Third Annual Energy Supply Investment and Banking Ratios

Comparing low-carbon and fossil-fuel activity
Summary Report

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Contents

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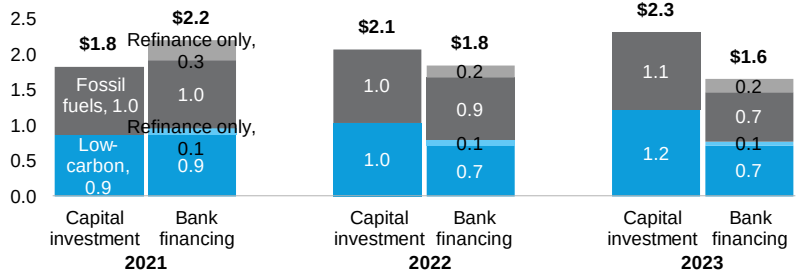
Executive summary

The energy industry is shifting more of its investment into cleaner sources of supply. **Bank financing for low-carbon energy supply technologies reached 89% of that for fossil fuels in 2023 – meaning that for every dollar that went to oil, natural gas and coal, 89 cents went into things like wind, solar and grids.** This is our third annual assessment of those flows, taking in both the investments made by energy companies and bank-facilitated finance. Despite the improvement, the ratio isn't evolving at the pace needed to hit the 4:1 level required this decade under commonly referenced scenarios to limit climate change to 1.5C.

- **Investment in low-carbon energy surpassed fossil fuels for the first time.** Real-economy investment rose from $2.1 trillion in 2022 to $2.3 trillion in 2023, making the ratio **1.11:1.**
- **Bank facilitated financing for fossil fuels declined.** This led to a rise in 2023 for the **Energy Supply Banking Ratio, or ESBR,** which grew from 0.74:1 in 2022 to **0.89:1** in 2023. Changes in the way we measure finance and data gaps in China explain some of the increase in the ratio. But it also reflects an active transition in the energy system. Total bank financing slid 11% to $1.6 trillion. Within that sum, fossil-fuel financing fell 18% to $870 billion, while low-carbon retreated just 1.4% to $776 billion.
- **Real-economy investment has continued to rise, while bank facilitated financing fell, particularly for fossil fuels.** Financing volumes eased from $1.8 trillion in 2022 to $1.6 trillion in 2023. This reflected a few key trends that started in 2022:
  - Cash flows for energy firms remained high, enabling them to pay for higher capital expenditure without financing from banks.
  - Interest rates stabilized but persisted at high levels, reducing attractiveness of linked products.
  - Small-scale solar – often financed by consumers and thus not covered in this methodology – continued to expand its share of low-carbon capex.
  - A big caveat: Chinese firms shifted from bonds to loans in 2023 as the central bank reduced deposit reserves and prime rates. Loans are less well reported, so Chinese firms probably borrowed more than our numbers suggest. This impact artificially inflates the global ratio.
- **Coal is still drawing more capital than is compatible with a 1.5C target.** The ratio of coal investment to fossil fuels was 0.18:1, triple the goal. For bank-facilitated financing, it was 0.11:1. China's banks underwrote about 66% of the $94 billion that went to coal in 2023, before even accounting for the lower transparency on loans.

Global energy supply investment vs. energy supply financing, 2021-23

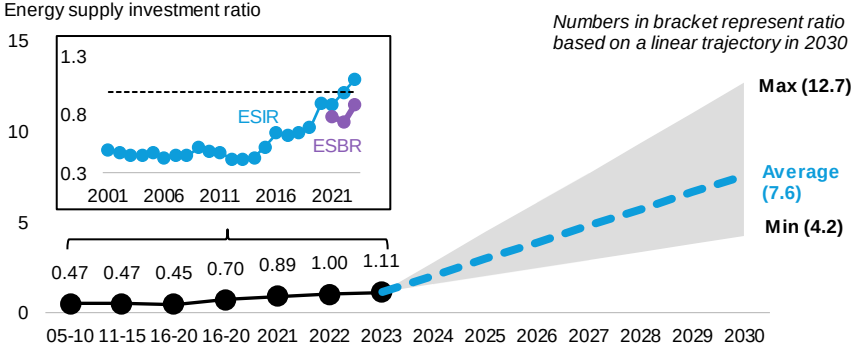
$ trillion (2023 real)



Ratio	0.89	0.78	1.00	0.74	1.11	0.89

Range of Energy Supply Investment Ratios to 2030 implied by commonly referenced climate scenarios consistent with 1.5C warming

Energy supply investment ratio



Source: BloombergNEF, International Energy Agency, UN Intergovernmental Panel on Climate Change, Network for Greening the Financial System, Bloomberg LP, RAN, Urgewald, IJGlobal. Note: Ratios from 2000 to 2023 are based on historical investment levels from the IEA World Energy Investment reports. ESIR refers to Energy Supply Investment Ratio; ESBR refers to Energy Supply Banking Ratio. Both are ratio of low-carbon to fossil-fuel supply.

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Methodology overview

Bank-facilitated financing
Energy Supply Banking Ratio

Our analysis spans the energy value chain

Focus of this report

1 Energy Supply

Production and supply

Company revenue driven by the development, extraction, transportation or generation of energy.

Low-carbon

Company revenue driven by low-carbon sources of energy production. This includes renewables, storage, biofuels and nuclear.

Grid technology upgrades often tend to accompany cleaner capacity and also allow the smoother integration of renewables, so transmission and distribution is considered green.

- Solar
- Wind
- Geothermal
- Hydropower
- Storage
- Marine power
- Biofuels and biomass
- Nuclear
- Electricity grid
- Hydrogen and CO2 transport/storage

Fossil Fuels

Company revenue driven by fossil-fuel-based sources of energy production. This includes coal, oil and gas, and utilities' fossil-fuel power generation for electricity and heating/cooling. This also includes transportation and refining businesses.

- Utilities
  - Fossil-fuel power generation
  - Heating and cooling
- Coal
  - Mining
  - Rail/freight
- Oil and gas
  - Exploration and production
  - Transport
  - Refining
  - Marketing/trading
  - Filling stations

Manufacturing

Company revenue driven by the manufacture of clean technologies.

Company revenue driven by the development of plants/facilities manufacturing low-carbon energy equipment. This includes equipment and services, such as modules, turbines and components.

We include smart grid equipment due to the direct enablement of clean power on the grid.

- Plant development
  - Solar, biomass, wind
- Smart grid equipment
- Clean energy equipment
  - Solar cells/modules, inverters
- Wind turbines
- Geothermal equipment
- Hydro equipment
- Fuel cells
- Nuclear equipment

Company revenue driven by the equipment used to support power generation from fossil-fuel-based sources. This includes equipment, parts and services, such as generators and boilers.

- Equipment and infrastructure
  - Generators
  - Power generation equipment, parts and services
  - Power boilers and heat exchangers
  - Oilfield chemicals

2 Energy Demand

Consumption

Company revenue driven by the manufacture and financing of transportation technologies.

Company revenue driven by the manufacturing of clean transportation technologies, primarily electric vehicles (passenger vehicles and trucks). Also includes financing and leasing.

- Electric passenger vehicles
- Electric trucks
- Leasing electric vehicles
- Electric-vehicle financing

Company revenue driven by the manufacturing of traditional internal combustion engine transportation technologies (passenger vehicles and trucks) and other fossil-fuel-based forms of transportation, such as ships and aircraft. Also includes financing, leasing and rental services.

- Passenger/commercial vehicles
  - Manufacturing and leasing
  - Engines and parts
- Trucks
- Shipbuilding
- Aircraft engines and parts
- Vehicle financing (passenger, commercial, railcar)
- Vehicle rental

Not included: Adjacent sectors

Metals and mining relevant to batteries/EVs, but tracked too broadly in Bloomberg Industry Classification System (BICS) system.

Materials avoided – focus on energy.

- *Recycling and waste management*
- *Sustainable materials*
- *Pollution control equipment*
- *Metals and mining*

Use of fossil-fuel vehicles excluded to avoid double counting; focus is on manufacturing instead.

Chemicals/materials avoided – focus on energy.

- *Rail (agriculture, chemicals, industrial products, etc.)*
- *Trucking freight*
- *Bus transit*
- *Taxi services*
- *Hydrogen and ammonia*

Our methodology is built on transactions underwritten by banks for the energy sector and relevant issuers

1 Select company universe

Issuers
~110,000 companies with energy sector revenue

Sectors	Low-carbon energy supply	Fossil-fuel energy supply
Sources	BNEF Clean-Energy Exposure Ratings (CEERs)	BNEF Fossil-Fuel Exposure Ratings (FFERs), Urgewald GCEL/GOGEL *(historical 2021-22 only)*

2 Pull financing activity

Gather transaction data
issued by relevant companies

Asset Classes	Loans	Bonds	Project finance and tax equity
	Equity		
Sources	Bloomberg LP		BNEF, IJGlobal

3 Adjust transactions

Adjust transaction data
for general corporate financing, by multiplying by percentage exposure to fossil fuels or clean energy

	2023 data	2021-22 historical
Sources: Fossil fuels	BNEF Fossil-Fuel Exposure Ratings (FFERs)	Urgewald GCEL/GOGEL, Bloomberg Industry Classifications (BICS)
Sources: Low-carbon	BNEF Clean Energy Exposure Ratings (CEERs)	BNEF CEERs, BICS
Sources: Green debt	ESG use of proceeds	

Add full value of transactions
for project finance and renewables tax equity/credit transfers

Methodology overview

Our analysis spans four main bank financing activities and focuses on energy supply

Type of financing	Recourse debt issuances	Equity issuances	Non-recourse project finance	Tax equity and tax credit transfers	*Incomplete inclusion*	*Not included*
Asset class or type	Bonds; Loans; Green debt	IPOs; Additional share offerings	Fossil fuels; Clean energy	Tax credit investment	Asset-backed securities	*Direct and bilateral lending*
Source	Bloomberg LP	Bloomberg LP	IJGlobal; BNEF	BNEF	*Bloomberg*	*Limited disclosure*
Role	Underwriting	Underwriting	Underwriting	Direct investment	Underwriting	Balance sheet
Energy supply results *Focus of this report*	~**$1.4 trillion** total **$648 billion** low-carbon, **$746 billion** fossil fuels Energy Supply Banking Ratio = **0.87**	~**$0.05 trillion** total **$28 billion** low-carbon, **$23 billion** fossil fuels Energy Supply Banking Ratio = **1.25**	~**$0.17 trillion** total **$79 billion** low-carbon, **$101 billion** fossil fuels Energy Supply Banking Ratio = **0.79**	~**$0.02 trillion** total **$20 billion** low-carbon		
Energy demand results	~**$0.3 trillion** total **$188 billion** low-carbon, **$74 billion** fossil fuels Energy Demand Ratio: Banking = **2.53**	~**$0.006 trillion** total **$3 billion** low-carbon, **$2 billion** fossil fuels Energy Demand Ratio: Banking = **1.39**	N/A	N/A		

Source: Bloomberg LP, BloombergNEF. Note: Banks serve their clients in the energy sector in numerous other roles that are not the focus of this report. These include but are not limited to serving as an agent on a debt issuance, direct lending as opposed to underwriting, asset management, and retail banking (in other words,, loans for electric vehicles or residential solar). Most of these omissions are due to data limitations.

