SUPPLEMENTARY MATERIAL

Source, Data, and Evidence Inventory

Beyond the Binary: US-China Tension and the Future of Global Infrastructure Diplomacy

Purpose and scope

This supplementary file documents the secondary empirical materials used in the article and the analytical operations performed on them. The study generated no primary data and conducted no original statistical analysis. Its evidence consists of publicly available policy documents, legal instruments, institutional and corporate reports, multilateral datasets, development-finance records, and selected scholarly sources. The tables below identify the source, the factual or documentary material extracted, the analytical purpose for which it was used, and the relevant section or empirical probe. Copyrighted publications are not reproduced; they remain accessible through the bibliographic information provided in the manuscript.

Table S1. Data construction and coding protocol

Element	Operationalisation
Unit of analysis	Infrastructure encounter: a project, sector, corridor, or regional setting in which Chinese and Western initiatives, assets, standards, financing instruments, or policy choices intersect, coexist, compete, or exclude one another.
Minimum evidentiary threshold	Selective convergence is coded only where interaction produces an observable change in project operation, regulatory compliance, fiscal governance, market access, technical interoperability, or institutional oversight. Mere co-presence or parallel investment is not sufficient.
Forms of convergence	Project-level convergence; normative convergence; institutional convergence.
Causal pathways	Demand-driven convergence; accommodative convergence; structural convergence. Structural convergence is specified theoretically but is not treated as independently demonstrated by the three empirical probes.
Negative or disconfirming evidence	Mutual exclusivity; deliberately incompatible standards; finance conditioned on rival exclusion; co-presence without operational effects; or geopolitical alignment that prevents meaningful overlap.
Evidentiary hierarchy	Binding legal instruments, audited financial information, multilateral datasets, and formal regulatory documents receive greater weight than speeches, promotional material, or media commentary. Media sources are used only for dated factual reporting where no equivalent formal source is cited in the manuscript.
Analytical procedure	Structured focused comparison and process tracing. For each probe, the analysis records the site of interaction, observable operational effect, causal sequence, and evidence that could disconfirm the convergence claim.

Table S2. Empirical source and evidence inventory

Section / probe	Source	Source type	Evidence or material extracted	Analytical use	Access (per updated reference list)
Macro-context: US-China rivalry	Aoyama (2022)	Peer-reviewed policy analysis	Characterisation of the shift in Chinese foreign policy and the wider strategic context of US-China competition.	Supports interpretation of the trade conflict as extending beyond tariffs into industrial, technological, and strategic competition.	n/a (no URL provided in reference list)
Macro-context: US-China rivalry	Klingebiel and Baumann (2024)	Policy research report	Assessment of possible US policy discontinuity and implications for Europe and development cooperation.	Supports claims concerning Western political uncertainty and the durability of infrastructure commitments.	https://www.idos-research.de/policy-brief/article/trump-20-in-times-of-political-upheaval-implications-of-a-possible-second-presidency-for-international-politics-and-

