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MEMORANDUM

TO: Members of the Investment Committee, CalPERS
FROM: Meketa Investment Group
DATE: June 16, 2025
RE: Annual Program Review, inclusive of Quarterly Infrastructure Performance Review, as of March 31, 2025

In our role as the Board Infrastructure Consultant, Meketa Investment Group ("Meketa") conducted an annual performance review, inclusive of the quarterly performance review, of the Infrastructure Portfolio ("the Portfolio") for the California Public Employees' Retirement System ("CalPERS") Real Assets Program (the "Program") for the period ended March 31, 2025, based on data provided by Wilshire Associates and selected CalPERS reports.[1] This memorandum provides the following: Portfolio performance data; implementation summary; status of key policy parameters; a Program update; and a summarized market commentary provided as an attachment.

Performance[2]

CalPERS' Infrastructure Portfolio outperformed its policy benchmark for all reporting periods.

Net Returns as of March 31, 2025	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Infrastructure Portfolio Returns	9.7	7.7	6.5	9.3
Infrastructure Policy Benchmark[3]	(2.2)	(3.1)	2.0	3.9
Over (under) Performance[4]	11.8	10.9	4.5	5.5
Consumer Price Index (For Reference Only)	2.9	4.2	4.2	3.0

Comparing the above March 2025 returns to those posted a year ago, on an absolute basis, the one-year trailing returns are up from 6.0%. At the same time, the three-, five-, and ten-year trailing period returns are down somewhat from 8.1%, 6.7%, and 10.5%, respectively. However, the three- and five-year periods posted better relative performance, while the one- and ten-year trailed, versus the benchmark compared to a year ago, when over performance was 18.7%, 4.1%, 3.4%, and 5.9%, respectively, for the one-, three-, five-, and ten-year trailing periods.

All trailing period returns exceed CalPERS' expectations for the asset class of 5.3% and 5.5%, set by the Capital Market Assumptions ("CMA") for Real Assets for the near- and long-term (five and 20 years), respectively. The return periods continue to fall in the 7% to 10% range that we have seen across many previous quarters. We note that it appears the several down COVID-impacted quarters are moving past

[1] CalPERS Real Assets Quarterly Performance Report, including underlying Allocation, Characteristics, and Leverage Reports (Excel files), for the period ending December 31, 2024.
[2] Per Wilshire for the period ended March 31, 2025, reported with a 1-quarter lag, so as of December 31, 2024 (State Street Bank data).
[3] CalPERS Custom Infrastructure Benchmark, with historical composition as follows: MSCI/PREA U.S. ACOE Quarterly Property Fund Index Net of Fees (April 1, 2018 forward); Consumer Price Index ("CPI") + 400 basis points (July 1, 2011 through March 31, 2018); and CPI + 500 basis points (October 1, 2007 through June 30, 2011).
[4] Calculated using more decimal places than shown, so result may not calculate exactly from the table data due to rounding.

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the near period returns into later history: The five-year return sitting at 6.5% below both the three- and ten-year return may still reflect some of those COVID-impacted quarters.

For consistency with prior reporting, we note that the Infrastructure Portfolio's comparison to its benchmark should be viewed in the context that, since April 2018, the benchmark has had underlying assets that are 100% real estate, which is now completely reflected in all trailing periods except the ten-year, with the ten-year benchmark being well more than half real estate, with the balance CPI+400 or +500 basis points.

Relative to CPI, as seen above, returns for all trailing periods are coming in above CPI, which we provide for reference only, as it used to be part of the Portfolio's benchmark and continues to be used by other institutional investors, usually with a premium of anywhere from +300 to +500 basis points, depending on the risk-orientation of the portfolio. Also visible in the table above is the relatively higher CPI for the three- and five-year periods, reflecting prior elevated levels compared to more recent and longer historical periods. We note that the Portfolio's returns exceeded CPI by 230 to 680 basis points over the reported periods.

Other aspects of performance drivers are consistent with prior reporting periods and recent market conditions, as highlighted below.[1] Please see the Market Activity Attachment for additional information on selected infrastructure sectors and related economic data.

All returns cited are for the trailing one-year period and are time-weighted net of fees.

Risk Classification

→ Core, comprising 67.5% of the Portfolio, delivered high single-digit returns. Global Diversified Infrastructure comprised more than half of the Core portfolio at 59.9%, with 15.0% in US Power and Energy, 12.6% in Transportation (all geographies), and 12.4% in Communications (all geographies).

→ Non-Core: Value Add, comprising 31.0% of the Portfolio, posted low teens returns. These investments are predominantly diversified commingled funds, at approximately 71.1% of the Value Add portfolio, with two communications fund investments representing about a one fifth of the funds' NAV, and some co-investments making up the other 28.9% of this sub-portfolio.

→ Non-Core: Opportunistic, comprising 1.6% of the Portfolio, posted negative single-digit returns. This category comprises one diversified commingled fund investment that is in wind-down mode.

Sectors

→ Global Diversified Infrastructure comprises 62.0% of the NAV and delivered low teens returns.

→ US Power/Energy represents 13.0% of the Portfolio and delivered high single-digit returns.

