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Leveraging monetary and prudential policies to scale energy transition finance in Asia

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Landscape of energy transition in Asia

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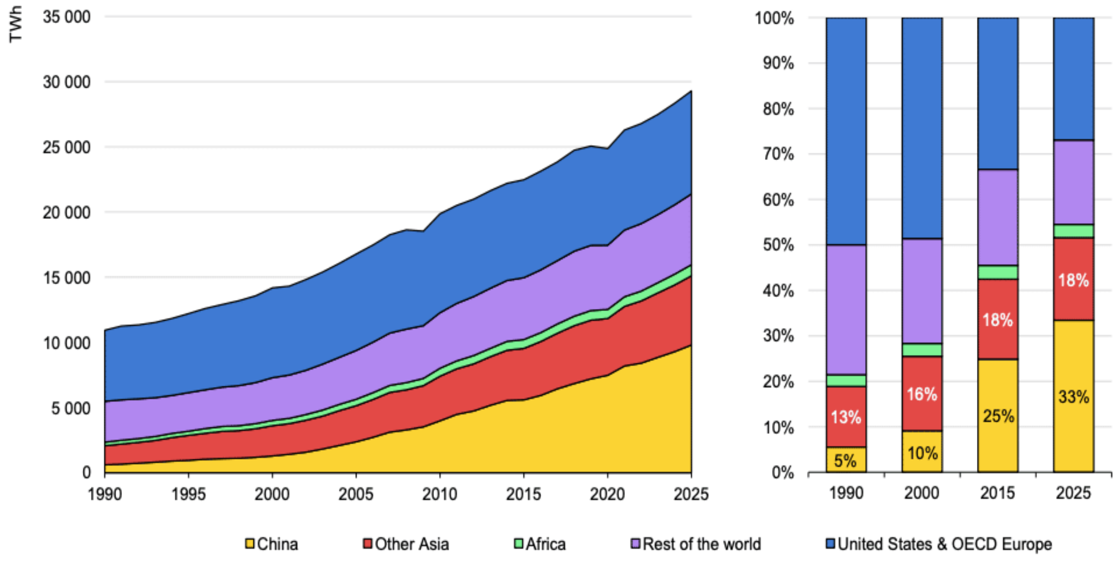
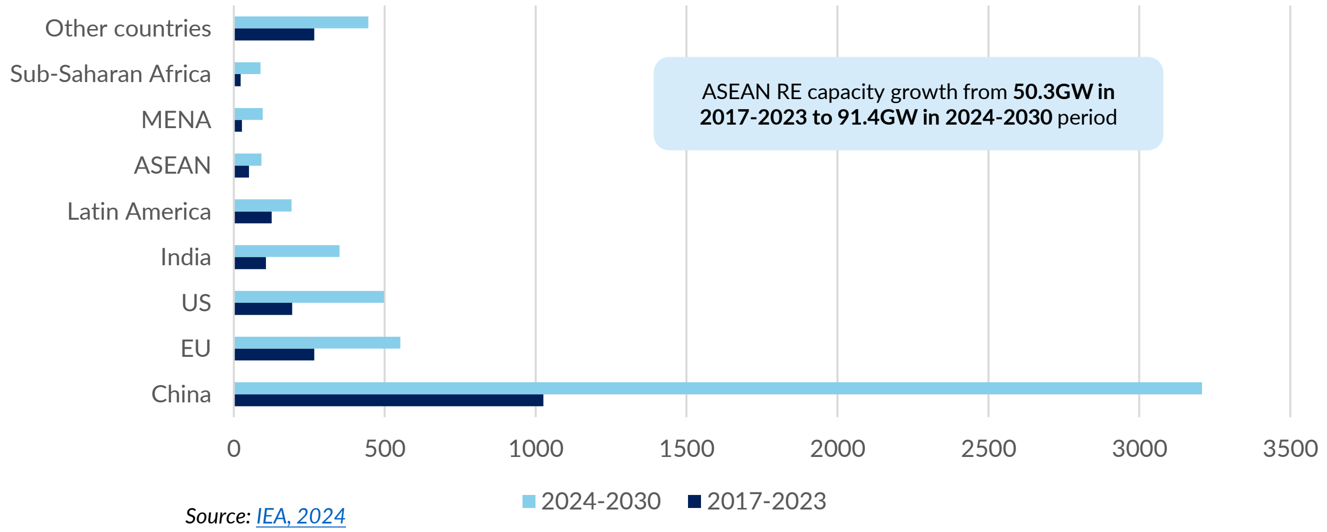
Evolution of global electricity demand by region (left) and regional shares (right), 1990-2025

