Energy Infrastructure and Natural Resources: Shares of commodity-levered "real assets," such as natural resources and energy infra, have rallied for 4+ years, thanks to the balance sheet improvements COVID-era CAPEX/dividend cuts. Still, many institutional investors continue to prefer non-cyclical "real assets" – utilities, infrastructure and REITs – despite 5-year underperformance vs. commodity-levered sectors (even with the "risk-off" period during COVID!). Investors cite regulated returns and stable cash flows for this preference. Many overlook the fact that "non-cyclicals" lack the flexibility to cut CAPEX or dividends, even when debt is high and cash flows are weak (like today). Regulators and customers demand constant CAPEX in the name of reliability, safety and the environment, while investors view dividends as non-discretionary. Lacking the option to cut back, these companies plug deficits by touting the "next big thing" and issuing equity. While equity issuance has always been part of the regulated utility and REIT playbook, current heavy debt loads raise the possibility dilution not seen since the "deregulation boom" of 2000-2003, when many large utilities increased share count by >10% in <24 months.

AI is the "next big thing" for real assets - but is that a good thing?: So, what kind of "next big thing" could be used to justify dilution on this scale? Artificial intelligence (AI) is already being heralded as the key growth driver for many "real asset" businesses. Historically, "megatrends" from deregulation, to Shale, to renewables have involved big CAPEX, with returns typically much slower to materialize (if ever). Despite this history, many real asset companies (and fund managers) are promising significant benefits from the AI boom. On Q1 earnings calls, "Real asset" companies (REITs, utilities, and resources) mentioned "AI & Machine Learning" >500x, 5x more than a year ago*. Consistent with our thesis, we see companies whose FCF is falling fastest as most likely to mention AI on calls. We expect that many real asset investors may face a wave of equity dilution in order to fill the hole caused by soaring CAPEX and high dividends. In contrast, we remain excited by the fact that the companies where Recurrent invests are moving slowly on capex increases, while retaining optionality if AI-related energy demand does surge.
**Last year's biggest topics - "renewables," "emissions" and "climate change" have since declined by 30% to 60%.*

Click here for our new midstream white paper, which explores midstream's excess (and growing) yield vs. fixed income.

Click here for our 2022 white paper on Shale's increased strategic importance in a time of ESG

*April 2024 Performance Summary and Market Commentaries*

Please find below performance and commentary for our strategies – MLP & Infrastructure and Natural Resources. Performance follows at the bottom of the commentary. For additional information, please contact us at (832) 241-6400 or info@recurrentadvisors.com.

# MLP & Infrastructure

## Performance review

During the month of April 2024, the Recurrent MLP & Infrastructure Strategy generated net returns of -0.38%, outperforming the Alerian MLP Index's (AMZ) -1.22% return by +0.74%. Since the strategy's July 2017 inception, Recurrent's MLP & Infrastructure Strategy has outperformed the AMZ by +30.43% (+2.73% annualized), net of fees. On a gross basis, the Strategy has outperformed by +48.42% and +4.18% respectively. Please note that we have also added Energy Infrastructure Strategy performance below. The Energy Infrastructure seeks to emulate much of our MLP & Infrastructure Strategy while excluding MLPs. MLPs have historically represented 15-25% of our strategy. See performance section at bottom for more detail.