→ Global Communications comprises 11.1% of the Portfolio and delivered low single-digit returns.[2]

→ US Transportation accounts for 5.6% of the portfolio and posted high single-digit returns.

→ Global Transportation is 4.8% of the portfolio and posted high single-digit returns.

→ International Communications is 2.4% of the portfolio and posted low teens returns.

→ Global Power/Energy is 1.1% of the portfolio and performance is not yet meaningful.

[1] Real Assets QPR Q4 2024 Final.
[2] One fund is a 2024 vintage and still in the J-curve.

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Net Income

- The Portfolio's one-year net income was 2.0%, slightly up from 1.3% a year ago. We would expect yield levels to be in the low single-digit range based on several factors, including the increasing proportion of Non-Core investments, selected portfolio companies' retention of cash for growth and capex, and some lingering effects of asset positioning during COVID. We note the Core Portfolio NAV has decreased slightly to 67.5% of the total infrastructure portfolio compared to 70.2% a year ago.

Implementation

The Portfolio's NAV as of March 31, 2025, was $19.7 billion, an increase of $4.0 billion, or 25.4%, compared to the March 31, 2024, NAV of $15.7 billion. The current NAV represents 3.7% of the Total Fund and 28.0% of the Real Assets Program,[1] an increase in both shares compared to 3.2% and 23.7% a year ago.

The increase in NAV is the result of a combination of contributions to existing and new investments, distributions, and net realized and unrealized gains and losses. For the prior-year period, the Portfolio's annual contributions outpaced distributions $2.8 billion to $0.7 billion.[2] We continue to expect to see contributions outpace distributions going forward, given the number and size of new commitments made over the last several years compared to the remaining smaller size of legacy assets.

Through a combination of commingled funds, co-investment vehicles, and separate accounts, during the prior year period the Portfolio acquired 66 new investments representing $2.3 billion in NAV as of December 31, 2024.[3] Most of the capital (84.0%) was invested in the United States, with the balance in the UK, Europe, Canada, and Australia. The investment count is high due to a large number of individual renewable power assets held in one new commingled fund. The capital was deployed into digital infrastructure, gas and renewable power assets, electricity transmission, and other energy infrastructure.

As of December 31, 2024, Portfolio NAV distribution is as follows relative to investment type: Transportation was 30.1%; Data Infrastructure 22.4%; Utilities 21.5%; Renewable Power 15.5%; Conventional Power 5.2%; Energy 3.1%; Other 1.4%, Environmental Services 0.5%; and Social Infrastructure 0.4%.[4]

[1] The Total Fund market value was $527.3 billion, and the Real Asset Program NAV was $70.4 billion, as of March 31, 2025, per Wilshire.
[2] Real Assets QPR Q4 2024 Final.
[3] Asset values as of December 31, 2024 due to the one-quarter reporting lag.
[4] Web-based Real Assets Power BI analytics, Vital Statistics-Characteristics.

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Infrastructure Portfolio Structure

The Portfolio invests via a number of different managers and investment vehicles, currently relying primarily on separate accounts and commingled funds for most of its capital deployment. Compared to a year ago, the Program has four additional active partners, six additional partnerships, 62 additional investment entities, and exposures in four new countries. The Program also added 12 new investment vehicles over the prior year. The distribution of NAV is about the same as a year ago, while the total exposure (NAV + Unfunded) for commingled funds and co-investments has increased slightly, with the relative exposure in separate accounts and direct investments coming down a bit.

Active Partners	Partnerships	Investment Entities	Countries
15[1]	34	203	26+

Investment Vehicle Type	Count	% of NAV	% of NAV + Unfunded
Commingled Funds	22	27	35
Direct Investments	2	7	5
Co-Investment Accounts[2]	11	14	16
Separate Accounts	5	51	45
Total	**40[3]**	**100**	**100**

Key Policy Parameters

The Portfolio is compliant with key parameters related to diversification and other limits applicable at the Portfolio level, as documented in the table below. We note that policy changes aimed at updating and harmonizing the Total Fund Policy as relates to Real Assets, approved effective as of June 2024, collapsed the previously separate Value Add and Opportunistic risk classifications into a single Non-Core classification (for all Real Assets portfolios) and increased the Infrastructure Non-Core upper limit to 50% (from 40%).

For this annual review, we included the data from a year ago, as of March 31, 2024, as shown in the table below. We observe that most of the parameters are about the same in the geographic, manager exposure, and leverage parameter categories. As noted above, and addressed in recent reporting, Staff is intentionally decreasing Core NAV and increasing Value Add NAV, consistent with the Strategic Plan, and those changes are evident in the March 2025 and year-ago data.

[1] Five additional partners' vehicles are in wind-down mode and not receiving new capital.
[2] A co-investment vehicle may hold one or more individual co-investments, depending on its mandate and structure.
[3] The total count differs from the number of partnerships depending on their wind-down or activation status. Source 2024.12.31 RA Allocation Data Sheet.