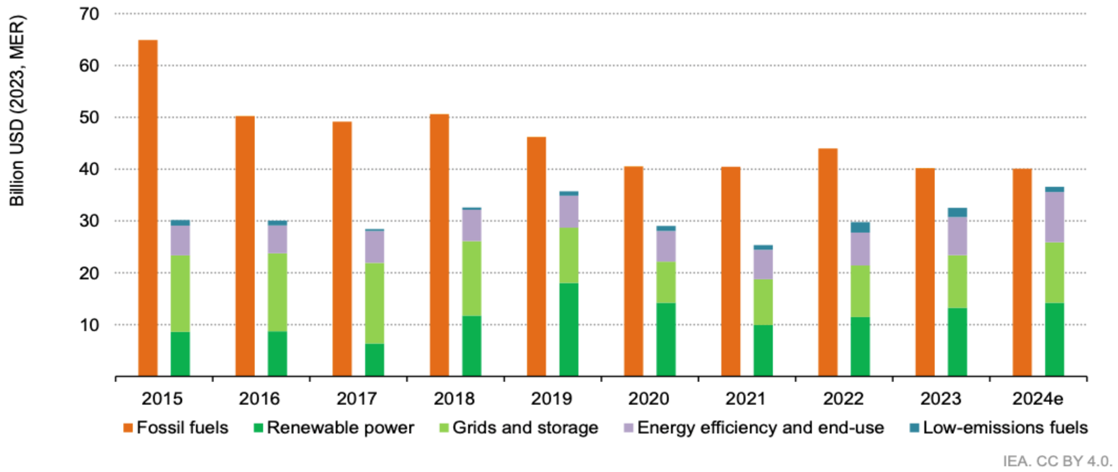


Renewable electricity capacity growth by country/region (GW)



Source: IEA, 2024

Investment in clean energy and fossil fuels in Southeast Asia, 2015-2024



lotes: "Low-emissions fuels" = modern bioenergy, low-emissions hydrogen-based fuels, and fossil fuels with CCUS; it also includes direct air capture. 2024e = stimated values for 2024. MER = Market Exchange Rate.

Source: IEA, 2024

Key statistics

- 8 out of 10 ASEAN countries have net zero or carbon neutrality targets for between 2050 and 2065
- The ASEAN Plan of Action for Energy Cooperation aims to achieve a 23% share of renewable energy in total energy supply by 2025
- Malaysia, Thailand, Indonesia and Vietnam have set target timelines to phase out coal from power generation between 2045 and 2056
- A total of US $35.5 billion has been raised through Just Energy Transition Partnerships in Indonesia and Vietnam to support their energy transitions

Developments fuelling energy transition

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Timeline of major events/policies that have impacted Asia

2015	2016	2016	2017	2018	2021	2022	2023	2024
United Nations Paris Climate Agreement Signing Ceremony — 22 April 2016	ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025	G20 2016 China	ASEAN Green Bond Standards	Green Sukuk	Energy Transition Mechanism (ETM) for Southeast Asia: Partnership Launch	JETP Indonesia	G20 2023 India	ASEAN Taxonomy for Sustainable Finance

Source: IEA, 2024

Sectors covered under national/regional taxonomies

Singapore	Hong Kong	ASEAN	Taiwan
Energy, transport, construction, industry among others	Electricity, transport, waste, construction	Energy, transport, construction	Manufacturing, transport, construction

Thailand	Indonesia	Philippines	South Korea
Energy, transport	Energy only	Energy, transport, waste, industry, agriculture	Industry, power, energy, transport

Source: IEEFA, 2024

Emerging opportunities

- Massive clean energy market growth
- Regional collaboration for growth of renewables
- Clean energy infrastructure investment potential

Central bank tools

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Category	Tool	Role
Monetary and credit policy tools	Green refinancing schemes	Provide low-cost liquidity to banks for green loans
	Directed green lending quotas/credit guidance	Mandated share of green loans
	Differentiated reserve requirements	Lower RRR requirements for green portfolios
	Concessional lending rates	Lower rates for green sectors
Prudential and supervisory tools	Climate scenario analysis and stress testing	Identify systemic vulnerabilities and guide supervisory expectations
	Climate capital requirements/risk weights	Encourage banks to reduce exposure to brown assets
	Disclosure mandates	Increase market discipline
	Green/brown asset classification	Track climate alignment at portfolio level
Market operations/implementation tools	Green quantitative easing (green bond purchase programs)	Buy green bonds to support liquidity/prices
	Green collateral frameworks	Accept only green assets as repo collateral
	Eligibility screening for central bank facilities	Reward greener financial institutions