# Natural Resources

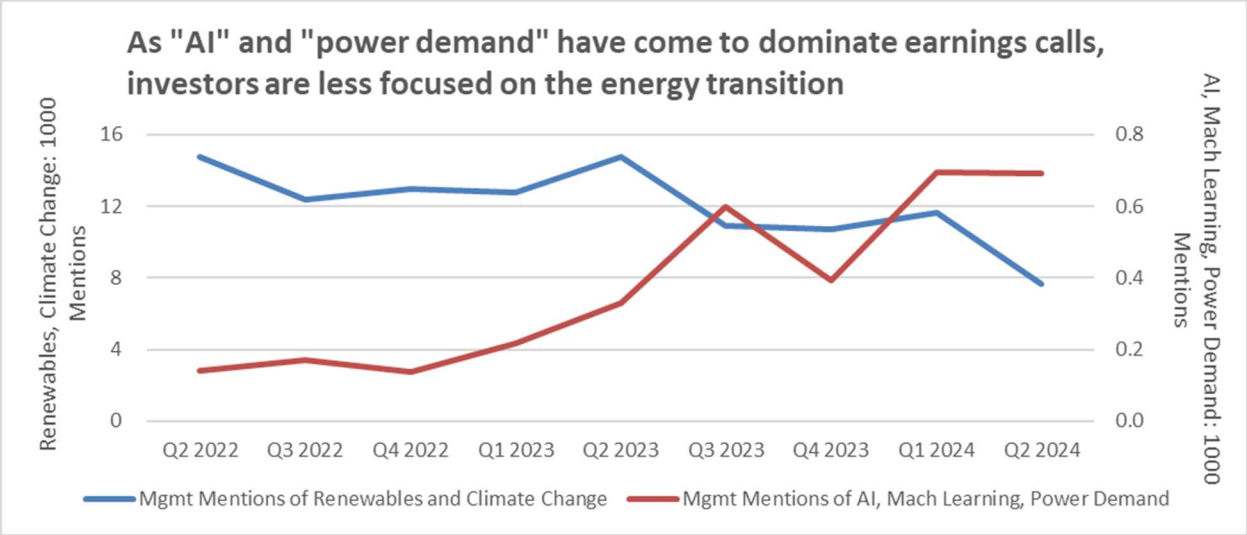
## Performance Review

In the month of April 2024, the Global Natural Resources Strategy rose +0.98% net of fees, outperforming the S&P Global Natural Resources Index's -0.07% return. During the month, the portfolio's holdings in Anglo American (ticker AAL LN) rose +34.95% during the month due to a proposed acquisition by BHP Billiton, adding value to relative to the benchmark. The portfolio's refining holdings detracted from performance, after an extended period of significant outperformance.

# Could the AI usher in an era of (dilutive) growth for regulated real assets?

## AI is here to replace Renewables as the next Real Asset "megatrend"

Many real asset companies who participated in the renewables CAPEX "megatrend" of the last 10 years have seen shares underperform as a result of significant debt incurred and low returns from these projects. It is unsurprising that certain real asset companies (utilities, REITs, and natural resources), as well as many real asset fund managers, have moved on from renewables in search of the "next big thing." Thankfully, AI has arrived. As seen below, one immediate impact has been felt in management commentaries on conference calls, where mentions of AI have increased roughly five-fold in the last 6 quarters. While "renewables" and "climate change" remain frequent topics, their prevalence has dropped by roughly 50% over the same timeframe.