Impact of methodological decisions on results

Interpreting year-on-year changes in these results requires distinguishing between *changes in the market* (macroeconomic trends and decisions banks make) and *changes in measurement* (methodology). Here, we approximate the influence of the methodological changes on results. The number of arrows is proportional to degree of impact on results.

		Impact on historical results *(relative to previous reporting)*		Impact on 2023 results	
Change	**Description**	**Volume**	**ESBR *(all else held equal)***	**Volume**	**ESBR *(all else held equal)***
Changes in adjustment factors	Our **primary source for adjusting general corporate purpose transactions is now BNEF's Transition Exposure Ratings**, which are revamped to include both Clean Energy Exposure Ratings (CEERs) and Fossil-Fuel Exposure Ratings (FFERs) for 109,806 companies. While the CEERs were used in the previous iterations of this report, the FFERs are entirely new and replace our use of Bloomberg Industry Classifications and external data for fossil fuels going forward. For more on the Transition Exposure Ratings, see *BNEF Transition Exposure Ratings: 4Q 2024* (web | terminal). This applies to 2023 data and onwards, while we maintain the same methodology for historical data 2021-2022: a combination of the CEERs, Urgewald, and BICS data.	*None – use same methodology for historical data*		↓ *FFERs sometimes less than Urgewald estimates*	↑↑↑ *Low-carbon better captured, FFERs sometimes less than Urgewald estimates*
	We **filled in missing years of adjustment factor data** (because of a lack of financial reporting, for example), with adjacent years' data where possible. This allows us to capture deals we would have otherwise missed, raising the volume measured.	↑↑	↑ *Affects low-carbon more*	↑	↑ *Affects low-carbon more*
Historical tax equity data	For the second year, we collected tax equity investment data directly from known tax equity players. **Historical data for 2021 ($15 billion) was added for the first time** in this report, bringing historical figures in line for comparison. All years, 2021-2023, also include a small number of known deals for other banks from BNEF's renewables asset finance database. Combined, the $17 billion in 2023 reported here represents around 85% of the approximately $20-25 billion market.	↑↑ *(2021 only)*	↑↑ *(2021 only)*	*None*	
Tax credit transfers	The passage of the 2022 Inflation Reduction Act in the US created a new market for the sale and purchase of clean energy tax credits, facilitating liquidity in a previously constrained market and allowing for an expansion in volume and participants. Banks since grew their traditional tax equity desks to arrange tax credit transfer deals, which began to materialize in 2023. As this market evolves and these deal structures take new shapes, our approach to capturing transfers may shift accordingly. **In 2023, we capture $2.6 billion of credit transfers facilitated by banks.** To understand more on this new market, see *Credits for Sale: Biden Climate Law Remakes US Energy Finance* (web | terminal).	*None – new market development as of 2023*		↑	↑
Bank roles	We added in **co-lead arrangers** where these were the only LEAG-creditable roles on the loan. Previously, we had removed these from the data because there is very frequently double-counting of league credit with bookrunners, but this year we were able to add back them back in where there is no risk of double-counting. This captures an additional **$20 billion of low-carbon** and **$14 billion of fossil-fuel activity** in 2023.	↑↑	↑ *More low-carbon than fossil fuels*	↑↑	↑ *More low-carbon than fossil fuels*
Low-carbon sectoral split	We split out results by type of **low-carbon energy,** including solar, wind, energy storage, hydropower, nuclear, biofuels, biomass and waste, geothermal, marine, carbon capture and storage, and clean electricity marketing and trading.	*None*			

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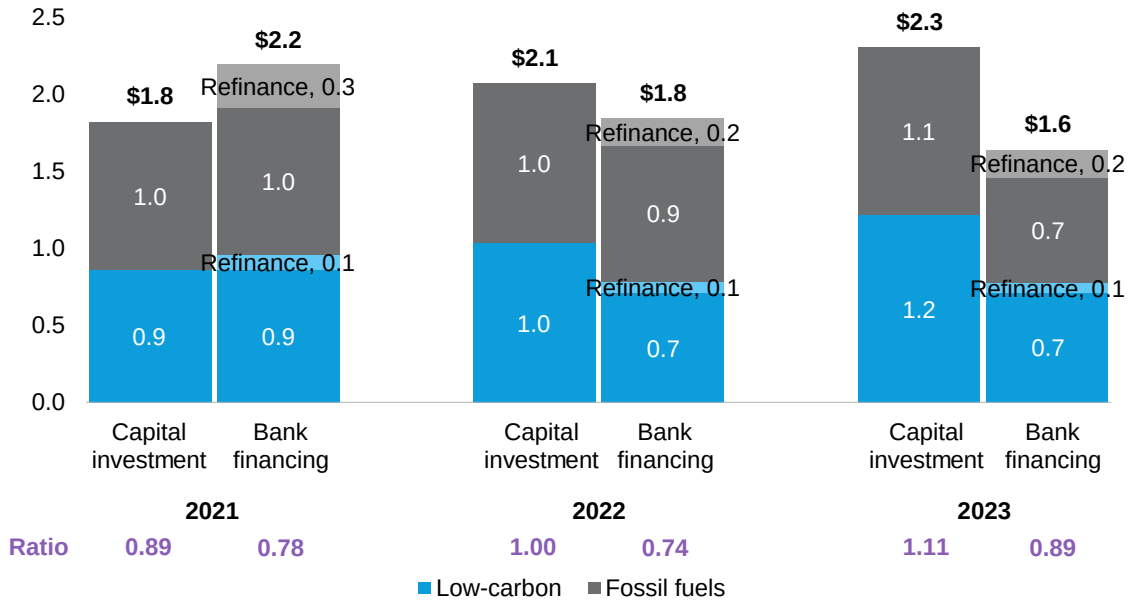
Financing the real economy transition

Capital investment versus bank finance for energy supply

Bank financing for energy supply fell again, but capital investment is rising

Global energy supply investment vs. energy supply banking in 2021-23

$ trillion (2023 real)

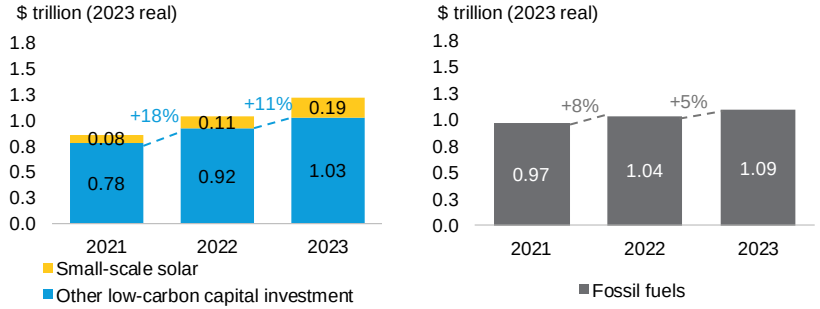


Sources: Bloomberg LP, BloombergNEF, IEA, Urgewald, Rainforest Action Network, IJGlobal. Note: All numbers adjusted for inflation and reported in 2023 dollars. 'Refinance' refers to debt/project finance deals earmarked solely for refinancing. Other transactions may include some refinancing.

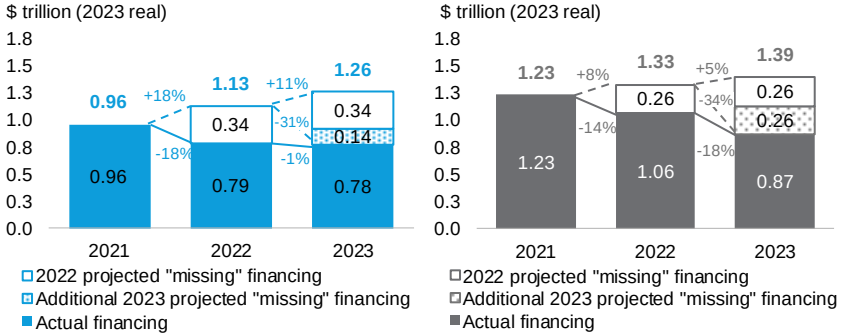
- The low-carbon to fossil-fuel **Energy Supply Investment Ratio (ESIR)** continued to increase from 1:1 in 2022 to 1.11:1 in 2023. This measure is derived from capital spending on energy infrastructure.
- Among banks, the low-carbon to fossil-fuel **Energy Supply Banking Ratio (ESBR) increased from 0.74:1 in 2022 to 0.89:1 in 2023**. The ESBR is BNEF's estimate of global banks' capital facilitation for the energy sector. This is measure includes underwriting of debt and equity instruments issued by companies that are active in energy, as well as energy project finance.
- The ESBR broadly mirrors trends in global capital investment. However, it is not precisely aligned.
- Factors that affect alignment include the spending and finance decisions of major companies as operating and market conditions change. Also in the mix are the impact of interest rates and energy prices, the shift to private and bilateral loans especially in China, and the growth of sectors such as small-scale solar that are not captured in corporate finance data.
- In all years from 2021 through 2023, deals earmarked explicitly for refinancing only comprised about 20% of fossil-fuel bank financing and around 10% of low-carbon bank financing.