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Key Portfolio Parameter	Policy Range/Limit	*NAV 3/31/24[1]*	NAV 3/31/25
Risk Classification[2]	**(%)**	***(%)***	**(%)**
Core	50-100	*70.2*	67.5
Non-Core	0-50	*29.9*	32.5
Geographic Region[3]	**(%)**	***(%)***	**(%)**
United States	30-100	*50.3*	55.4
International Developed	0-70	*47.0*	42.2
International Developing	0-15	*2.7*	2.4
International Frontier	0-5	*0.0*	0.0
Manager Exposure[4]	**(%)**	***(%)***	**(%)**
Largest Partner Relationship	20 max	*8.2*	8.9
Investments with No External Manager	20 max	*1.7*	1.6
Leverage[5]			
Loan to Value	65% max	*36.4%*	39.5%
Debt Service Coverage Ratio	1.25x min	*2.52x*	2.41x

Real Assets Staffing Program Update

The Real Assets Program is led by its Managing Investment Director ("MID"), along with three Investment Directors, who together oversee 37 other Staff positions, as of May 1, 2025. Of the Program's 10 IM positions, three are effectively dedicated to infrastructure, with eight additional positions supporting them, also on a dedicated basis. Additionally, most team members currently work across all phases of the investment program, including sourcing and diligencing new investments, as well as managing existing investments and manager relationships.

Staffing movements among professionals supporting the Infrastructure Portfolio over the prior calendar year included: three departures, one IM that moved internally and became an ID, and an IO3 and IO1 who both left the organization; and two new hires, an IO3 and IO1 filling the vacated positions. Recruitment for the vacated IM position is in its final stages as of May 1, 2025.

1 Private investment data are one quarter lagged, so effectively as of December 31, 2024.
2 2024.12.31 RA Characteristics Data Sheet.
3 2024.12.31 RA Characteristics Data Sheet.
4 2024.12.31 RA Allocation Data Sheet: calculated based on manager- and account-level NAV. Percent calculated using relevant NAV plus total unfunded commitments for relationships/investments, and the same for the Real Assets Program ($87.4 billion).
5 Web-based Real Assets Power BI analytics, Landing Page.

As Meketa attends the roughly weekly Real Assets Investment Committee ("RAIC") meeting virtually, and speaks biweekly with the senior leadership team, we observe that the professionals focused on infrastructure are quite knowledgeable about the asset class, the opportunities they are evaluating, and the investment recommendations they are bringing forward. As the volume of infrastructure activity has increased over the last several years, the entire Real Assets team has also gained greater understanding of infrastructure investments and the RAICs typically involve constructive Q&A and lively discussions.

Conclusion

For the current reporting period ending March 31, 2025, the Infrastructure Portfolio outperformed its formal benchmarks and other targets for all four trailing periods considered, beating the Infrastructure Policy Benchmark, CPI, and CalPERS' CMA for Real Assets. We note that three of the four trailing period absolute returns are down somewhat compared to a year ago, the exception being the one-year improved return. Factors in the changes continue to include the increasing level of commitments to, and consequent rise in relative NAV exposure, to Value Add investments, as well as the movement of several down "COVID quarters" through the performance history. The Portfolio's relative over performance of the policy benchmark is mixed compared to last year, with two higher periods and two lower periods, against a benchmark with predominantly underlying real estate assets.

The Portfolio's development and its current position remains appropriate and consistent with applicable policies and guidelines, with one exception as noted previously and below.

- *Risk*— NAVs are within the classification policy ranges.
- *Geography*—NAVs are within the categorical ranges.
- *Partner Relationships and Direct Investments*—Exposures are well below the maximums allowed.
- *Leverage*—Metrics are comfortably compliant.

The Portfolio continues to grow consistent with its Strategic Plan, now comprising 28.0% of the Real Assets Program and 3.7% of the Total Plan, compared to 23.7% and 3.2% a year ago. In 2024, the Real Assets Program began investing through six new vehicles comprising a combination of commingled funds and co-investments, while approximately $2.3 billion in new or follow-on infrastructure investments closed under new or existing managers through a variety of investment vehicles. Another six new vehicles were created in 2024 but are not yet investing, which will provide the Program with additional investment capacity moving forward. An essentially dedicated infrastructure team of 12 has been working through a structured and systematic process over the last several years to source new managers, broaden the sector and geographic targets, and significantly increase capital deployment capacity. They also have been expanding the number and types of investment vehicles which provides focus, flexibility, and fee reductions. Together these activities are reflected in the current manager roster, capital deployment rate, and returns that are consistently at the level expected from a quality institutional infrastructure portfolio.

Please do not hesitate to contact us if you have questions or require additional information.