					europe/
Macro-context: supply chains	Dunn and Leibovici (2024)	Federal Reserve research note	Evidence on changing US imports from China in critical sectors.	Supports the claim that de-risking changes the geography of interdependence without producing complete separation.	n/a (no URL provided in reference list)
Macro-context: supply chains	Hoang and Lewis (2024)	Federal Reserve research note	Evidence that alternative US suppliers continue to rely on Chinese imports.	Supports the claim that third markets mediate rather than eliminate China-related dependence.	n/a (no URL provided in reference list)
Macro-context: trade reallocation	McKinsey Global Institute (2025)	Institutional report	Mapping of post-shock global trade reallocation ("The great trade rearrangement").	Provides contextual evidence for supply-chain reconfiguration and indirect dependence.	https://www.mckinsey.com/mgi/our-research/the-great-trade-rearrangement
Macro-context: technology restrictions	Che (2025); Chiang and Li (2024)	Dated media/industry reporting	Reported Chinese semiconductor advances and localisation efforts under US restrictions.	Illustrates adaptive technological upgrading; used as contextual rather than dispositive evidence.	Che (2025): https://www.scmp.com/tech/tech-trends/article/3296452/top-chinese-memory-chip-maker-ymtc-makes-another-design-breakthrough-defying-us-sanctions ; Chiang and Li (2024): https://www.digitimes.com/news/a20241120PD212/self-sufficiency-supply-chain-ic-2024-manufacturing.html
Macro-context: payments and finance	China Executive Briefing (2023); Shanghai Municipal Government (2025)	Policy/official reporting	Dual-circulation policy and expansion of CIPS/RMB use.	Supports the vulnerability-management interpretation of Chinese economic adaptation.	China Executive Briefing (2023): https://mobile.chinadaily.com.cn/html5/2023-01/30/content_015_63d6dcfeed5071e117b51a2b.htm ; Shanghai Municipal Government (2025): https://english.shanghai.gov.cn/en-FinancialReformandInnovation/20250108/0d5502fd008549f1bb306f5ccf1ffe7a.html?utm
Macro-context: green technology	International Energy Agency (2024); CNEVPost (2025)	Multilateral report and industry reporting	China-linked strength in electric vehicles, batteries, and clean-energy manufacturing.	Supports the claim that infrastructure diplomacy is connected to sectors central to energy transition and industrial upgrading.	IEA (2024): https://www.iea.org/reports/global-ev-outlook-2024 ; CNEVPost (2025): https://cnevpost.com/2025/04/03/byd-to-overtake-tesla-global-bev-leader-2025-counterpoint/
BRI: scope and function	Djankov and Miner (2016); Jones and Zeng (2019)	Policy research and peer-reviewed scholarship	BRI motivations, institutional structure, and state-transformation dynamics.	Supports conceptualisation of BRI as economic statecraft rather than a single centrally controlled programme.	Djankov and Miner (2016): https://www.piie.com/sites/default/files/documents/piieb16-2_1.pdf ; Jones and Zeng (2019): no URL provided
BRI: infrastructure deficit	Asian Development Bank (2017)	Multilateral report/data set	Regional infrastructure-investment needs.	Establishes the material demand conditions that sustain host-state interest in external infrastructure finance.	https://www.adb.org/publications/asia-infrastructure-needs
BRI:	AidData (2022),	Public	Project-level records	Supports claims	https://www.aiddata.org/data/bri

finance and project exposure	BRI-tagged Chinese Official Finance Dataset v1.0	development-finance dataset	of Chinese official finance associated with BRI activity. No new statistical model was estimated; the dataset was used to identify financing patterns and contextualise creditor exposure.	regarding delivery capacity, financing scale, project exposure, and debt-related governance concerns.	-tagged-chinese-official-finance-dataset-version-1-0
BRI: debt governance	International Monetary Fund (2019)	Multilateral policy document	BRI 2.0 debt-sustainability and governance discussion.	Supports claims concerning post-2019 debt-sustainability language and reputational adjustment.	https://www.imf.org/en/news/articles/2019/04/25/sp042619-stronger-frameworks-in-the-new-phase-of-belt-and-road
BRI: official adaptation	State Council Information Office of the PRC (2023)	Official policy document	Official articulation of BRI development, sustainability, and future direction.	Used to identify Beijing's stated recalibration; treated as an official claim and not independent verification.	http://www.scio.gov.cn/zfbps/zfbps_2279/202310/t20231010_773734.html
BRI: negative boundary condition	International Monetary Fund (2024)	Country report	Pakistan's fiscal and debt context.	Supports treatment of CPEC/Pakistan as a setting in which debt engagement may coexist with limited Chinese-Western operational compatibility.	https://www.imf.org/en/publications/cr/issues/2024/10/10/pakistan-2024-article-iv-consultation-and-request-for-an-extended-arrangement-under-the-556152
BRI: negative boundary condition	Wolf, Wang, and Warner (2013)	Research report	Scale and characteristics of Chinese overseas aid and government-sponsored investment.	Provides historical context for Chinese state-backed external finance and asymmetry.	n/a (no URL provided in reference list)
Western initiatives: B3W	White House (2021)	Official policy document	Launch commitments and sectoral priorities of Build Back Better World.	Used to identify stated Western objectives and the gap between announcement and institutionalised delivery.	https://www.presidency.ucsb.edu/documents/fact-sheet-president-biden-and-g7-leaders-formally-launch-the-partnership-for-global
Western initiatives: PGII	White House (2022)	Official policy document	Formal launch and implementation claims of PGII.	Supports analysis of the transition from B3W to PGII and continuing delivery constraints.	https://www.presidency.ucsb.edu/documents/fact-sheet-president-biden-and-g7-leaders-formally-launch-the-partnership-for-global
Western initiatives: Global Gateway	European Commission (2021)	Official policy document	Global Gateway sectors, financing model, and standards-based approach.	Supports analysis of EU regulatory authority and de-risking-oriented infrastructure provision.	https://commission.europa.eu/topics/international-partnerships/global-gateway_en
Western initiatives: Blue Dot Network	Organisation for Economic Co-operation and Development (2022); OECD Council (2024)	Official institutional documents	Certification framework and implementation arrangements for quality infrastructure.	Supports classification of BDN as primarily a certification and standards interface rather than a large funding mechanism.	OECD (2022): https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/04/infrastructure-for-a-climate-resilient-future_c6c0dc64/a74a45b0-en.pdf?utm ; OECD Council (2024):