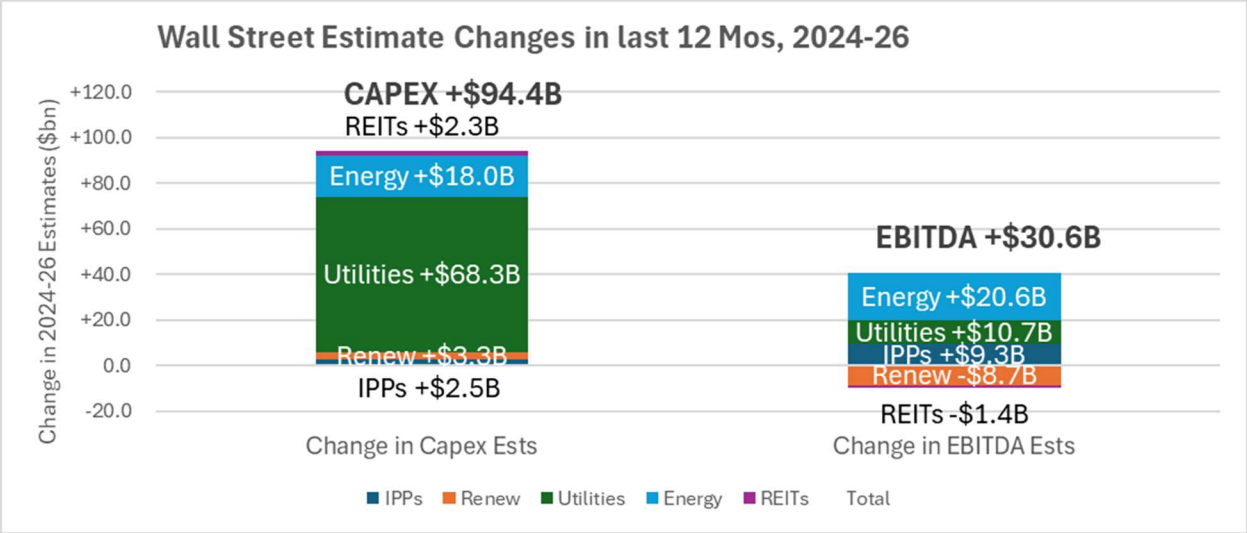



*Source: Recurrent research, Bloomberg.*
*Note: The above chart tracks the frequency of conference call mentions for a variety of renewable- and climate change-related words, as well as for a variety of AI-related words. The above study includes companies in the Utility, Energy, and REIT sectors.*

## Real asset management teams, fund managers and analysts are eagerly promoting the rise of AI… but history counsels caution

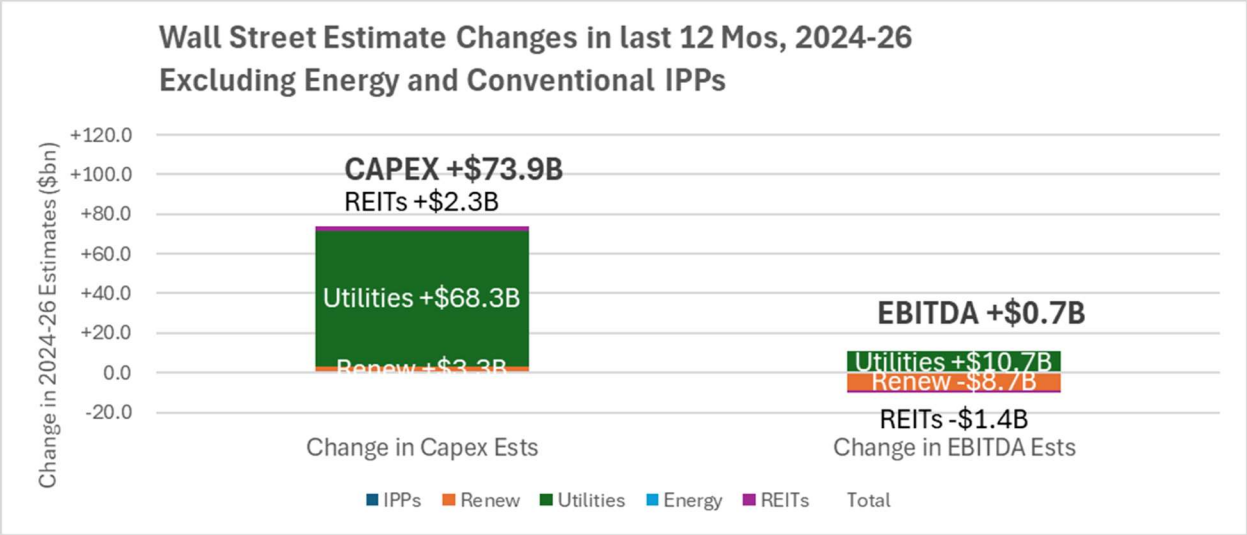
It is anticipated that AI data centers will become huge sources of around-the-clock (i.e. "baseload") power demand, which means that renewable power and short-duration batteries are likely ill-suited to match the need for 24/7 electricity. In anticipation of the need for the AI-related power grid buildout, META's Mark Zuckerberg appointed Houston's own John Arnold as an oil and gas energy expert to META's board, while Zuckerberg has also discussed massive onsite 1GW power plants(!) as a potential solution to keep AI from disrupting the electrical grid.

As students of history, we would note that for real asset companies, participating in a "megatrend" has historically carried significant risk. Often, the massive capex costs associated with these "megatrends" are immediate and certain, while potential returns tend to be delayed and highly uncertain. As we can see below, Wall Street has already forecasted a nearly $100bn increase in capex to support AI – and that is only including real asset companies who have mentioned AI on their conference calls! At the same time, the increase in EBITDA (a proxy for cash flow) has increased by $30bn. In other words, **AI is forecasted to add nearly $70bn of unfunded capex** to these real asset sectors.