Enabling measures

Green/climate taxonomy — Climate data infrastructure — Technical capacity

Relevance to Asia

Constrained fiscal space

Shallow capital markets

Dual development-energy mandates

Monetary and credit policy tools

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Monetary and credit policy tools help address core transition finance gaps: high capital costs, underdeveloped green lending channels and limited fiscal space for public subsidies

Tools

	1. Green refinancing schemes	2. Directed green/transition lending quotas/credit guidance	3. Differentiated reserve requirements	4. Concessional lending rates
Mechanism	Preferential refinancing/rediscounting for banks for green projects	Mandated or incentivised green lending targets	Lower reserve ratios for banks meeting green lending thresholds	Subsidised interest rates for green lending through special windows
Implementation	Via refinance windows or rediscounting of eligible instruments	Through priority sector lending or directed credit lending regulations	Banks set green weighted reserve frameworks	Reduced rates for qualifying green loans
Relevance to Asia	Helps de-risk green lending for MSMEs and distributed energy	Builds on existing directed lending programs to expand green credit at scale	Market-friendly incentive in tight fiscal settings	Makes clean technologies more affordable in high-interest rate environments

Challenges faced by central banks in implementing these tools

- Limited green lending pipeline
- Institutional conservatism
- Market distortions and capacity limits
- Coordination gaps

Prudential and supervisory tools

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Prudential and supervisory tools help address core transition finance gaps: misaligned capital flows, inadequate risk pricing and lack of transparency and help maintaining economic stability

Tools

	1. Climate scenario analysis and stress testing	2. Climate capital requirements/risk weights	3. Disclosure mandates	4. Green/Brown asset classification
Mechanism	Simulates financial impacts under different climate scenarios	Adjusts capital buffers based on climate-related risk exposure	Requires firms to report climate-related risks and metrics	Label assets based on environmental impact
Implementation	Integrated into banks' risk modelling and reporting frameworks	Assign capital charges based on assets' climate risk exposures	Adopt standardised disclosure frameworks and set phased compliance timelines	Embed within taxonomies to guide lending and investment
Relevance to Asia	Identify vulnerabilities from climate risks	Encourages reallocation of capital toward low-carbon projects	Enhances transparency and comparability across markets	Direct finance towards energy transition

Challenges faced by central banks in implementing these tools

- Data gaps and inconsistencies
- Capacity constraints
- Balancing transition risks
- Coordination across borders

Market operations/Implementation tools

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Market operations/implementation tools help address core transition finance gaps: shallow green asset markets, high cost of green capital and weak incentives for FIs

Tools

	1. Green QE	2. Green collateral framework	3. Eligibility screening for central bank facilities
Mechanism	Purchase of green bonds or sustainable assets	Preferential treatment to green assets in collateral eligibility or valuation	Access to central bank liquidity or support is conditioned on firms meeting climate-related criteria
Implementation	Integrate green assets into asset purchase programs	Revise collateral policies to include sustainability criteria, adjust haircuts, or offer better pricing for green assets	Comply with climate-related benchmarks are established as prerequisites
Relevance to Asia	Channel monetary support toward Asia's growing green bond markets	Incentivises banks to hold green assets, fostering cleaner portfolios	Enhanced climate performance and disclosures

Challenges faced by central banks in implementing these tools

- Underdeveloped market restrictions
- Monetary policy mandate constraints
- Operational complexity
- Risk of market distortion

Recommendations

Align monetary and prudential policies with transition objectives

- Design green lending targets or incentives for FIs linked to NDCs or national climate plans
- Implement differentiated risk weights or capital requirements for green vs. brown assets with a phased approach
- Develop and mandate a taxonomy-aligned green asset tagging
- Launch targeted green refinancing windows or concessional liquidity facilities with preferential interest rates and lower margin requirements

Support market development and de-risking for green investment

- Facilitate green bond market growth by including green assets in central bank portfolios or as eligible collaterals
- Support green project pipelines via public-private platforms and project preparation facilities
- Ensure safeguards such as limiting exposure to specific issuers/sectors and monitoring for unintended consequences
- Use diversified purchase portfolios and collateral baskets to prevent excessive exposures
- Regulate carbon pricing to evade market distortion