Small-scale solar is becoming big – but isn't captured in our bank finance numbers

Change in energy investment capex, 2021-23



Actual and capex-projected change in bank financing, 2021-23



- **Small scale solar projects** create an anomaly in our data. They drew in more capital investment in the past few years, which we include in our capex figures. But households and the retail arms of banks are providing much of the finance for this sector. That data is difficult to gather and not included in our estimates for bank-facilitated finance. As a result, we may be understating our ESBR.
- Low-carbon capital investment continued to grow 18% in 2023 from the year before, but **small-scale solar expanded at a much faster pace of 66%.** Where banks are involved in these transactions, it is most often on their retail loan book, through packaged asset-backed securities or through unconventional financing structures.
- **Excluding small-scale solar, low-carbon capital investment increased by 11% in 2023.** Projecting this growth rate onto the $776 billion of low-carbon financing in 2022 (plus the $345 billion of projected missing financing in 2022) would result in a financing volume of $1.26 trillion in 2023. Measured low-carbon financing in fact fell by 1.4% or $11 billion.
- Similarly, if fossil-fuel financing had grown by the same rate as the comparative capex, then it would have resulted in an increase of 5% or $68 billion in financing volumes. The recorded change was actually a drop of $193 billion, or 18%.

Several further factors may also affect financing volumes

- **The time lag between an organization raising finance or gaining revenue and spending it** could cause capex to spill over to the period(s) after financing is raised.
- **Bilateral lending activity and private credit markets** are not tracked in this report. Any shifts away from capital markets to these activities could feasibly lead to an increase in capex that is not replicated by the finance activity tracked in this report.
- **Project finance capital structures may be evolving**. The ESBR captures bank lending activities with respect to project finance, but not the equity provision of sponsors, or lending from less conventional debt funds that may have a small impact on overall volumes. See BNEF's report *Wind, PV Investors Demand Higher Returns, May Not Get Them* (web | terminal) for more.

Source: Bloomberg LP, BloombergNEF, Urgewald, IJGlobal. Note: Projected "missing" financing refers to the volume of financing that would have occurred had financing followed the same growth rate as capex.

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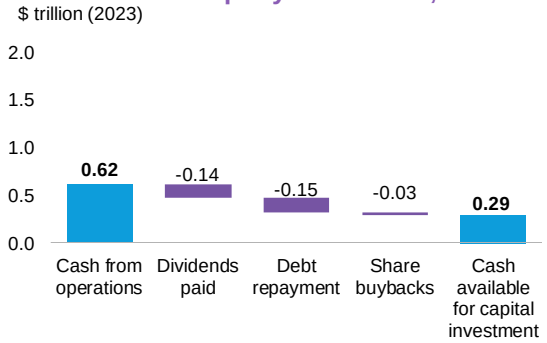
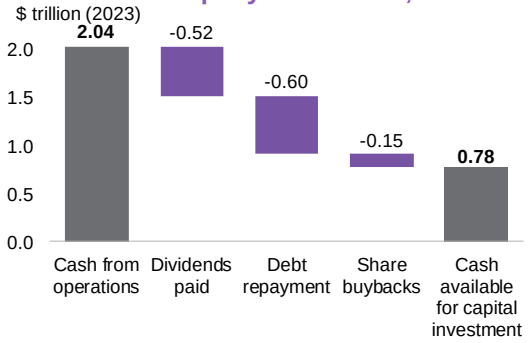
Energy companies have been paying down debts since 2021

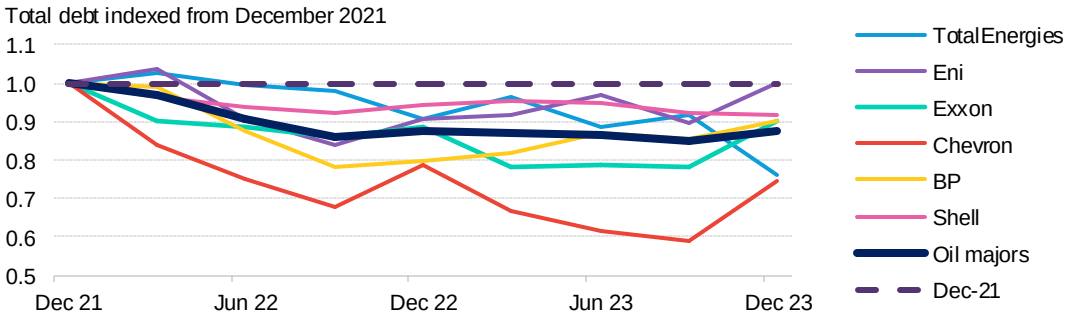
Low-carbon company cash flows, 2023



Fossil-fuel company cash flows, 2023



Oil majors' total debt relative to 2021



- **Companies in the ESBR universe generated $620 billion of cash in 2023, up 20% from the previous year,** when adjusting for the proportion of revenue exposed to low-carbon energy supply. This is despite slightly lower financing volumes. After accounting for cash dividends, debt repayments and share buybacks, they were left with **$294 billion** to use for other activities, such as capital expenditure.
- **Cash flows for the fossil-fuel company universe fell slightly from 2022 levels but remained high at about $2 trillion,** adjusted for fossil-fuel revenue exposure. After balance sheet management, **about $778 billion was left** for investment.
- The six largest International Oil Companies (IOC) have **reduced outstanding debt levels 13%** since December 2021. Their strategy appears to have been to repay debt with increased cash flows generated from oil and gas price spikes after Russia's invasion of Ukraine.
- Those sharp declines in the IOCs' debt levels occurred over the course of 2022, ranging from 6% to 22%. But the trend leveled off in 2023. Several of the European majors, like ENI and BP, took on more debt in 2023 relative to 2022. At ENI, debt returned to end-of 2021 levels. The largest American majors, Exxon and Chevron, continued paying off debt for most of the 2023 but ended the year with an uptick in Q4.

Source: Bloomberg LP, BloombergNEF. Note: Cash flows for low-carbon versus fossil-fuel companies is determined using the same universe and adjustment factor methodology used in the bank financing analysis.

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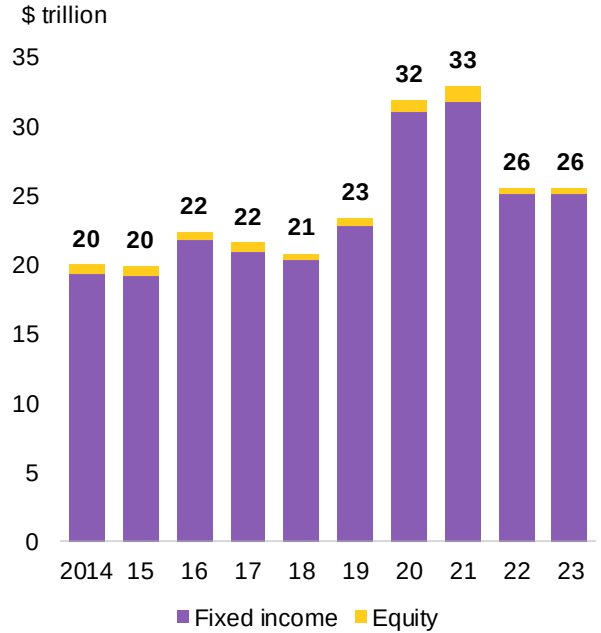
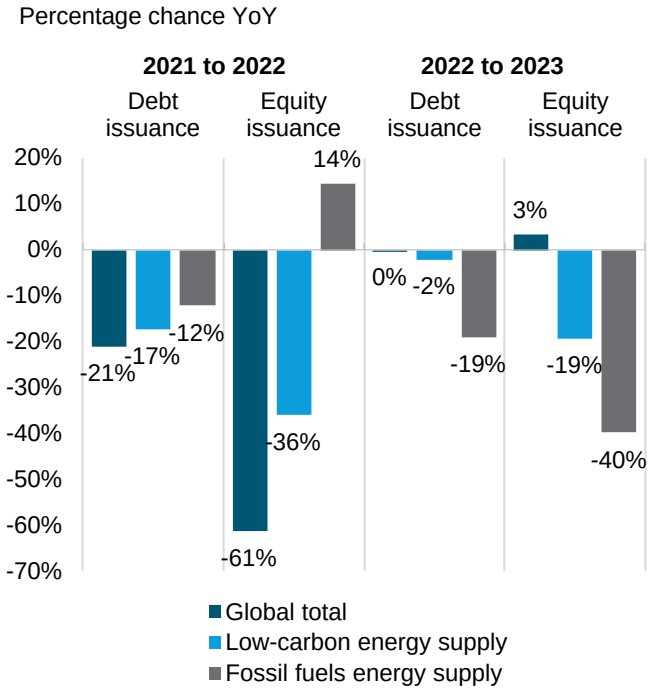
Global capital markets steadied in 2023, but energy sector issuance continued to decline

Global debt and equity security issuance, 2014-23



Source: BloombergNEF, Securities Industry and Financial Markets Association (SIFMA).

Change in security issuances YoY, 2021-23



Source: SIFMA, Bloomberg LP, BloombergNEF, Urgewald.

- A total of $26 trillion in fixed income and equity was issued across all industries in 2023, roughly the same as the previous year. Markets stabilized but still showed issuance 22% below the peak of $33 trillion in 2021. That reflects a surge in borrowing costs in 2022 and still-high rates in 2023. Equity was a small portion of the total but rose 3% from 2022 levels.
- Low-carbon debt issuance globally declined 2.1% in 2023, which was similar to the stability of the broader market. Equity issuance fell more steeply by 19%, likely related to the poor performance of clean energy stocks in 2023.
- Fossil-fuel issuance registered a larger decline than the broader market in 2023, falling by 19% for fixed income and 40% in equity. This is likely overstated due to measurement errors in financing in China (see page 14). Even so, high interest rates explain some of the drop (page 13). Another factor was record cash flows at fossil-fuel companies, some of which went into repaying debt (page 11).