					https://www.oecd.org/en/about/news/press-releases/2024/04/the-blue-dot-network-begins-global-certification-framework-for-quality-infrastructure-hosted-by-the-oecd.html
Western initiatives: financial model	Gabor (2021)	Peer-reviewed scholarship	De-risking and private-capital mobilisation architecture.	Provides the theoretical basis for interpreting Western connectivity initiatives as governance through bankability, guarantees, and risk allocation.	n/a (no URL provided in reference list)
Western constraints	European Parliament (2022); Small (2022)	Institutional report and policy analysis	EU strategic autonomy, systemic rivalry, and political-fiscal constraints.	Supports claims concerning European regulatory strength, strategic autonomy, and limits on direct infrastructure substitution.	https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)733589 (Small 2022: no URL provided)
Piraeus	Council on Foreign Relations (2021)	Policy background report	Chronology and strategic significance of Chinese involvement in Piraeus.	Supports identification of Piraeus as a China-Europe logistics node and the timing of ownership/operation changes.	https://www.cfr.org/articles/belt-and-road-initiative-forcing-europe-reckon-china
Piraeus	eKathimerini (2024)	Dated media analysis	Reported concession history, commercial role, and position of Greece/Piraeus within BRI-linked logistics.	Corroborates the 2009 concession, 2016 controlling stake, and commercial relevance of the port.	https://www.ekathimerini.com/opinion/1253357/greece-and-the-balkans-in-chinas-belt-and-road-initiative-a-strategic-gateway-to-europe/
Piraeus	European Commission (2019), Regulation (EU) 2019/452	Binding EU legal instrument	EU framework for screening foreign direct investment in strategic sectors, including infrastructure.	Demonstrates that Chinese operation occurs within an EU legal order capable of screening, conditioning, and overseeing strategic investment.	https://eur-lex.europa.eu/eli/reg/2019/452/oj/eng
Kenya	AidData (2022)	Development-finance dataset	Chinese official-finance records relevant to Kenyan infrastructure exposure, including BRI-linked lending.	Supports identification of Chinese delivery capacity and the fiscal context in which later debt governance occurs.	n/a (no URL provided in reference list)
Kenya	Bräutigam and Gallagher (2014)	Peer-reviewed comparative finance study	Mechanisms and asymmetries of Chinese commodity-backed and state-supported finance.	Provides comparative context for creditor asymmetry and state-backed infrastructure finance.	n/a (no URL provided in reference list)
Kenya	International Monetary Fund (2019)	Multilateral policy document	Debt-sustainability and governance standards relevant to BRI-linked infrastructure.	Supports the analysis of multilateral fiscal oversight around Chinese-financed infrastructure.	https://www.imf.org/en/news/articles/2019/04/25/sp042619-stronger-frameworks-in-the-new-phase-of-belt-and-road
Kenya	European Commission (2024)	Official programme document	EU-Kenya renewable-energy cooperation and governance priorities.	Supports claims concerning Western involvement in renewable-energy	https://www.consilium.europa.eu/en/press/press-releases/2024/05/30/eu-kenya-council-takes-final-step-to-