EFB/WP/SPM/jls

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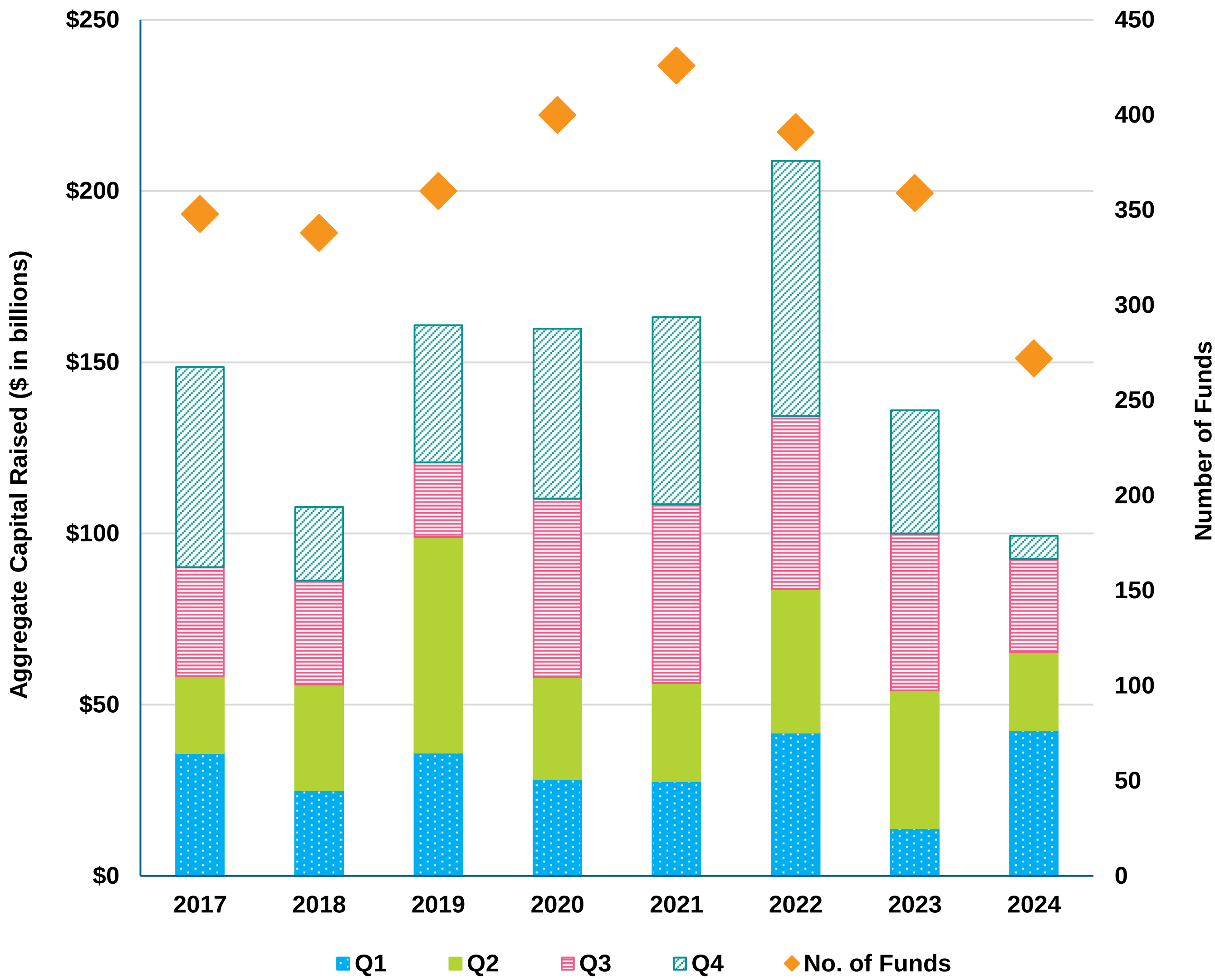
Attachment[1]

Infrastructure Market Commentary – Q4 2024

Global Quarterly Unlisted Infrastructure Fundraising[2]



After a brief recovery in fundraising pace for infrastructure, 4Q 2024 continued to slow raising $7 billion across 48 funds. The average capital raised per fund decreased to $0.1 million per fund and with a smaller number of funds closing capital during 2024 at approximately 270.

[1] Commentary based on analysis of aggregated and deal-level data from Preqin, and other Preqin data, unless otherwise cited. Prior year data may have changed from figures shown in prior reports.
[2] Source: Preqin 4Q 2024.