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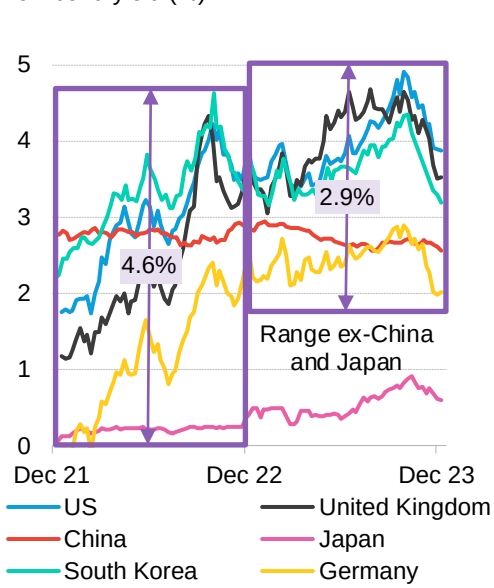
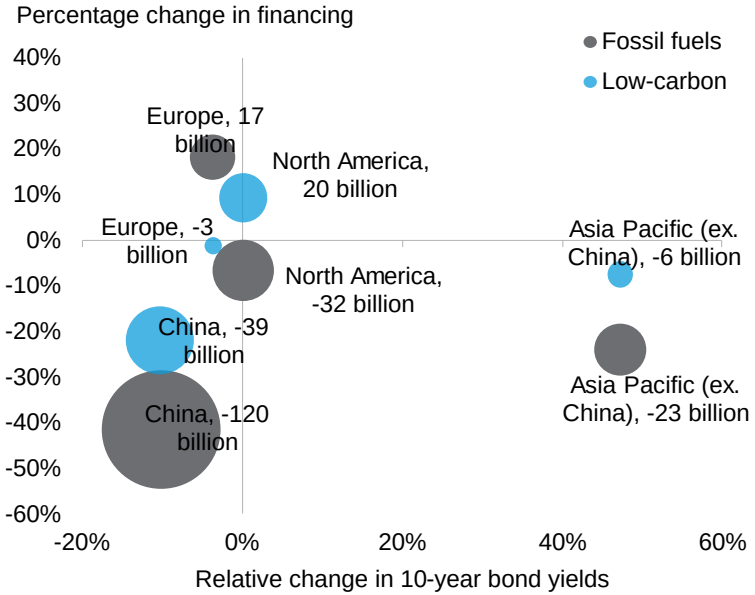
Borrowing costs were more stable in most places in 2023

10Y sovereign bond yields by country, Dec 21-Dec 23



Relative change in regional government bonds vs. regional financing change, 2022-23



- **Interest rates have a direct impact** on the volume of finance raised in capital markets because they change the cost of borrowing paid by the issuer. Fluctuations in these rates in each region explain at least part of changes in the pace of financing.
- **Europe and North America** had more stable borrowing costs in 2023 compared to 2022, when central banks rapidly hiked policy rates to combat inflation. The yield on 10-year government bonds fell 4% in the UK in 2023 and by 21% in Germany. The US had fluctuations throughout the year but ended little changed. Financing volumes in these regions shifted minimally between 2022 and 2023, rising 4% in Europe and falling 2% in North America.
- **Rates continued to rise in Asia Pacific outside of China.** Japan saw a 47% net increase in 10Y sovereign bond yields. Energy supply financing correspondingly fell by 16% in APAC.
- **In China,** 10Y sovereign bond yields fell about 10% in 2023. But measured energy supply financing fell by 34%, breaking with the pattern of other regions. There is evidence that this drop is overestimated due to a strategic shift among Chinese energy companies from bond issuance to loans, which are more poorly disclosed. This is detailed on page 14.

*Source: Bloomberg LP, BloombergNEF. Note: The bubble sizes and labels refer to the absolute annual change in financing from 2022 to 2023. Changes tracked represent the percentage difference (**not** percentage points) in average monthly 10 year sovereign bond yields from 2022 to 2023 and the total change in financing tracked for energy supply purposes from 2022 to 2023.*

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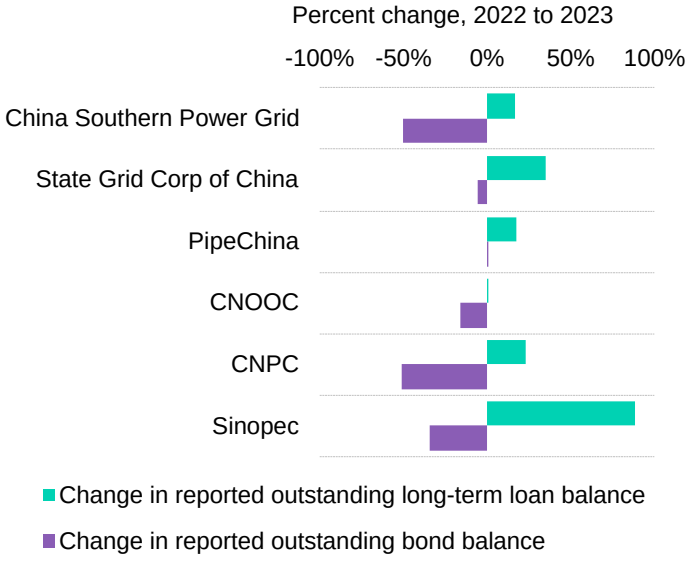
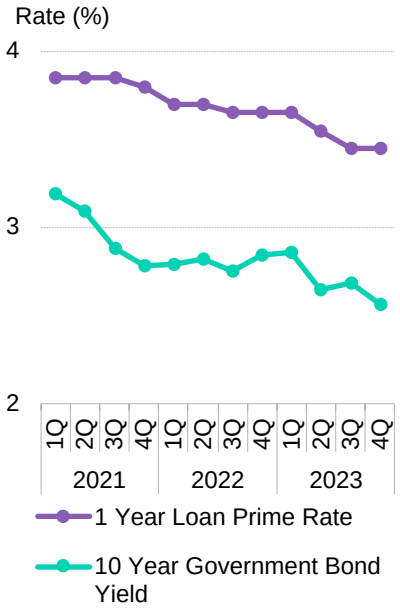
China's energy debt issuance may be higher than reported

YoY change in company-reported debt outstanding, for select Chinese firms with largest measured declines in ESBR data



China loan prime rates and 10-year government note rates



- Measured energy supply financing in China fell $160 billion or 34% from 2022 to 2023. But **this decline is almost certainly overstated.** This is due to a substitution from bond to loan issuance among large energy companies in China, coupled with a lack of visibility into bilateral loan data.
- Top Chinese companies, particularly utilities, power generation and oil and gas players**, shifted financing to loans and away from bonds in 2023.** This led to significant perceived drops in issuance in disclosed data. For the six companies with the largest declines in ESBR-measured volume, all in fact reported increases in outstanding long-term loan balance in 2023. Meanwhile, all except PipeChina reported declining outstanding bonds.
- Part of China's post-pandemic recovery has been to **cut bank loan prime rates** and **reduce the required deposit reserve ratio** for major banks. This made loans cheaper and more attractive — particularly for state-owned energy companies that can secure even lower rates through large tranches. From 2022 to 2023, the 1-year loan prime rate fell from 3.7% to 3.5%. **Bond yields fell as well.** For a reference, 10Y government sovereigns fell from 2.9% to 2.6%. However, with restrictions on banks' balance sheets and underlying loan rates reduced, this may have made loans more attractive than bonds to borrowers.
- These loan issuances are often not picked up in our data sources due to lack of disclosure to our underlying databases at the bilateral loan deal level. But it is clear from firm level financial reporting that this data is an **underestimate of energy financing in China in 2023.**

Source: Company financial reports, Bloomberg LP. Note: Long-term debt is defined as maturity greater than one year. Sinopec is short for China Petroleum & Chemical Corp., CNPC stands for China National Petroleum Co., CNOOC for China National Offshore Oil Corp., and PipeChina for National Petroleum and Natural Gas Pipeline Network Group.

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Bank-facilitated financing

Breakdown of Energy Supply Ratios: Banking from 2021 to 2023

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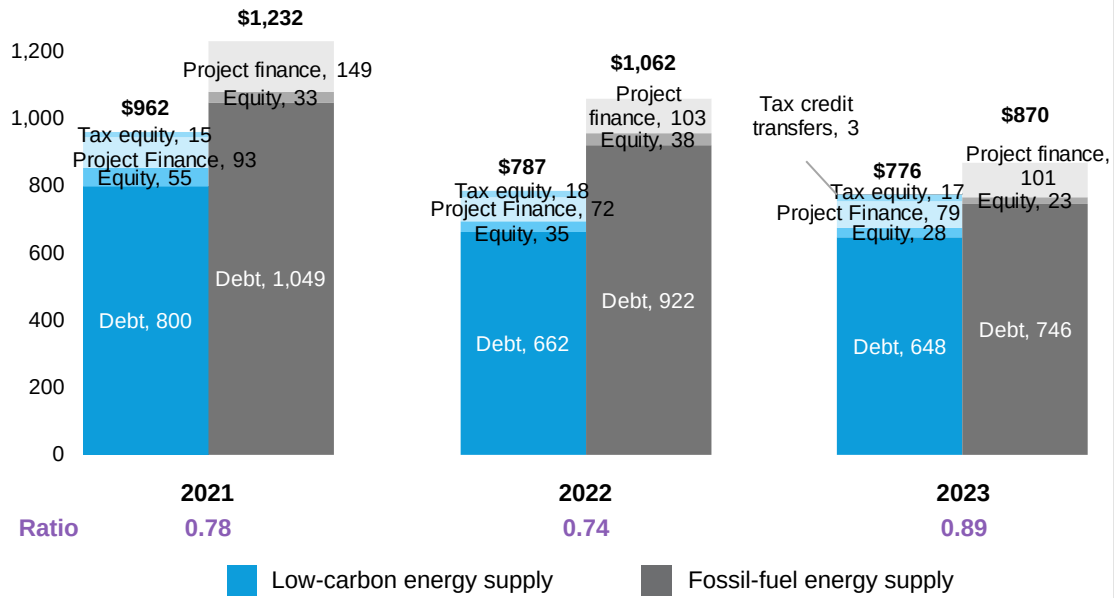
Fossil-fuel financing declined again in 2023

Global energy supply banking activity by asset class, 2021-23

$ billion (2023 real)



Source: BloombergNEF, IJGlobal, RAN, Urgewald. All 2021-22 numbers adjusted for inflation and reported in 2023 US dollars.