				planning, regulation, and complementary finance.	allow-the-implementation-of-the-economic-partnership-agreement/pdf/
Kenya	Asian Development Bank (2017)	Multilateral report	Regional infrastructure needs and financing constraints.	Provides wider demand-side context; not used as Kenya-specific project data.	https://www.adb.org/publications/asia-infrastructure-needs
Southeast Asia: Thailand	Thailand Board of Investment (2025a)	Official investment announcement	Reported TikTok data-hosting investment of 126.8 billion baht.	Provides a dated observation of Chinese-linked digital investment under Thailand's national investment regime.	https://www.boi.go.th/index.php?page=press_releases_detail&topic_id=136465&_module=news&from_page=press_releases2&language=en
Southeast Asia: Thailand	Thailand Board of Investment (2025b)	Official investment announcement	Reported approval of 90.9 billion baht in data-centre investments.	Supports the claim that multiple data-centre providers are attracted through common national policy incentives.	https://www.boi.go.th/upload/content/PR41_2568RN.pdf
Southeast Asia: Thailand	Thailand Board of Investment (2025c)	Official investment announcement	Reported approval of approximately 99.73 billion baht (ca. US$3 billion) in additional data-centre and renewable-energy (wind power) projects on 19 May 2025, together with revised technology and workforce-development requirements for data-centre investment promotion.	Provides an additional, later dated observation of continued Thailand data-infrastructure investment activity, supplementing (not replacing) the 17 March 2025 observation of 90.9 billion baht in Table S2/S3.	https://www.boi.go.th/un/boi_event_detail?module=news&topic_id=136939&language=ja
Southeast Asia: Thailand	Reuters (2026)	Dated news report	Reported approval of approximately US$29 billion in investment projects, including approximately US$25 billion associated with TikTok.	Updates the sequence of Thai data-infrastructure investment and corroborates the continued hub strategy.	https://www.reuters.com/world/asia-pacific/thailand-approves-29-billion-major-projects-including-tiktok-2026-05-06/
Southeast Asia: Vietnam	Thu (2024)	Dated business reporting	Reported Huawei engagement with Vietnamese telecommunications firms.	Supports the claim that Vietnam retains selected Chinese technical engagement while pursuing wider regulatory partnerships.	https://theinvestor.vn/china-tech-giant-huawei-eyes-further-5g-cooperation-with-vietnam-telecom-majors-d10099.html
Southeast Asia: regional setting	Association of Southeast Asian Nations (2025), Master Plan on ASEAN Connectivity 2025	Regional policy document	ASEAN connectivity priorities and convening role.	Supports interpretation of ASEAN as an institutional setting that preserves member-state flexibility among multiple external partners.	https://asean.org/wp-content/uploads/2021/08/8_compressed.pdf
Southeast Asia: hedging	Kuik (2021); Gerstl (2024)	Peer-reviewed/policy scholarship	Conceptualisation of hedging and Southeast Asian strategic flexibility.	Supports the causal interpretation of host-state orchestration and avoidance of exclusive alignment.	Kuik (2021): no URL provided ; Gerstl (2024): no URL provided
Regional	African Union	Regional	PIDA priorities for	Supports classification	https://www.icafrica.org/en/kno