Build institutional capacity and enabling frameworks for climate-aligned finance

- Establish dedicated climate or sustainable finance policy units within central banks
- Adopt sandbox approaches to pilot and test mechanisms
- Invest in capacity building for central bank staff, regulators and supervised entities
- Foster cross-agency coordination platforms with finance ministries, regulators and FIs

CASE STUDY

Bank Indonesia's Green Incentive on Macroprudential Liquidity Incentive Policy (KLM)

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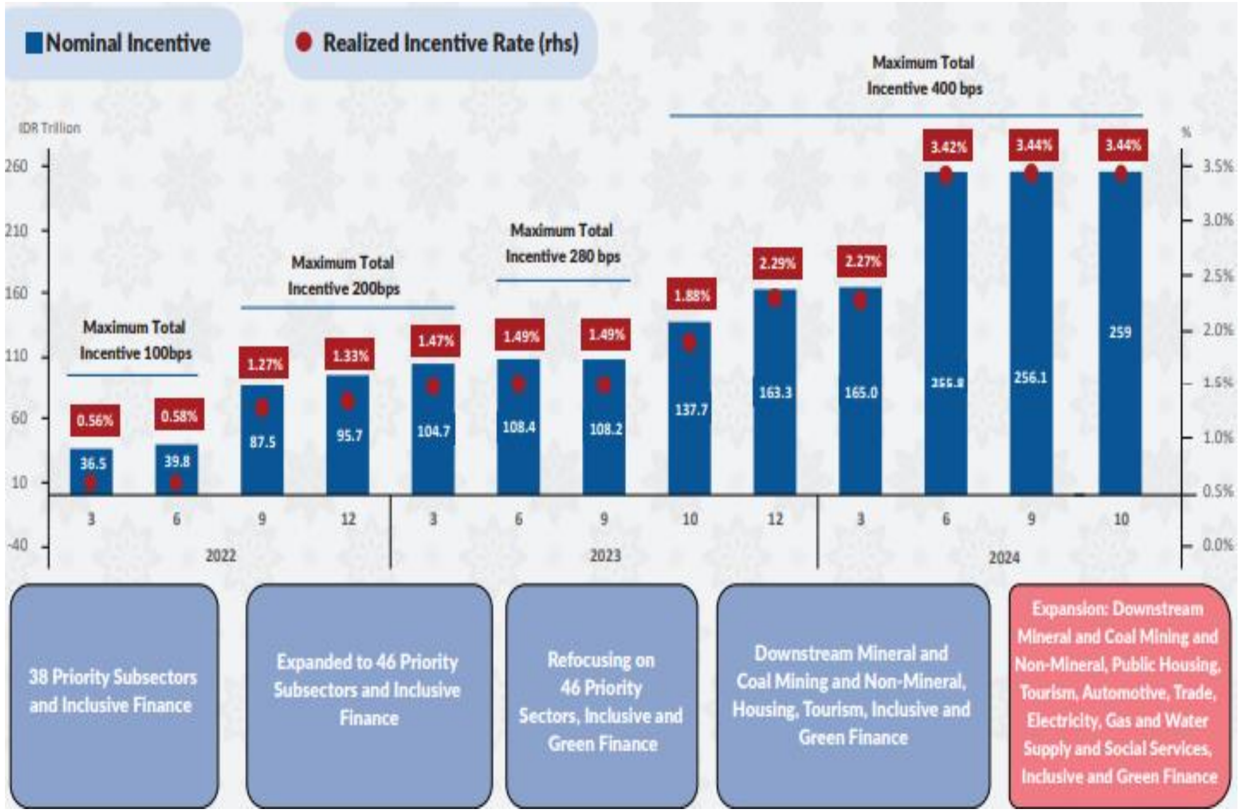
Key statistics

- Introduced to support the recovery of sectors after the pandemic (priority sectors); subsequently expanded to sectors with high leverage for economic growth
- In 2022, Bank Indonesia reduced the reserve requirement by 30 basis points (bps) for banks that provided green mortgages and EV loans; further increased to 50 bps in 2023
- Lowered funding cost for banks, incentivising them to allocate more capital toward sustainable projects
- Part of broader Macroprudential Inclusive Financing Ratio framework, which also allows banks to meet regulatory targets by financing green projects or purchasing sustainable bonds

Source: IFC, 2024, Bank Indonesia, 2024

Evolution of KLM Policy



Source: Bank Indonesia, 2024

Impact

Reduced reserve requirements estimated to have unlocked ~ Rp35 trillion (~ US $2.3 billion) in banking sector liquidity for green lending