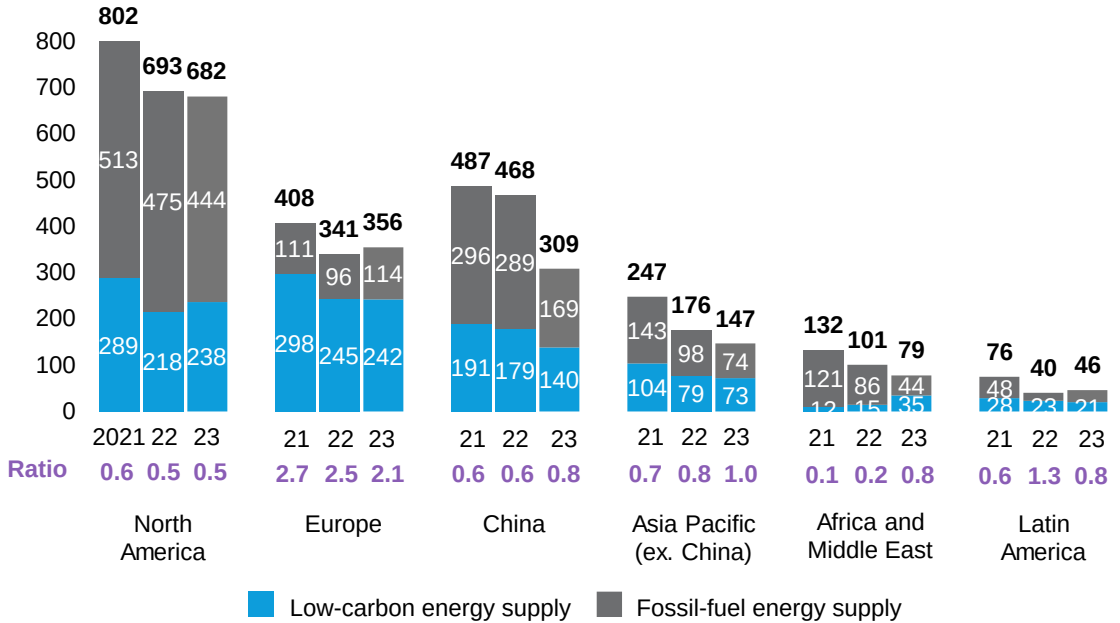
- The low-carbon to fossil-fuel Energy Supply Banking Ratio was **0.89:1** in 2023 across all 1,069 banks engaged in some form of energy supply underwriting in this dataset.
- Historical figures for 2021 and 2022 were revised and are restated, reflecting both methodology changes and the most up-to-date deal information from underlying sources (see page 7). This resulted in the following overall revisions:
  - 2021 ESBR restated from **0.75:1 to 0.78:1**
  - 2022 ESBR restated from **0.73:1 to 0.74:1**
- The increase in the ESBR from 0.74:1 to 0.89:1 between 2022 and 2023 can be attributed in part to measurement (see page 7 and page 14) and in part to an actively transitioning real economy. Measured fossil-fuel finance fell 18%, while low-carbon finance dropped just 1.4%. The ratio is moving in the right direction. But the pace and magnitude of the shift are not consistent with the steep curve implied by 1.5C-consistent climate scenarios. Those suggest a ratio of **4:1** is needed over the course of this decade. Each year that passes without rapid movement implies a sharper trajectory will be necessary to hit the temperature goal.
- In aggregate, these banks underwrote **$1.6 trillion** of energy supply transaction activity in 2023. That includes **$776 billion** for low-carbon energy and **$870** billion for fossil fuels. Of this, $1.4 trillion was raised through debt, $51 billion from equity, $180 billion with project finance, and $20 billion through tax equity and credit transfers.

BloombergNEF

Finance volumes fell in most regions, but a few saw an increase in ratios

Energy supply financing by issuance region of risk, 2021-23

$ billion (2023 real)

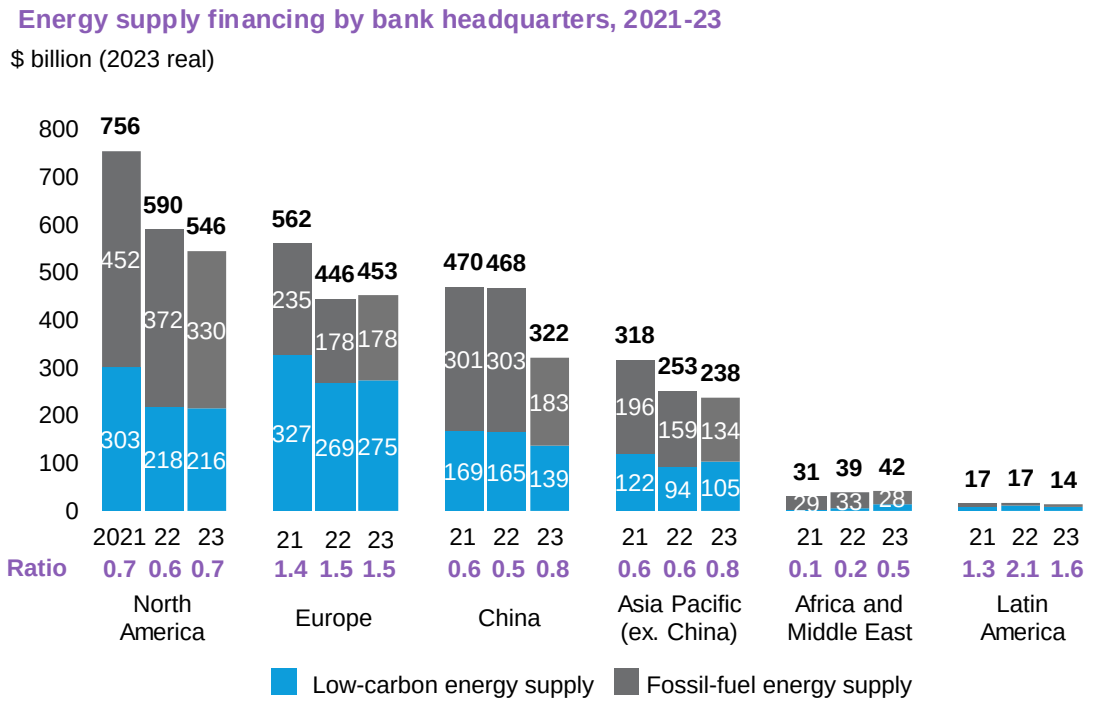


Source: Bloomberg LP, BloombergNEF, RAN, Urgewald, IJGlobal. Note: All 2021-22 numbers adjusted for inflation and reported in 2023 US dollars.

- **The volume of finance by *region of risk,* or the geography where finance flowed for a given deal, declined** across most regions tracked in this report. But there were some **notable increases in ratios** favoring the low-carbon side of the ledger in Asia, Africa and the Middle East.
- **North America** led in volume terms with **$682 billion** in 2023, reflecting the major role the US, Canada and Mexico play in oil and gas supply both for domestic use and export. The ratio of low-carbon to fossil-fuel energy supply was relatively steady across this region at 0.5.
- **Europe** saw **$356 billion** of energy supply finance in 2023, similar to the two previous years. While its **ratio slipped** in each of the previous two years, the region holds a colossal lead over others on low-carbon finance at a ratio of 2.1. The figures here also reflect a relative paucity of oil and gas projects and a highly favorable environment for clean-energy investment.
- **China's** energy supply finance dropped sharply to **$309 billion,** but the balance **tipped toward the low-carbon** and resulted in an increase in ratio. This data is probably missing some of the financing happening in China – particularly for fossil fuels. For details, see page 14.
- **The Asia Pacific region outside China** saw **$147 billion** of energy supply financing and facilitation in 2023. This resulted in an ESBR of around 1.0:1, a material increase from 0.8:1.
- **Africa and the Middle East** had **$79 billion** of energy supply financing, with $35 billion directed to low-carbon and $44 billion to fossil fuels. This made a strong increase in the ESBR to 0.8:1.
- **Latin America and the Caribbean** reported **$46 billion** of energy supply financing, resulting in a significant drop in the ESBR to around 0.8:1.

BloombergNEF

Banks in most regions reduced finance volumes in 2023



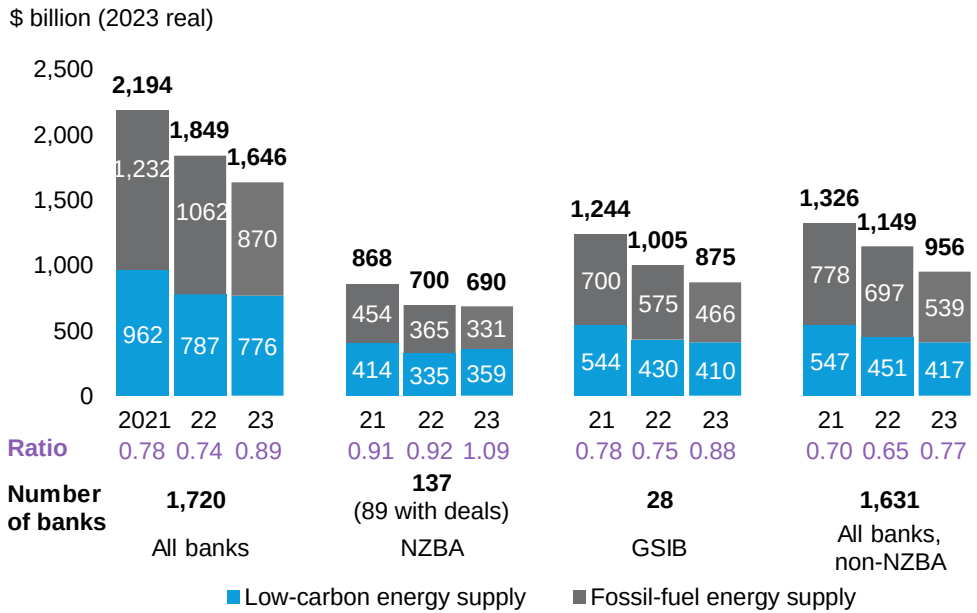
Source: Bloomberg LP, BloombergNEF, RAN, Urgewald, IJGlobal. Note: All 2021-22 numbers adjusted for inflation and reported in 2023 US dollars.