*Source: Recurrent research, Bloomberg, SEC public filings.*
*Note: Includes all Real Asset companies that mentioned AI, Machine Learning, or Data Centers on their Q1 or Q4 earnings calls.*
*Utilities and Renewables include: AEE, NEE, ETR, EIX, PCG, CNP, DUK, PEG, FTS CN, CPX CN, OGE, AEP, D, SO, EXC, ORSTED DC, SRE, EMA CN, WEC, DTE, POR, VER AV, VIE FP, PPL, XEL, NI, EVRG, BIP, AES, RUN, ENPH, BE, CMS, CWEN/A, AY, FE, PNW, FSLR, PLUG, BEPC CN, ORG AU, VWS DC.*
*IPPs include: VST, TLNE, NRG, CEG.*
*Energy includes: EQT, BKR, SLB, AR, NOV, PTEN, NFE, CHK, HAL, COP, RRC, WMB, KMI, EPD, ET, CTRA, ENLC, CRK, OKE, DTM, ENB CN, ALA CN, TRP CN.*
*REITs include: EQIX, CCI, AMT, AVB, DLR, IRM, O, WY, COLD, HPP, UDR, BXP, SBAC, KRC, PLD, ESS, EQR, FR, GMG AU, ARE, DOC.*

A careful reader will note that the traditional Energy sector's CAPEX increase (shown in light blue above) is matched by a comparable increase in EBITDA estimates. Excluding Energy, CAPEX estimates rise by $76bn and EBITDA estimates rise by $10bn. Almost all of this $10bn in expected increased EBITDA is from the non-renewable power plants owned by IPPs. **In other words, in the last 12 months, CAPEX estimates for non-cyclical real asset companies (excluding oil and gas) have surged by $74bn, with an expectation that almost no incremental cash flow will be available to fund it!**




*Source: Recurrent research, Bloomberg, SEC public filings.*
*Note: Includes all Real Asset companies that mentioned AI, Machine Learning, or Data Centers on their Q1 or Q4 earnings calls.*

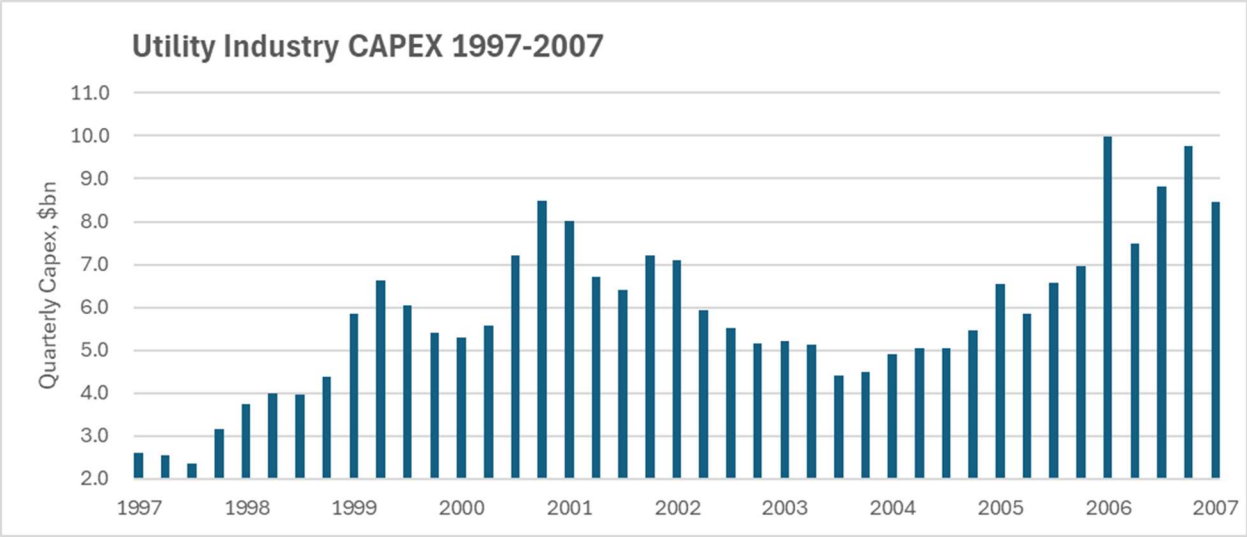
## In most sectors, rising debt + falling returns would drive CAPEX cuts… but regulated business model (and AI) makes cuts nearly impossible