Contributed to a significant increase in the portion of green financing in the Indonesian banking sector

CASE STUDY
Hong Kong Monetary Authority's Climate Risk Stress Test 2.0

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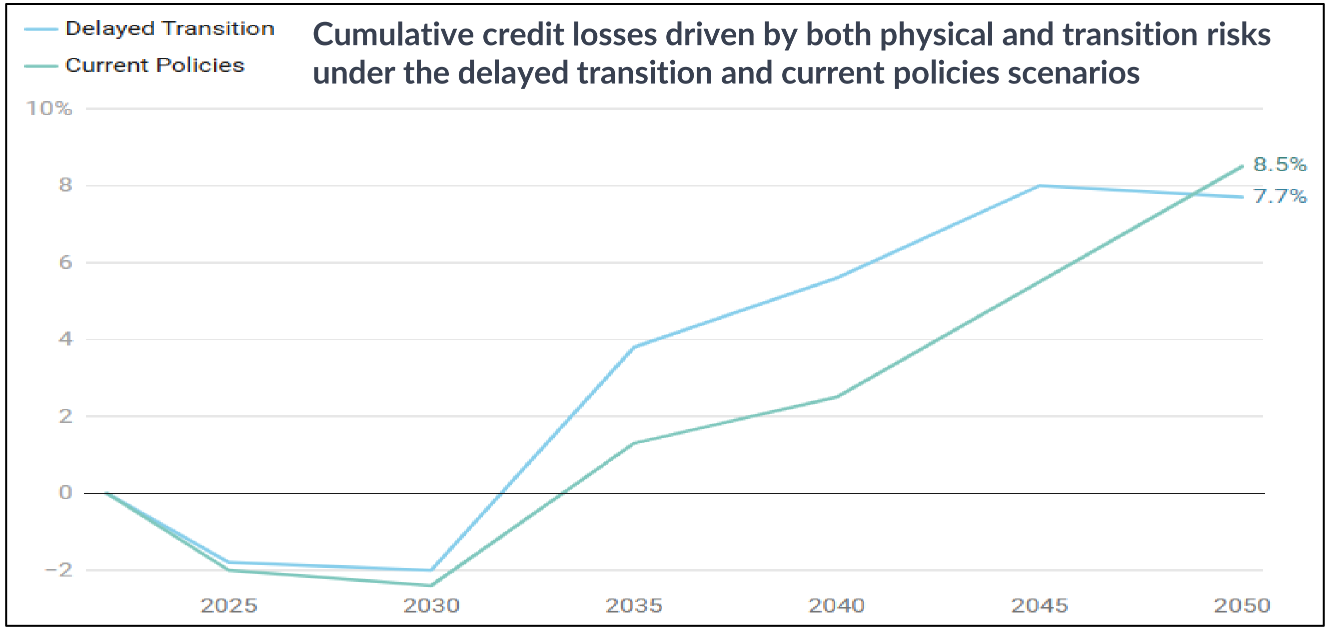
Key statistics

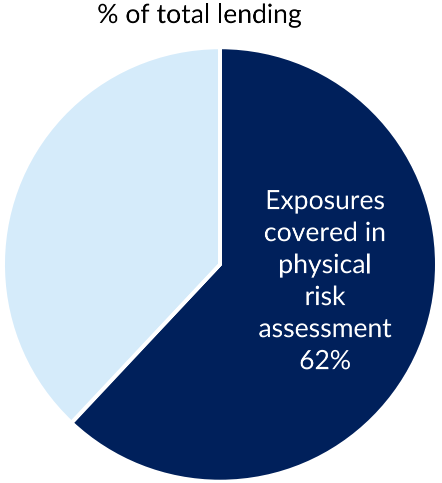
- HKMA undertook Climate Risk Stress Test 2.0 (CRST 2.0) in 2023 to assess the climate resilience of the Hong Kong banking sector and facilitate the capability building of the industry in measuring and managing climate risks
- Scope- 46 banks participated (21 local, 25 international), covering 91% of sector lending and 86% of total assets as of end-2022. The CRST 2.0 included both short-term (2023–2027) and long-term (2023–2050) scenarios
- Banks' Capital Adequacy Ratio (CAR) stayed above the 8% minimum, with a 3.1-point drop in 2023- due to climate risks. CAR is projected to stay above 2022 levels through 2050, with sector-wide risk management capacity significantly improved