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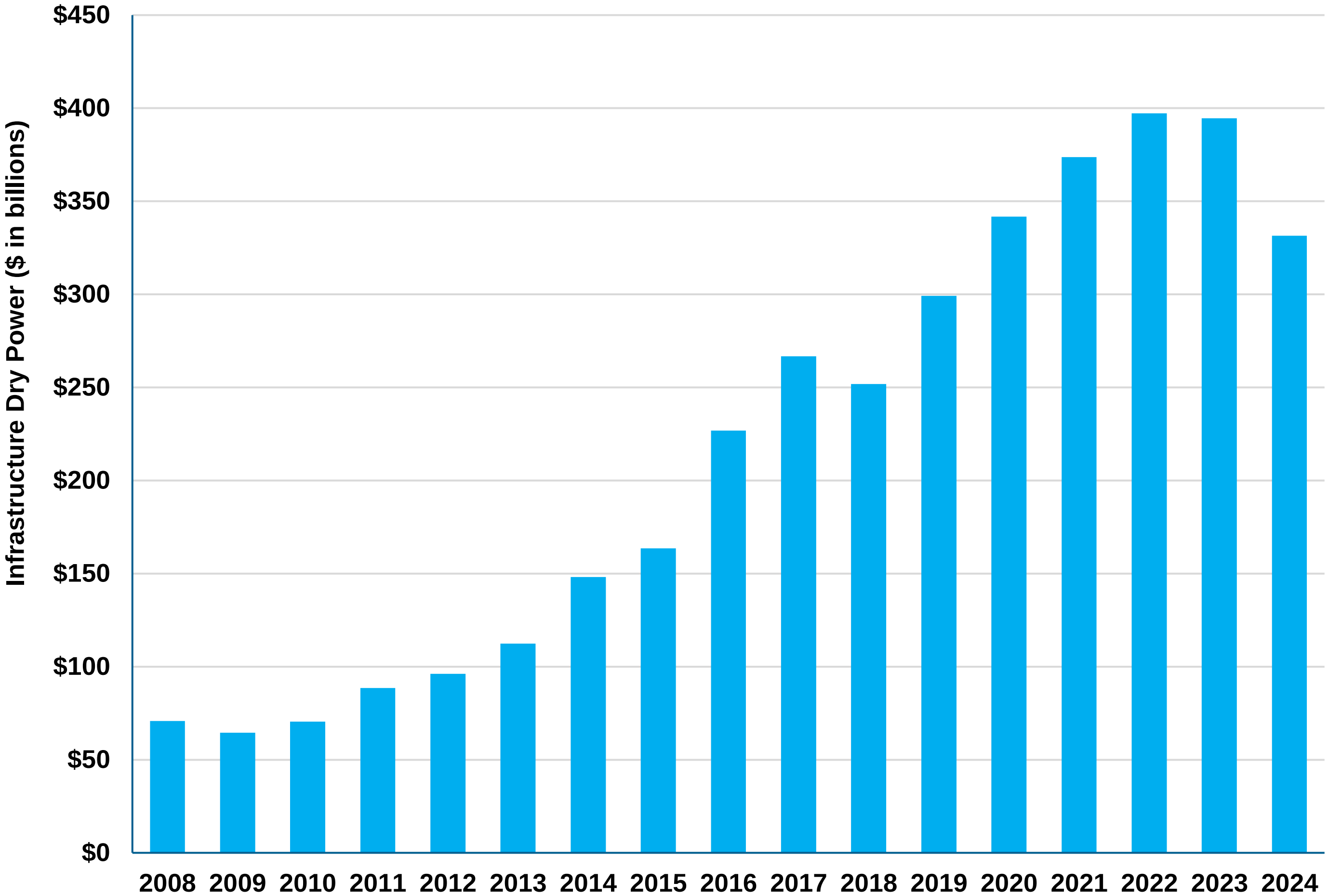
Global Infrastructure Dry Power[1]



The lower fundraising totals during 2024 has led to the level of dry powder decreasing by 16% to approximately $330 billion. The combination of continued slow fundraising and increasing investment activity led to the decrease.

[1] Source: Preqin Dry Powder downloaded January 2025.

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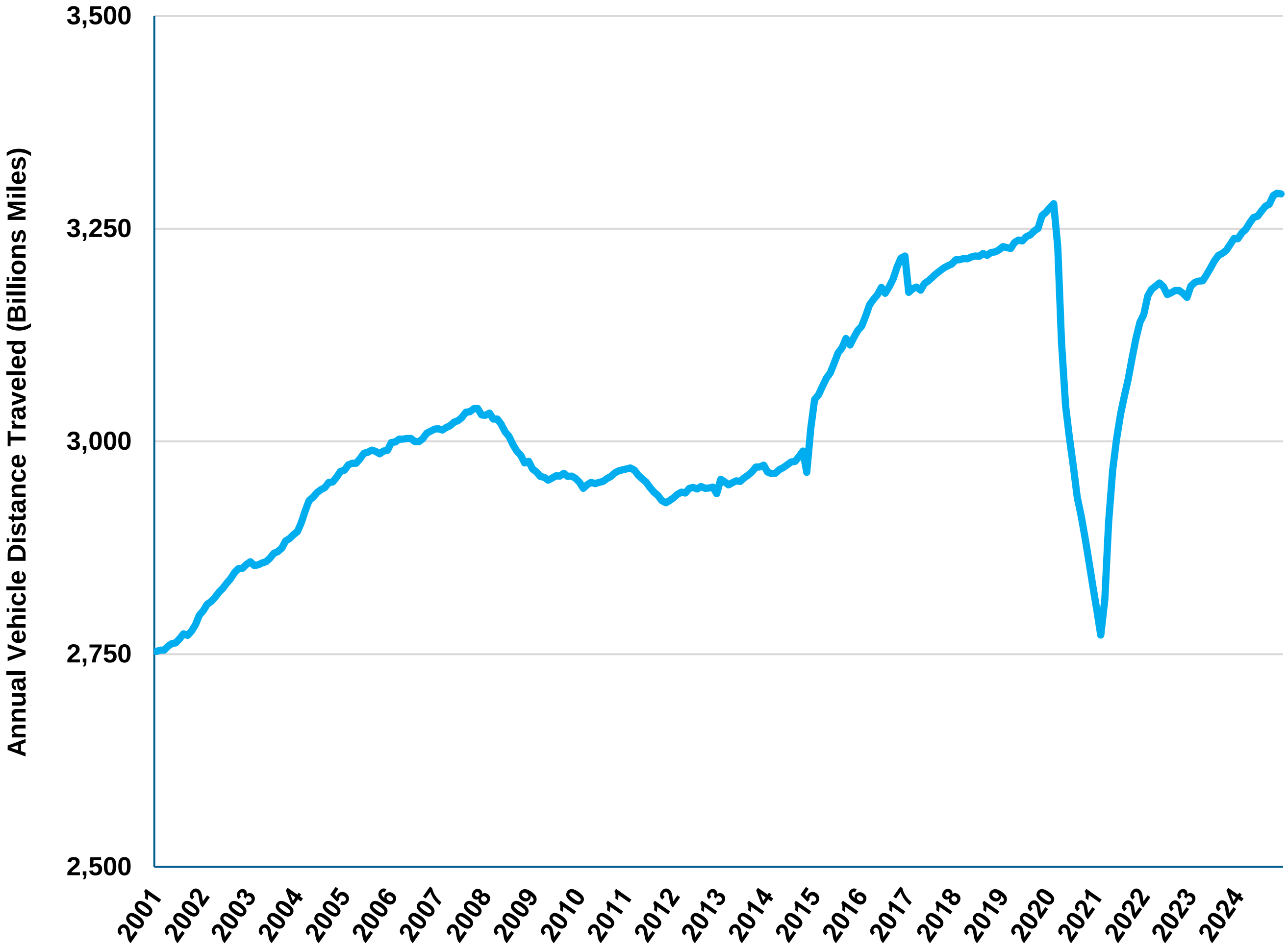
Trailing 12-month Annual Vehicle Miles on All US Roads[1]