mediation: African Union	Commission, AfDB, and NEPAD (2012)	programme document	continental transport, energy, and digital integration.	of the AU as a priority-setting and normative coordination platform.	wledge-hub/article/programme-for-infrastructure-development-in-africa-pida-interconnecting-integrating-and-transforming-a-continent-155/
Regional mediation: African Union	AUDA-NEPAD (2023)	Implementation report	Assessment of the first decade of PIDA implementation.	Supports evaluation of AU operational capacity and implementation constraints.	https://www.au-pida.org/wp-content/uploads/2023/09/PIDA-Progress-Report_WEB.pdf
Regional mediation: BRICS	Almeida and Silva (2018)	Peer-reviewed legal/institutional analysis	Governance and role of the BRICS New Development Bank.	Supports interpretation of BRICS as institutional supplementation rather than a mediation mechanism between Chinese and Western agendas.	https://www.bricslawjournal.com/jour/article/view/192
Regional mediation: AIIB	Asian Infrastructure Investment Bank (2015)	Founding legal instrument	Articles of Agreement and institutional mandate.	Supports analysis of China-linked participation in new institutions that overlap with, but do not simply replace, existing development-finance governance.	https://www.aiib.org/en/about-aiib/basic-documents/_download/articles-of-agreement/basic_document_english-bank_articles_of_agreement.pdf
Cross-cutting legal and institutional authority	Barnett and Finnemore (2019); Foot (2020)	Scholarly monographs	Institutional classification, authority, and China's engagement with international organisations.	Provides the conceptual basis for treating standards and institutional participation as forms of governance authority.	n/a (no URL provided in reference list)
Cross-cutting infrastructure theory	Cowen (2014); Easterling (2016)	Scholarly monographs	Logistics, infrastructure space, and rule-carrying material systems.	Supports the claim that infrastructure constitutes political and regulatory order through system design and operation.	n/a (no URL provided in reference list)

Table S3. Extracted observations and case coding

Empirical setting	**Extracted observation**	**Form coded**	**Pathway coded**	**Basis for coding**	**Disconfirming condition**
Piraeus, Greece	2009 concession for Pier II; acquisition of a controlling stake in the Piraeus Port Authority in 2016; continued operation inside EU and Greek competition, environmental, labour, maritime, and investment-screening rules.	Project-level convergence	Accommodative	EU and Greek rules alter the operating and oversight conditions of a Chinese-operated strategic asset; exclusion would impose substantial legal, contractual, diplomatic, and commercial costs.	No convergence would be coded if EU/Greek rules had no observable effect on operation, compliance, access, or oversight.
Kenya	Chinese state-backed infrastructure	Project-level and partly normatively	Demand-driven	Kenyan infrastructure demand and fiscal constraint connect Chinese	No convergence would be coded where Chinese and Western projects merely

	delivery remains embedded in the national system while IMF, EU, World Bank and other multilateral instruments shape debt sustainability, fiscal management, energy planning, and regulatory reform.	conditioned convergence		delivery to Western and multilateral governance instruments.	coexist without interaction in financing, planning, regulation, or oversight.
Southeast Asia digital corridors	Thailand approved large data-hosting and data-centre investments under common national incentives; Vietnam retained selected Huawei engagement while developing broader data-security and cybersecurity relationships; ASEAN connectivity institutions preserve multi-partner engagement.	Project-level and institutional convergence; limited normative convergence	Demand-driven and institutionally mediated	National policy regimes and ASEAN-linked diplomatic space enable Chinese-linked and Western firms to operate within the same digital economies without unified governance.	No convergence would be coded where providers are segregated by incompatible systems or where co-location does not affect common investment, regulatory, or market-access conditions.
Regional platforms	ASEAN preserves flexibility; the AU stabilises continental priorities but has limited direct operational mediation; BRICS/NDB provide alternative channels that may displace rather than mediate Chinese-Western compatibility.	Institutional mediation varies by platform	Enabling, constraining, or displacing	Institutional design and member-state bargaining room shape whether rival initiatives can intersect operationally.	Institutional overlap alone is insufficient unless it changes access, standards, finance, sequencing, or oversight.