- Banks headquartered in **North America** engaged in **$546 billion** of energy supply financing and facilitation in 2023, of which $216 billion was for low-carbon energy and $330 billion for fossil fuels. This resulted in an ESBR of about **0.7:1**. This reflects both the leading nature of North American banks globally, as well as the region's role in the supply of energy for domestic use and export.
- **Europe's** banks engaged in **$453 billion** of energy supply financing, of which $275 billion was for low-carbon energy and $178 billion for fossil fuels. The **ESBR was steady at 1.5:1.** This reflects the relative paucity of oil and gas investment in Europe and the historically favorable regulatory environment for low-carbon energy investment. European banks underperform the region (2:1:1), reflecting the role these banks play in financing fossil-fuel supply internationally.
- **China**-headquartered institutions arranged **$322 billion** of energy supply financing. Of that, $139 billon low-carbon energy and $183 billion for fossil fuels. This resulted in an ESBR of **0.8:1,** up from the previous two years.
- Excluding China, **Asia Pacific**-headquartered banks engaged in **$238 billion** of energy supply financing and facilitation in 2023, of which $105 billion was for low-carbon energy and $134 billion for fossil fuels. This resulted in an ESBR of around **0.8:1**.
- Banks headquartered in **Africa and the Middle East** engaged in **$42 billion** of energy supply financing, of which $14 billion was directed to low-carbon energy and $28 billion to fossil fuels, resulting in an ESBR of approximately **0.5:1.**
- **Latin America and Caribbean**-headquartered banks engaged in **$14 billion** of energy supply financing, of which $9 billion was directed to low-carbon energy and $6 billion to fossil fuels, resulting in an ESBR of about **1.6:1.**

BloombergNEF

How institutions in two banking groups performed

Banks' energy supply financing by subgroup, 2021-23



Source: Bloomberg LP, BloombergNEF, RAN, Urgewald, IJGlobal. Note: GSIB refers to global systematically important banks, and its constituents are as of November 26, 2024. Net-Zero Banking Alliance (NZBA) membership is as of January 17, 2025, with that membership reflected across all years. All 2021-22 numbers adjusted for inflation and reported in 2023 US dollars.

- **Banks globally facilitated $1.6 trillion of energy supply financing** in 2023, with an average ESBR of 0.89. But ratios range widely among individual banks, from 0 to over 100. Some banks financed only low-carbon energy or only fossil fuels. While this report aims to capture the whole universe of banking activity, two key subgroups are worth further examination:
- **Net-Zero Banking Alliance (NZBA):** This is the largest group of banks committed to net-zero financed emissions under the wider umbrella of the Glasgow Financial Alliance for Net Zero (GFANZ). NZBA has 136 remaining member banks (137 at time of analysis). At the end of 2024 through early 2025, most of the major North American banks, such as JPMorgan, Citi and TD Bank, have exited the NZBA, reducing the share of energy financing attributable to this alliance. The remaining NZBA members collectively underwrote **$690 billion** of energy supply financing in 2023 (42% of the total) with an ESBR of **1.09:1**, higher than the global average of **0.89:1**. For more on the implications of the defections from the NZBA, see *Sustainable Finance After US Banks Quit Net Zero Group: React* (web | terminal).
- **Global Systematically Important Banks (GSIB):** These are 28 banks determined by the global Financial Stability Board to be of such "size, interconnectedness, complexity or lack of substitutability" that they are too big to fail. Of the 28 GSIB institutions, 15 joined and currently remain in the Net-Zero Banking Alliance. In 2023, the GSIB underwrote **$875 billion** of energy supply financing, or 53% of the total. That delivered a ratio of **0.88:1** for low-carbon energy to fossil fuels – roughly equivalent to the global ESBR.

BloombergNEF

Energy supply: Selection of top deals

Top low-carbon energy supply deals in 2023

Asset class	Issuer	Total deal amount ($ billion)	Low-carbon supply ($ billion)	Fossil-fuel supply ($ billion)
Loan	TenneT Holdings	8.7	**8.7**	0.0
Green Loan	SunZia Wind	8.5	**8.5**	0.0
Green Bond	European Union	9.8	**4.9**	0.0
Green Bond	Italian Treasury	11.0	**4.9**	0.0
Loan	Iberdrola	5.8	**4.4**	1.4
Project Finance	Polski Koncern Baltic Sea Offshore Wind	4.2	**4.2**	0.0
Loan	Nextera	5.5	**4.0**	1.5
Project Finance	Bruc Hefesto PV Portfolio	3.8	**3.8**	0.0
Loan	Siemens Energy	12.1	**3.5**	8.6
Loan	EDP	3.3	**3.3**	0.0

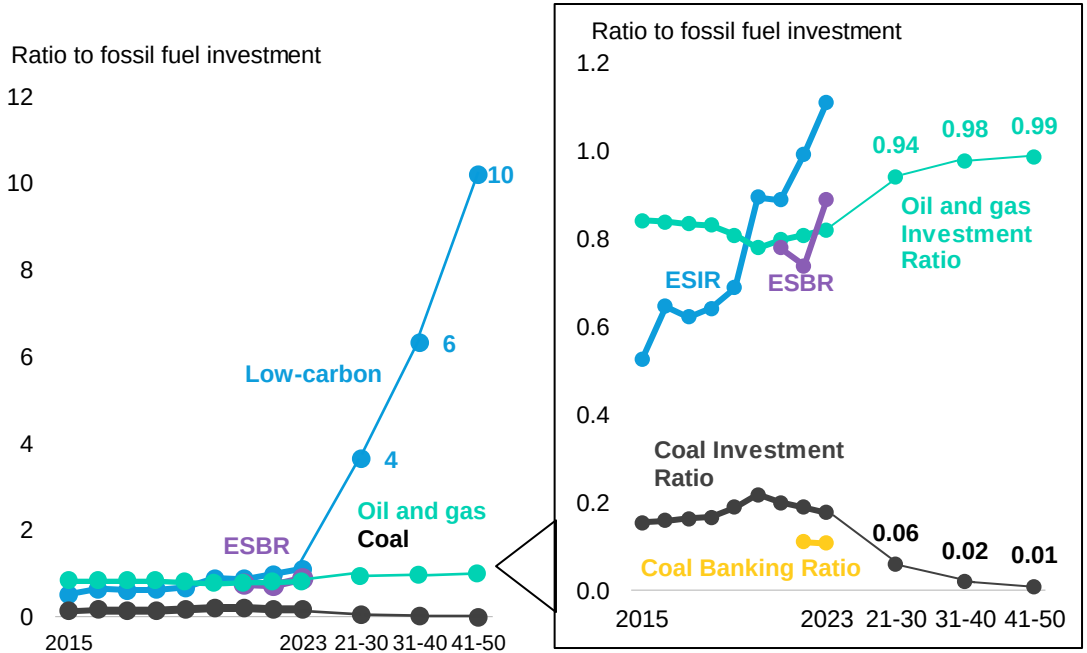
Top fossil-fuel energy supply deals in 2023

Asset class	Issuer	Total deal amount ($ billion)	Low-carbon supply ($ billion)	Fossil-fuel supply ($ billion)
Loan	Trans Mountain Corp	13.2	0.0	**13.2**
Loan	Siemens Energy Global	12.1	3.5	**8.6**
Loan	Vitol	8.6	0.0	**6.5**
Loan	Rio Grande LNG	6.6	0.0	**4.9**
Loan	Venture Global Plaquemines	4.5	0.0	**4.5**
Loan	Trafigura	4.5	0.02	**4.3**
Loan	Bonzanza Creek Energy	4.0	0.0	**4.0**
Loan	Williams Companies	3.8	0.0	**3.8**
Loan	Pemex	3.5	0.02	**3.5**
Loan	PBF Holdings	3.5	0.0	**3.5**

Source: Bloomberg LP, BloombergNEF, RAN.

Climate scenarios imply a rapid decline for coal investment

Ratio of low-carbon energy, oil and gas, and coal investment to fossil fuels



- Commonly referenced climate scenarios suggest a need to rein in coal investment in the years ahead.
- The ratio of *capital investment* in oil and gas to total fossil fuels has hovered between **0.78:1 to 0.84:1** since 2015, with coal making up the remaining share of capital spending. Coal's share peaked in 2020 at 0.22:1 and has declined since. In 2023, for every $1 invested in fossil fuels supply, only **$0.18** went toward coal. That gave a coal investment ratio of 0.18:1.
- These levels represent the overall capital spending incurred in a given year based on industry dynamics from the IEA's World Energy Investment reports. However, they differ from financing, and **capex does not necessarily reflect the financing required for accelerated managed phase-outs for coal plants**.
- Aligning to a net-zero trajectory and 1.5C warming implies the ratio of coal investment to total fossil fuels must fall from 0.2:1 to 0.06:1 this decade and **0.01:1 by the 2040s.** The oil and gas investment ratio would rise to **0.99:1**. In tandem, the low-carbon to fossil-fuel investment ratio rises significantly to a minimum of 4:1 by 2030, 6:1 in the 2040s and 10:1 by 2050.
- *The coal banking ratio* (**0.11:1**) – the ratio of bank facilitated coal financing to total fossil fuels – remains less than the coal investment ratio of 0.18:1. This suggests **a significant portion of coal capex comes from sources other than bank-facilitated financing.** That may include equity from corporate balance sheets.

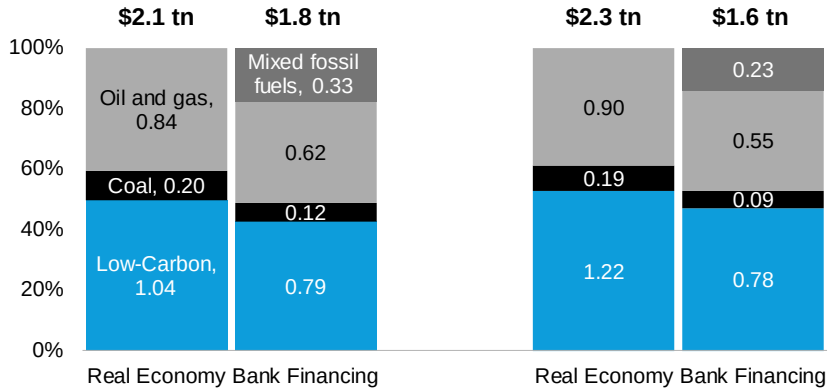
Sources: BloombergNEF, International Energy Agency, The Network for Greening the Financial System, UN Intergovernmental Panel on Climate Change. Note: Investment into oil and gas supply includes the upstream, midstream and refining (downstream) sectors. Coal supply investment pertains to the mining and transport of both coking and steam coal. ESIR stands for Energy Supply Investment Ratio. ESBR stands for Energy Supply Banking Ratio.