The fourth quarter continued the steady increase in annual vehicle miles with a total of approximately 821 billion miles. This represented an increase of 1.5% over the same period in 2023 and represents the eighth straight quarterly increase. Also, the 12-month annual miles reached a new peak passing the February 2020 peak.

[1] Source: US Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.

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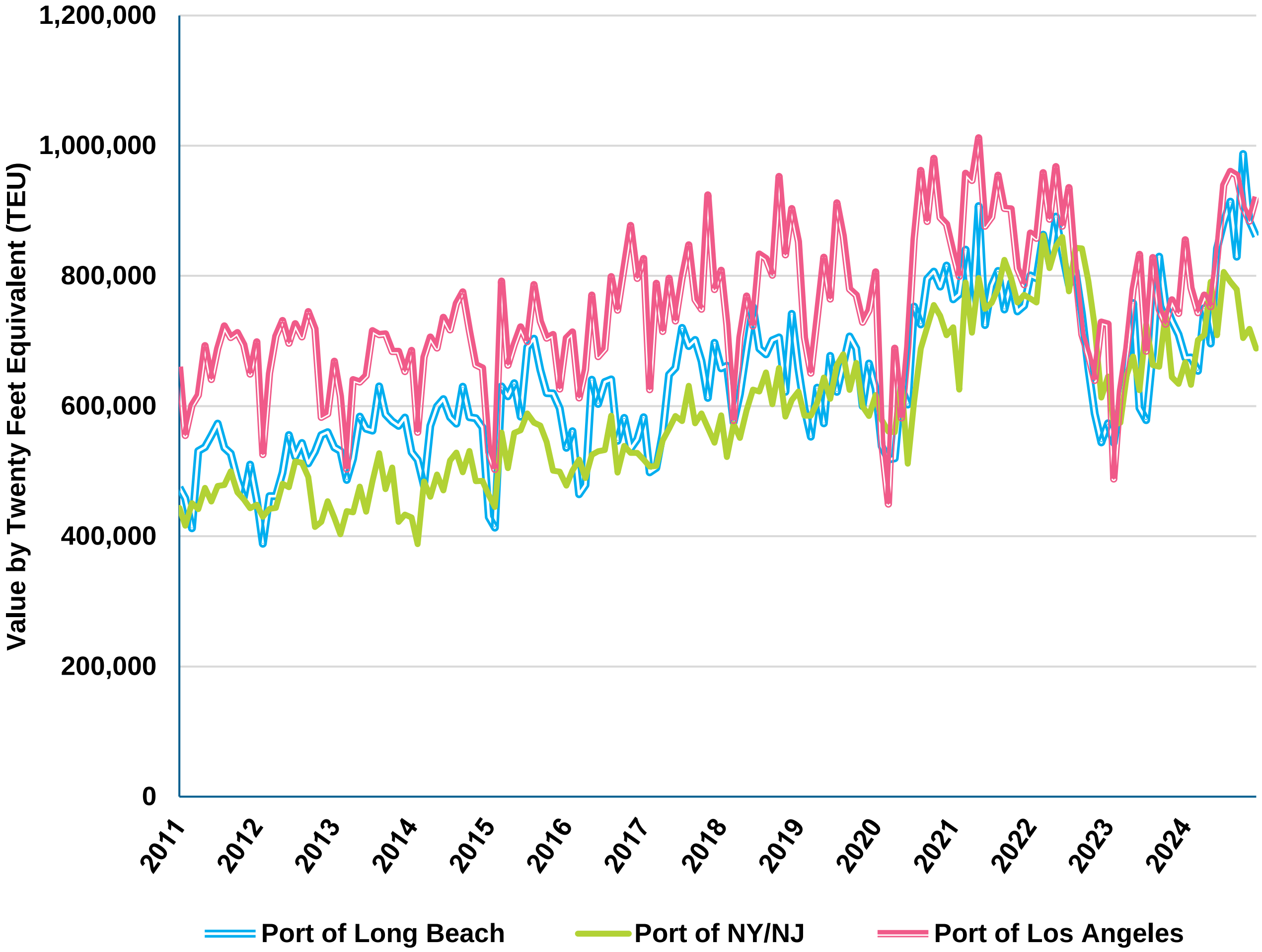
US Port Activity – Container Trade in TEUs[1]