Source: (HKMA, 2025)



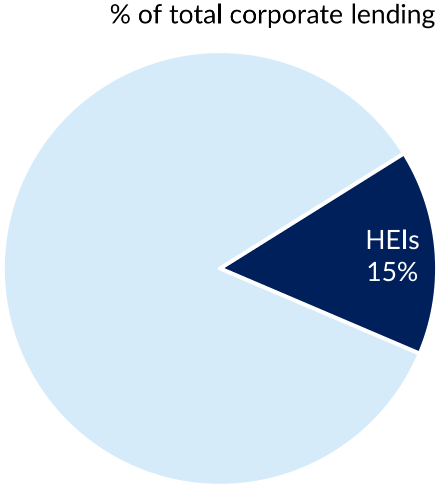
Source: (HKMA, 2025)

Exposures covered in participating banks' transition risk assessment



A large share of bank lending is exposed to transition risks, revealing vulnerability to climate policy and market changes

Credit exposures covered in participating banks' physical risk assessment



15% of corporate lending is in climate-vulnerable industries, posing a material risk to asset quality

CASE STUDY

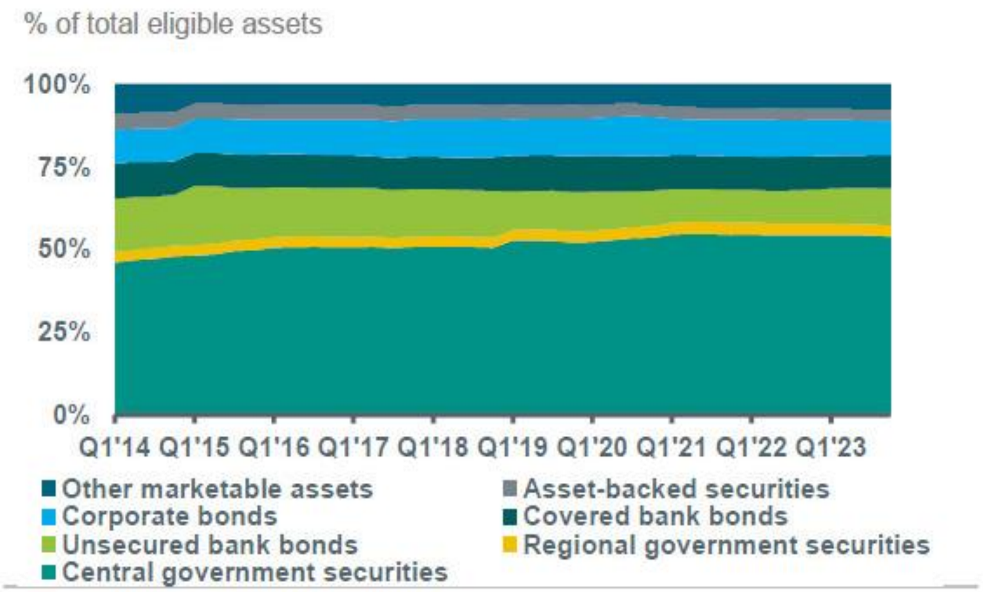
European Central Bank's Green Collateral Framework

Key statistics

- Introduced as a part of a broader strategy to align monetary policy with the EU's climate goals and to support the transition to a low-carbon economy
- The collateral framework sets the rules for which assets are accepted as collateral, including eligibility criteria and haircuts
- Integration of C&E risks- ECB better positioned to protect its own balance sheet
- ECB scorecard for corporate bonds is based on three pillars:
    - Backward-looking emission performance: Actual historical emissions of the issuer
    - Forward-looking emission targets: The ambition and credibility of the issuer's climate targets
    - Quality of climate disclosures: How transparently and comprehensively the issuer reports climate-related information
- Each pillar is scored, and the combined climate score ranges from 0 to 10. Higher scores mean better climate performance and result in lower haircuts when these assets are pledged as collateral

Source: Reclaim Finance, 2025

Type of asset eligible for ECB collateral



Source: ABN Amro, 2024

Impact

Improvement in its Green Central Banking Scorecard, rising from 15 out of 50 in 2021 to 44 out of 50 in 2024, reflecting progress in financial policy and supervision of climate risks

6% of pledged collateral currently consists of corporate bonds, these measures have started to incentivise banks to hold greener assets and issuers to improve sustainability reporting

Source: ABN Amro, 2024, Reclaim Finance, 2025

Thank you

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