BloombergNEF

Coal financing took just 11% of fossil-fuel financing

Breakdown of energy supply investment and bank financing in 2022-23, by source

Percentage share, $ trillion (2023 real)



	2022		2023	
Ratio, low-carbon to fossil fuels	**1.00**	**0.74**	**1.11**	**0.89**
Ratio, coal to fossil-fuel total	**0.19**	**0.11**	**0.18**	**0.11**

Coal ratios

- **Coal's** ratio of real economy investment to fossil fuels was **0.18:1** in 2023. For **bank-facilitated financing** of coal, the ratio was about **0.11:1**.
- While this is a small portion of financing, this is still much higher than commonly-referenced climate scenarios that imply a target coal to total fossil-fuel ratio of **0.06:1** this decade, and a further reduction to **0.01:1** in the 2040s.

Investment

- Capital investment in low-carbon energy supply matched fossil fuels 1.11:1 for a total of **$2.3 trillion** in 2023. Some **$900 billion (82%)** of fossil-fuel investment was in oil and gas. North America **($284 billion)** and the Middle East and Africa **($192 billion)** accounted for around **53%** of this.
- Some **$194 billion (18% of all fossil fuels**, 8% of all energy supply investment) went into coal. Of that, **$117 billion (60%)** was in **China**.

Facilitated financing

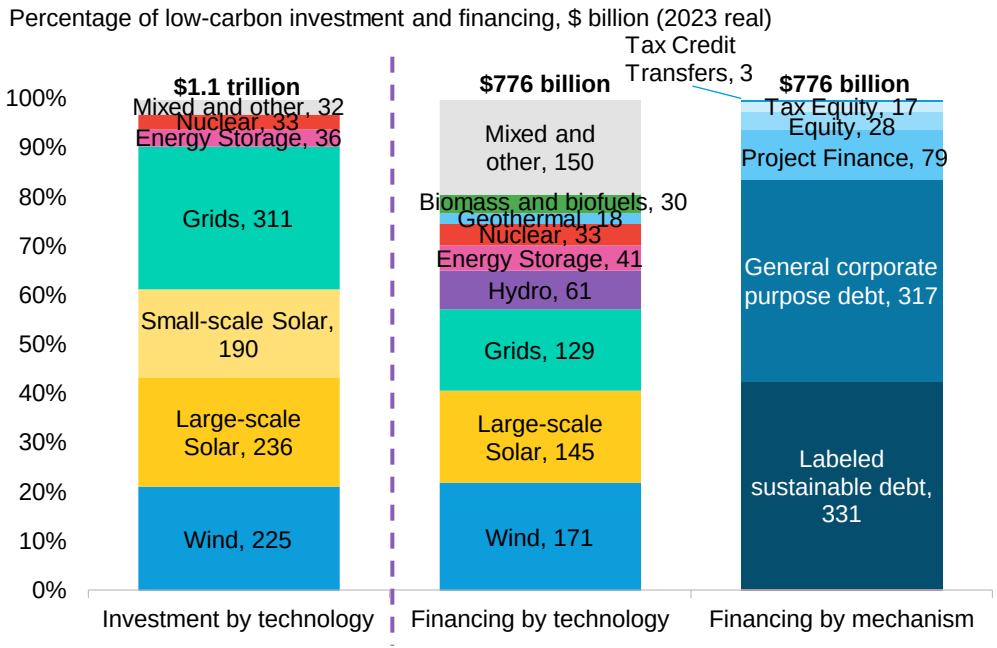
- **Oil and gas** made up the majority (**63%**) of fossil-fuel financing at **$548 billion** in 2023. This was almost six times more than the bank financing for coal. Coal investment was less than **11%** of the total for fossil fuels and **6%** of energy supply financing, at **$94 billion**. About a quarter of fossil-fuel finance is made up of an undetermined breakdown between coal and oil and gas.
- **China** delivered some **$62 billion (66%)** of measured coal financing. The **US** was a distant second with **$19 billion,** followed by **Pakistan ($1.5 billion**) and **Singapore ($1.3 billion)**.

Source: BloombergNEF, IJGlobal, RAN, Urgewald. Note: Labels on bar segments refer to investment and financing totals in trillions of 2023 real US dollars.

BloombergNEF

Wind, solar and grids make up over half of low-carbon financing

Low-carbon energy supply bank investment, financing by sector and mechanism, 2023



- By technology, renewables constitute the largest share of both energy supply investment and financing. **Large-scale solar and wind** (projects and supply chains) comprise approximately 20% each of both global spending and bank-facilitated financing. Nearly 18% ($236 billion) of low-carbon investment tracked went toward **small-scale residential and commercial solar** in 2023. As discussed on page 10, that reflects rapid growth in the sector – 66% over 2022 – and this is not captured in the bank financing data here.
- Other renewables make up a smaller portion of financing, including **hydro** (8%), **storage** (5%), **geothermal** (2%) and **biofuels and biomass** (4%). **Nuclear** represents an additional 4% of financing. Together these technologies make up just a collective 8% of the real-economy low-carbon energy supply investment tracked.
- **Grids** (transmission and distribution) are a major part of the energy transition opportunity, representing 29% of low-carbon investment and 16% of financing in 2023.
- **Labeled debt plays a major role.** Debt accounts for 84% or $648 billion of the total by type of financing. Labeled **sustainable instruments,** such as green bonds and loans, make up 51% ($331 billion) of low-carbon debt and 43% of overall low-carbon energy supply financing. Unlabeled **general corporate purpose debt,** adjusted for the portion of a company's revenue stemming from low-carbon technologies, makes up 41% ($317 billion) of the total. This demonstrates the importance of both types of structures in financing the transition. While labels signal more information to investors, many companies are capitalizing on the transition without having to tap the labeled market.

Source: BloombergNEF, IJGlobal, RAN, Urgewald. Note: Here, low-carbon energy investment numbers come from BNEF's Energy Transition Investment Trends as opposed to the IEA, to allow for greater granularity by technology.

How this relates to other research and reporting

Selected comparisons

How this relates to other research and reporting

Existing research provides a range of estimates due to methodological differences

Research organization	Report	Note	Scope		Coal		Oil and gas		Fossil fuels total value	Low-carbon total value
			Years	# of banks	Value	Sectors	Value	Sectors		
BNEF	*Financing the Energy Transition (this report)*		2021-23	1,069 (2023) 1,101 (2022) 1,112 (2021)	$94 billion (2023)	Mining, power	$548 billion (2023)	Up-, mid-, downstream	**$870 billion** (2023) **$1,062 billion** (2022) **$1,232 billion** (2021)	**$776 billion** (2023) **$787 billion** (2022) **$962 billion** (2021)
Rainforest Action Network	*Banking on Climate Chaos (BoCC)*	Our report uses adjustment factors to parse transactions – an approach borrowed from RAN's work in *BoCC*.	2016-2023, by year	60 banks	$125 billion (2023)	Mining, power	$581 billion (2023)	Entire fossil fuel value chain	**$706 billion** (2023) **$779 billion** (2022) **$916 billion** (2021)	
Urgewald	*Financing the Coal Exit List*	For historical data (2021-22), we use Urgewald's research on companies' fossil-fuel share of revenue.	2019-21 aggregate	705 banks	$1.5 trillion	Mining, power	Not measured		**$1.5 trillion** (2021)	
InfluenceMap	*Finance and Climate Change*		2020-21 aggregate	27 banks	$42 billion	Mining	$697 billion	Up-, mid-, downstream	**$739 billion**	**Not measured**
Reclaim Finance	*Throwing Fuel on the Fire*		~1 year, 2021-2022	56 banks	$54 billion	Mining, power, *expansion only*	$215 billion	Up- and midstream, *expansion only*	**$269 billion**	
Nature (UCL research)	*The challenge of phasing out fossil fuel finance in the banking sector*		2010-2021	709 banks					**$592 billion** (2021)	
Profundo	*Just 7% of Global Banks' Energy Financing Goes to Renewables*		2016-2022, by year	60 banks			Not split out		**$299 billion** (2021)	**$35 billion** (2021)
Federal Reserve	*What are Large Global Banks Doing About Climate Change?*		2016-2021, by year	60 banks (fossil fuels), all (sustainable debt)			Not split out		**$750 billion** (2021)	**$700 billion** (2021, green debt only)

Source: BloombergNEF, RAN, Urgewald, InfluenceMap, Reclaim Finance, Profundo, Federal Reserve. Note: Years, ranges and activities are not directly comparable.

Bank disclosure of Energy Supply Ratios

Bank disclosure of Energy Supply Ratios

Following the development of BNEF's Energy Supply Banking Ratio (ESBR), investors have begun pushing for bank-level disclosure of ratios, beginning with shareholder resolutions filed by the New York City Comptroller in 2024. As a result of this campaign, several banks, including JPMorgan Chase & Co., Citigroup Inc. and Royal Bank of Canada, have committed to publishing their own ratios of low-carbon to fossil-fuel financing activities. JPMorgan was the first to release its own ratio and methodology in November 2024.

BNEF tools for banks calculating ratios

1. **Implementation Guide** (web | terminal): detailed ESBR methodological choices, rationales, and various design choices that banks can consider.
2. **How-to Guide** (forthcoming): practical, step-by-step guide for replicating the BNEF methodology using Bloomberg data (and supplementing with private, internal data).
3. **Enterprise Data (DATA <GO>):** Bloomberg data is available for purchase for use in external reporting. For the ESBR, this will include debt and equity bulk datasets and the Transition Exposure Ratings.

Tracking key methodology distinctions from BNEF in bank disclosure of Energy Supply Ratios

This table will be updated and expanded in subsequent versions of this report as we continue to see more institutions put out their own versions of an energy supply ratio.

