late Mar	8 Apr	May 26
US-Israel strikes on Iran	Brent spikes \$80-82/barrel	Brent exceeds \$100/barrel	Hormuz transits down 95%	Brent peaks \$126/barrel	US-Iran ceasefire	Flows still below pre-war

ENERGY PRICE SHOCK

- 84% of Middle East crude oil and Liquefied Natural Gas (LNG) through Hormuz was Asia-bound (2024)
- Southeast Asia: 60% of oil imports from Middle East (International Energy Agency)
- Japan: 95% crude from Gulf states; 70% of that via Hormuz
- UN ESCAP: Inflation projected at 4.6% in 2026; Gross Domestic Product (GDP) growth slows to 4.0%
- Pakistan, Bangladesh, Sri Lanka: fuel rationing, school closures
- Pacific Small Island Developing States (SIDS): weeks of fuel reserves — existential exposure

CLEAN ENERGY SUPPLY CHAINS

- Sulfur/sulfuric acid: ~50% of global seaborne trade passes via Hormuz
- Sulfuric acid is irreplaceable for solar panels, electric vehicle (EV) motors, wind turbine magnets, and copper wiring
- Indonesia's battery-grade nickel operations: 75% sulfur-dependent — battery supply chains at risk
- 50+ gigawatt-hours (GWh) of storage projects potentially impacted (Benchmark Mineral Intelligence)
- Freight and war-risk insurance premiums surged 75-150%
- World Bank: 24% energy price surge raised cost of all imported clean energy hardware

INVESTMENT & FINANCE

- UN Trade and Development (UNCTAD): Global trade growth to slow from 4.7% (2025) to 1.5-2.5% (2026)
- Currency pressure, inflation, and tighter monetary policy squeezed project finance conditions
- Gulf sovereign wealth funds reviewing regional infrastructure exposure (Atlantic Council)
- China's clean electricity stock index gained 6% in March while broader markets fell 8%
- QatarEnergy's major Liquefied Natural Gas (LNG) expansion delayed by 6-12 months
- Australia's \$22.7 billion renewables programme reframed as a national security programme

CRI VALIDATION: The crisis simultaneously activated 5 of 10 CRI domains — no project-level Environmental and Social (E&S) assessment could have anticipated this transmission path



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Country-Level CRI Differentiation & The Clean Energy Paradox

How CRI Domain Profiles Differentiated Exposure and Adaptive Capacity:

Country / Group	Key CRI Domains Activated	Crisis Impact	Adaptive Response
Pakistan & Bangladesh	Fiscal & Debt +++ Geopolitical +++ Community Resilience --	Fuel rationing, food price spikes, political instability	Fuel conservation orders, school closures, debt relief requests
Pacific Island States (Fiji, Vanuatu, etc.)	Geopolitical +++ Climate +++ Fiscal +++ Institutional --	Weeks of fuel reserves — existential threat to energy access	Emergency reserve releases; appeals for external support
Japan & South Korea	Geopolitical +++ Fiscal (managed) Institutional Capacity +++	High import dependency but strong institutional response	Strategic Petroleum Reserve (SPR) release, energy-saving campaigns
Indonesia & Vietnam	Supply Chain ++ Digital + Governance moderate	Significant but manageable; battery supply chains at risk	Fuel contingency plans; work-from-home orders; supply diversification
Australia	Geopolitical +++ Fiscal exposed Institutional Capacity +++	Most fuel-vulnerable developed economy (lowest IEA reserves)	\$22.7B renewables pivot — climate and security now the same programme
China	Geopolitical (managed) Belt and Road Initiative (BRI) disrupted	Resilient: 51% electric vehicle (EV) sales; >33% clean electricity	'Diesel diplomacy' across Southeast Asia; clean energy stocks surged +6%

THE CLEAN ENERGY PARADOX: The 2026 crisis simultaneously STRENGTHENED the strategic urgency for clean energy while DEGRADING the supply-chain conditions needed to execute it — a 24% energy price surge raised the cost of all imported clean energy hardware, compressed fiscal space, and disrupted critical mineral supply chains.



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THE CRI OPERATIONAL TOOLKIT

A

Early-Stage Contextual Risk Heatmapping

Now includes geopolitical supply-chain concentration scoring, maritime transit route vulnerability mapping, and sovereign fiscal exposure to commodity price shocks

B

Proportionate Mitigation Design

For high geopolitical risk: supply-chain diversification in procurement design; strategic input stockpiling provisions; contingency pricing mechanisms in financial models

C

Digital Safeguards Module

Covers Operational Technology / Information Technology (OT/IT) cybersecurity, data governance, AI application governance, incident response planning, and digital component supply dependencies

D

Community Resilience Measures

Post-Hormuz: includes energy access continuity planning for fossil-fuel-dependent communities and emergency supply disruption protocols in project design



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FIVE RECOMMENDATIONS

01

Institutionalize CRI Screening — Elevate Geopolitical Risk to a Primary Dimension

Require contextual risk heatmapping as standard in project preparation. Post-Hormuz: geopolitical supply-chain, transit route, and fiscal commodity exposure become mandatory primary screening dimensions.

ADB / MDBs

02

Embed Artificial Intelligence (AI) Governance in Digital Energy Projects

Mandate the five-pillar responsible AI architecture — accountability, human-in-the-loop validation, data protection, bias auditing, and transparency — as standard conditions for all AI-enabled energy tools.

Developers &
Utilities/Pvt
Sector

03

Develop National Contextual Risk Data Infrastructure

Support borrowing member countries to build the governance, digital, and social data systems that feed CRI diagnostics, including real-time geopolitical risk monitoring capabilities.

National
Governments

04

Harmonize Multilateral Development Bank (MDB) Contextual Risk Standards

Advance shared assessment protocols for co-financed operations, with post-2026 updates incorporating geopolitical supply-chain risk and maritime transit route vulnerability as standard domains.

Multilateral
Development
Banks

05

Invest in CRI Capacity Development

Train energy task teams, financial intermediaries, and government counterparts in CRI methodology, responsible AI use, and adaptive mitigation design, with modules on geopolitical risk transmission.

All
Stakeholders

Contextual Risk Intelligence: From Compliance to Competitive Advantage

1

Contextual risk — including geopolitical — is a first-order determinant of clean energy project success across Asia

2

The 2026 Hormuz crisis validated the CRI framework's geopolitical domain in real time, at regional scale

3

The clean energy paradox: the crisis simultaneously urgentized and complicated the energy transition

4

Artificial Intelligence (AI) accelerates risk intelligence — but only within a robust responsible AI governance architecture