The chart presents the top three US ports by container volume, as measured by twenty-foot equivalent units (TEU). Activity at the three ports provides a high-level representation of the volume at US ports more broadly.

During the fourth quarter, volumes across the three ports increased by 1.1 million units relative to the same period last year. On a year-over-year basis, the combined port volumes increased by 4.2 million TEUs, or 17%, over the prior 12-month period. The Port of Long Beach recorded an increase of 20% (1.6 million TEUs), the Port of NY/NJ reported an increase of 11% (0.9 million TEU), and the Port of Los Angeles recorded an increase of 19% (1.7 million TEUs) over the prior 12 months.

[1] Source: www.polb.com, www.panynj.gov and www.portoflosangeles.org

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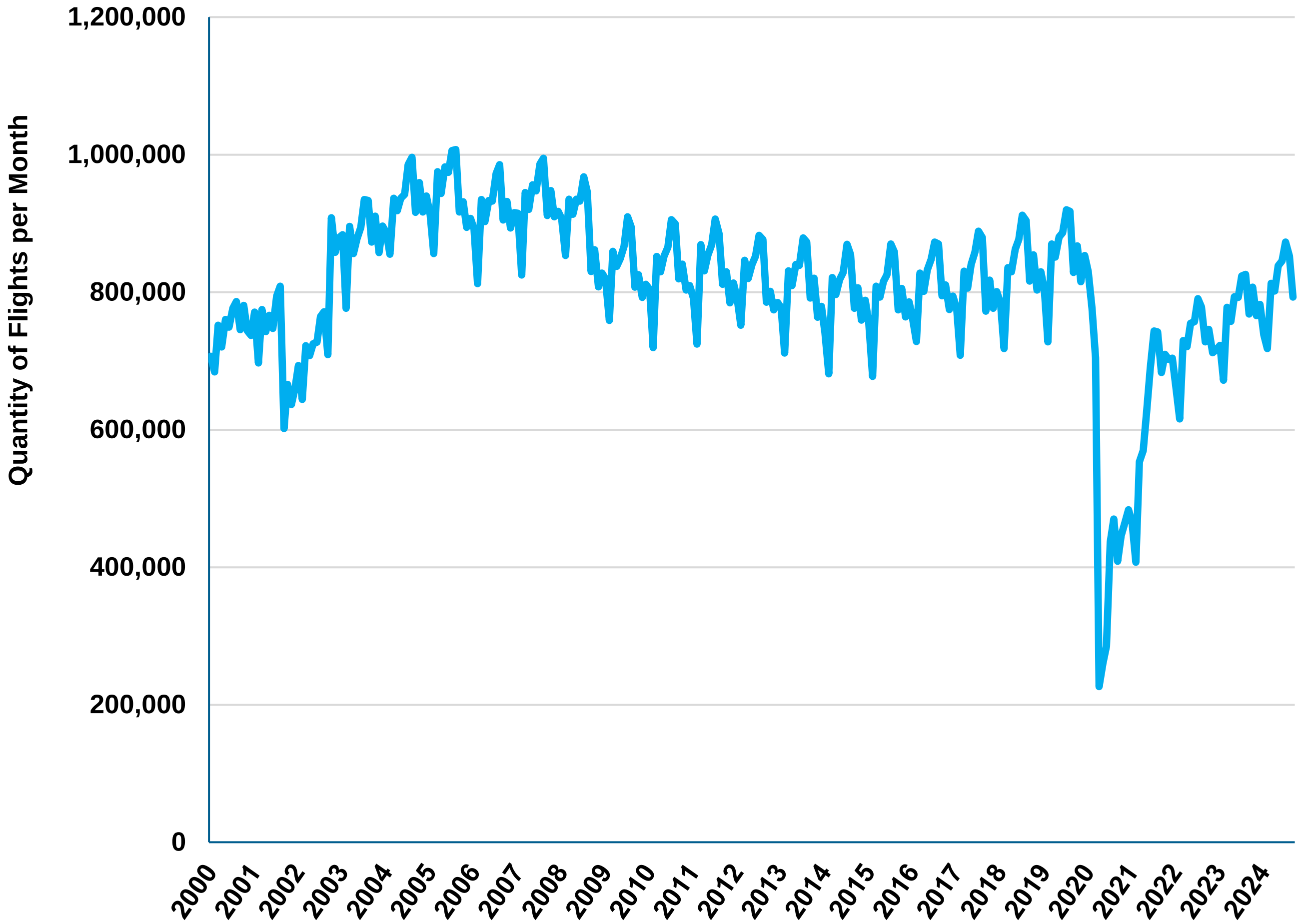
Total US Domestic and International Flights[1]



The chart above presents all US domestic and international flights, excluding foreign point-to-point flights by month. Historically, air traffic is cyclical with peaks in the summer months and troughs in the winter months.