Table S4. Claim-to-evidence matrix

Article claim	Principal evidence	Evidentiary logic
US-China economic pressure intensified Chinese vulnerability-management strategies rather than producing clean separation.	Aoyama (2022); Dunn and Leibovici (2024); Hoang and Lewis (2024); McKinsey Global Institute (2025); Shanghai Municipal Government (2025).	Triangulation across policy analysis, Federal Reserve research, trade mapping, and official financial-system reporting.
BRI delivery capacity persists because infrastructure deficits and host-state demand remain substantial.	Asian Development Bank (2017); AidData (2022); Djankov and Miner (2016); Jones and Zeng (2019).	Infrastructure-needs estimates, project-finance records, and scholarly analyses.
Post-2019 BRI adaptation created more interfaces with	IMF (2019); SCIO (2023); OECD (2022); OECD Council (2024).	Multilateral governance document, Chinese official policy statement, and Western

debt, environmental, and reputational governance.		certification material.
Western initiatives possess stronger standards and regulatory authority than comparable delivery capacity.	White House (2021, 2022); European Commission (2021); OECD (2022); OECD Council (2024); Gabor (2021).	Official initiative documents interpreted through the de-risking literature.
Piraeus demonstrates regulated accommodation rather than strategic partnership.	CFR (2021); eKathimerini (2024); Regulation (EU) 2019/452.	Ownership chronology and strategic relevance combined with binding EU screening law.
Kenya demonstrates demand-driven interaction between Chinese delivery and Western/multilateral fiscal and energy governance.	AidData (2022); IMF (2019); European Commission (2024); Bräutigam and Gallagher (2014).	Development-finance records, fiscal-governance standards, energy-cooperation documentation, and comparative finance analysis.
Southeast Asia demonstrates co-located digital investment and institutionally mediated hedging without unified digital governance.	TBI (2025a, 2025b, 2025c); Reuters (2026); Thu (2024); ASEAN (2025); Kuik (2021); Gerstl (2024).	Official investment approvals, dated reporting, regional policy, and hedging scholarship.
Structural convergence remains theoretically specified but not independently demonstrated.	Cross-case assessment in Tables S2-S3.	The evidence shows exclusion costs and interdependence but not integrated governance arising from those pressures alone.

Reproducibility and access notes

- No interviews, surveys, experiments, human-participant data, confidential records, or proprietary databases were used.
- No new statistical dataset, index, or numerical model was generated. Quantitative values reported in the article are reproduced from the cited public source and are identified in Table S2.
- AidData (2022) is the principal named project-level dataset. It was used for qualitative identification and contextualisation of financing patterns; the article does not report a new regression, aggregate estimate, or transformed dataset derived from it.
- Legal instruments and official policy documents are treated as evidence of binding rules or stated institutional positions. Official claims are not treated as independent verification of policy effects unless corroborated by other evidence.
- Copyrighted books, journal articles, and news reports are not redistributed in this supplement. Complete bibliographic information appears in the manuscript reference list.
- The supplement records the evidentiary chain necessary to reproduce the article's qualitative classifications: source, extracted observation, analytical use, coding category, and disconfirming condition.

Data Availability statement for the manuscript and submission system

No original primary data were generated for this study. The analysis is based exclusively on publicly accessible secondary sources, including policy documents, institutional and corporate reports, multilateral datasets, legal instruments, development-finance records, and peer-reviewed literature. A structured inventory of the sources used in the empirical analysis, including extracted observations and analytical uses, is provided in the Supplementary Material. Table S2 of the Supplementary Material identifies, for each source, a direct access URL where the Reference List above provides one, or the full bibliographic citation where no URL was given (e.g. subscription journal articles and books, which remain accessible through their publishers or standard library databases). The underlying documents and datasets are publicly accessible through the Reference List, institutional repositories, URLs, or other source information identified in the manuscript and supplementary file.

Suggested supplementary-file citation

Supplementary Material: Source, Data, and Evidence Inventory for “Beyond the Binary: US-China Tension and the Future of Global Infrastructure Diplomacy.”