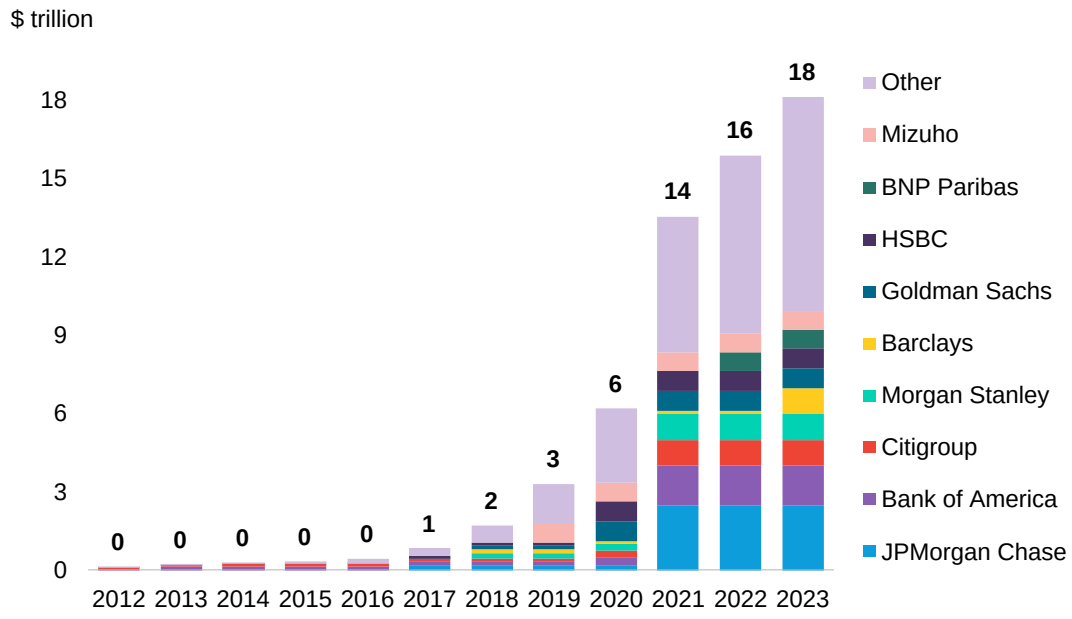
Bank	Methodology difference	Description	BNEF Take
JPMorgan Chase	No explicit relationship to climate scenarios or target	Where BNEF takes 1.5 degree-consistent scenarios as an indicator for the real economy needing to reach a 4:1 ratio this decade, JPM's analysis is not explicitly tied to such a benchmark.	Scenarios are important narrative devices which reveal the scale and pace of change required in the real economy, which will be directionally reflected in financing activity.
	Inclusion of bilateral lending	JPM includes its private loan book in its ratio.	This is best-practice. This data is not disclosed and not possible for BNEF to include.
	Capex-based adjustment factors	JPM estimates the portion of its counterparties' *capital expenditures* are spent on low-carbon solutions. BNEF uses *revenue-based* adjusters.	This is a positive development – capex is more forward-looking and better aligned with investment. Data is sparse – BNEF is working on capex estimates for the ESBR.
	Investment-focused portion of financing	JPM has estimated the portion of a counterparty's financing that is allocated toward capex and cash-based M&A and applies this as another adjustment to general corporate purpose transactions.	This aligns more closely with real-economy infrastructure spending. But it adds complexity and likely understates financing for traditional energy companies, which rely on paying down existing debt and balance sheet management to continue building.
	Sectoral scope	JPM's scope does not include manufacturing of energy equipment (e.g. turbines, generators), citing data availability.	Manufacturing is an essential component of energy supply transition investment and should be included if possible.

How this relates to banks' targets

Selected comparisons

Bank sustainable finance targets jumped in 2021, and have continued growing

Cumulative bank sustainable finance target values



Source: BloombergNEF, bank sustainability reports.

- Many of the world's largest banks have set ambitious goals to direct capital toward sustainability and climate-related projects. By the end of 2023, at least 53 global banks had set targets valued at a cumulative $18 trillion for sustainable finance. Those include commitments to climate and other green and social priorities. According to bank reporting, $6 trillion of these targets has already been mobilized.
- These green finance targets serve as a complement to, but are functionally quite different from, net-zero financed emissions targets. Unlike financed emissions, sustainable finance targets get closer to banks' growth-oriented role in capitalizing on the opportunities generated by the transition and are directly profit-generating.
- The numerator of the ESBRs in this report characterizes the *low-carbon energy supply* financing facilitated by banks within a given year. It is just one portion of what banks include in reported progress against these sustainable finance targets. Scope differs between what is covered by the ESBR and what is reported by banks significantly, both by sector and by activity, and therefore the numbers reported here do not directly read across to those reported by banks. For a summary of the key differences, see page 36.
- For more on bank sustainable finance targets, see *Bank Sustainable Finance Goals: More Than Just Accounting?* (web | terminal). For a summary of the differences between this type of target-setting, financed emissions accounting, and the ESBR, see page 38.

How this relates to banks' targets

What this report tracks versus what banks count in their long-term goals

Feature			This report	Do most banks generally count this?
Financial instruments or mechanisms	Debt	Direct lending	X	✓ Most
		Underwriting	✓	✓ Most
		Sustainable debt	✓ *Energy use of proceeds	✓ Most
	Project finance	Direct lending	✓	✓ Most
	Equity	Underwriting	✓	✓ Most
		Tax equity	✓	✓ Some (concentrated market)
	Asset management	Portfolio	X	✓ Half
	Retail	Insurance or banking	X	✓ Most
	Internal	Corporate programs	X	? Some
Sector or technology	Energy supply	Renewables	✓	✓ Most
		Nuclear	✓	✓ Most
		Electric grid	✓	? Some
	Energy demand	Transport	✓ *Only in energy demand (not ESBR)	✓ Most
		Energy efficiency	x *Except green debt, in energy demand (not ESBR)	✓ Most
	Non-energy	Land use	X * Not energy supply	✓ Most
		Water/waste	X * Not energy supply	✓ Most
Key metrics	Exposure	Financed emissions	X	✓ Most
	Transition enablement	Energy supply facilitation	✓	✓ Most

Source: Bank reporting, BloombergNEF. Note: Bank target information based on the 35 institutions which have published a clear breakdown.

How this relates to other bank assessment frameworks

Selected comparisons

How does the ESBR compare to other frameworks for assessing banks on climate progress?

	Energy Supply Banking Ratio	Green Asset Ratio (EU Taxonomy)	Financed emissions accounting and net-zero targets	Green financing targets and progress
Description	Ratio of *low-carbon to fossil-fuel* energy supply banking activity	Mandatory reporting of ratio of *green assets to total assets* on bank balance sheets	Emissions associated with on-balance sheet financing activities	$ volume of finance and facilitation toward "green" companies and projects
Framework developer	BloombergNEF	European Banking Authority European Commission	Partnership for Carbon Accounting Financials (PCAF) Science-Based Targets initiative (SBTi)	Organic – individual banks have defined their own
What is included?	• Facilitated financing (in other words, underwriting) • Corporate bonds and syndicated loans • Equity issuances • Project finance and tax equity	• Corporate and project loans • Equity holdings • Household auto and mortgages	• On-balance sheet corporate and project loans • Equity and bond holdings • Household auto and mortgages • Sovereign debt	• Corporate and project loans • Underwriting activity • Equity and bond holdings • Tax equity • Household electric vehicle loans
What is not included?	• Corporate bilateral or otherwise private loans • Retail (in other words, household) lending	• Facilitated financing (in other words, underwriting) • Exposure to governments, central banks • Assets under management • Loans to small companies and non-EU corporates not subject to Non-Financial Reporting Directive (NFRD) (*but included in denominator*)	• Facilitated financing (in other words, underwriting) – *standard in development*	
Limitations	• Relies on commercial databases and estimates, rather than company reporting • Focused on two of the GFANZ four financing strategies: "climate solutions" and "managed phase out," partial coverage of aligned or aligning in other words, "transition" finance	• Not tied to any benchmark rooted in science • Not growth-oriented; based on "stock" or balance sheet, rather than tracking new financial flows • Broad "green" bucket not focused on specific goals (in other words, climate)	• Focused exclusively on emissions rather than solutions/new investment in low-emission assets • Incentivizes divestment – can lead to emissions being shifted off balance sheet • Anchored in sectoral emissions pathways	• Not tied to a benchmark rooted in science • Broad "green" bucket not focused on one goal (in other words, climate) • Can be interpreted as a vanity metric
What has it added to the conversation?	• Focused on new investment and finance facilitations required for the energy transition • Rooted in 1.5C climate scenarios	• Focused on balance sheet exposure of institutions to particular asset types • First mandatory reporting metric that focuses on the "green" side of the energy transition • Reporting increases transparency and data availability	• Addresses the unique impact financials have, contrasted with real economy companies • Enabled financials to set net-zero targets • Backbone of many global sustainability reporting mandates, such as the CSRD (EU) and Securities and Exchange Commission proposals (US) for banks	• Growth and opportunity oriented • Acknowledges the important role that facilitated finance plays

Ensuring data accuracy

How to ensure your institution’s transactions are properly tracked

BloombergNEF

How to ensure an institution's transactions are properly tracked

This analysis is based on existing Bloomberg and IJGlobal databases, not primary data collection. Though the authors will share underlying data where possible, if transactions are missing from underlying databases or require corrections, BNEF is unable to add or edit these directly. In those circumstances, the following channels can be contacted to address the issue. Each team has rolling deadlines throughout the year – please contact them to ensure your institution's data is up to date.

Financing mechanism	Source	How to get in touch about discrepancies
Debt	Bloomberg LP, SRCH <GO> function	**Bonds** Submit or reach out to newissues@bloomberg.net for North American bonds and emeacapmkts@bloomberg.net for EMEA bonds. Appropriate addresses for other regions can be identified using NIM99 <GO> on the Bloomberg Terminal. Please note that bond submissions require termsheet disclosure to Bloomberg – but these do not need to be published on the terminal. **Loans** Submit or reach out to loansleag@bloomberg.net for US loans, europeanloan@bloomberg.net for EMEA loans, and aploans@bloomberg.net for APAC loans. Location is based on market of syndication or country of risk for the borrower. Use NIM99 <GO> for other appropriate addresses. Mandatory fields for disclosure to Bloomberg include: borrower, structure type, signing date, involved parties, submitter's role, use of proceeds, deal/tranche size, and maturity.
Equity	Bloomberg LP, IPO <GO> function	Submit missing deals or discrepancies to the IPO desk at calendar@bloomberg.net
Project Finance, Low-Carbon	BNEF Clean Energy League Tables team	Contact BNEF Clean Energy League Tables at cleanenergy@bloomberg.net to receive submission templates.
Project Finance, Fossil Fuels	IJGlobal	Contact leaguetables@ijglobal.com for submission forms to be submitted to the same address; or visit https://www.ijglobal.com/league-tables to download submission forms.

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