There were 0.1 million more flights during the fourth quarter of 2024 over the same period in 2023, representing a 3.2% increase. In addition to the number of flights, the total number of passengers travelling on US and international airlines increased by 5% for the 12 months ended December 31, 2024.

[1] Source: Bureau of Transportation Statistics: Flights, All US, and Foreign Carriers.

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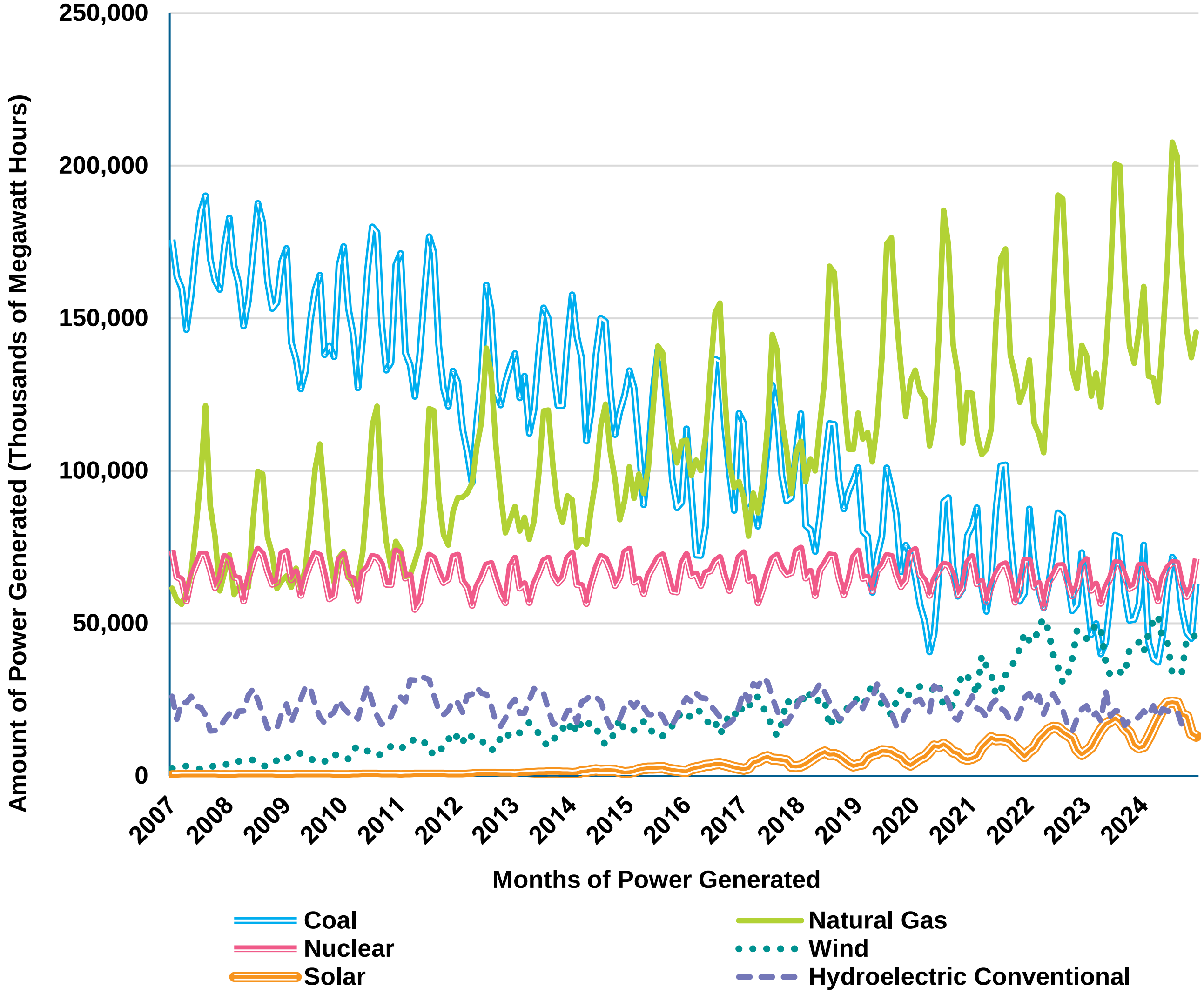
US Power Generation by Source[1]



In the fourth quarter 2024, total Utility Scale US power generated increased by 2% over the same period in 2023. Wind and utility-scale solar continue to make up a small portion of total net energy generation in the US, accounting for only 13% and 5% of energy generation, respectively. Natural gas, coal, and nuclear accounted for 42%, 15%, and 19%, respectively.

[1] Source: US Energy Information Administration: Electric Power Monthly, December 2024.

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