In real asset sectors where Recurrent invests, periods of high debt and low returns are typically remedied by steep CAPEX and even dividend cuts, leading to rapid debt reduction and an eventual equity market recovery. This is the pattern seen in energy infrastructure and the broader natural resource sector during 2015-2024. In contrast, in non-cyclical real asset sectors – utilities, REITs, and infrastructure – regulators and customers discourage steep CAPEX cuts, citing reliability, safety and environmental concerns. With the potential for an AI-related demand surge on the electric grid, deep CAPEX cuts are unlikely to be accepted by regulators or energy-intensive customers. Meanwhile, management teams in these sectors consider the dividend as a non-discretionary component of the value proposition to investors, believing that investors accept capped regulated upside in exchange for stable income. With nowhere to cut, how can the AI surge be funded?

## Utility industry, 1997-2007: when the deregulation "megatrend" required massive equity dilution

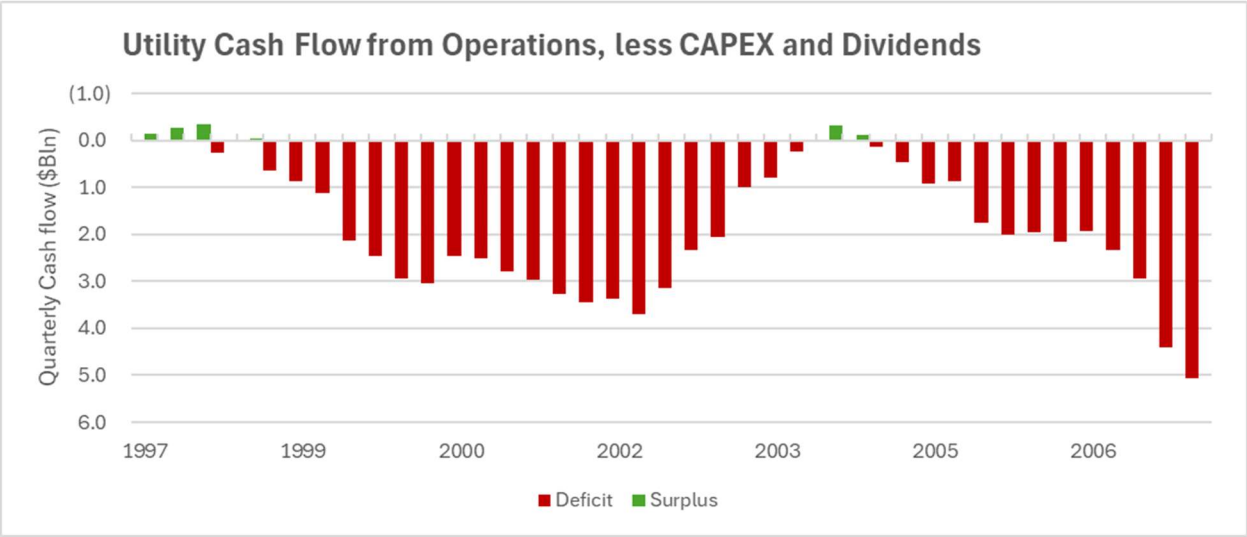
In recent monthly commentaries we examined how utilities in recent years have continued to increase CAPEX forecasts, despite deteriorating balance sheets. While other "real asset" sectors typically cut CAPEX in the face of deteriorating credit quality, the regulatory environment for utilities makes CAPEX cuts difficult. Worse yet, investors typically require utilities to pay sizeable dividends as proof of cash flow stability. For much of the last decade, regulators demanded lower-carbon power, driving significant renewables and transmission CAPEX, but industry-wide returns have generally fallen as these projects have proliferated, leaving debt levels elevated as long-term debt refinancings begin to reflect the higher-rate environment.

Why did industry CAPEX grow? In the late 1990s and early 2000s, the power market deregulated to encourage competition and increase reliability, highlighted by the California blackout in 2000. Companies built natural gas power plants in an attempt to capture profits in newly deregulated markets. Significant new power plant additions meant that power prices fell, squeezing cash flows of the newly-deregulated utilities. Rather than cutting back, CAPEX actually accelerated after 2003, when a huge blackout across the Northeastern United States caused regulators to demand additional CAPEX for infrastructure designed to improve reliability.



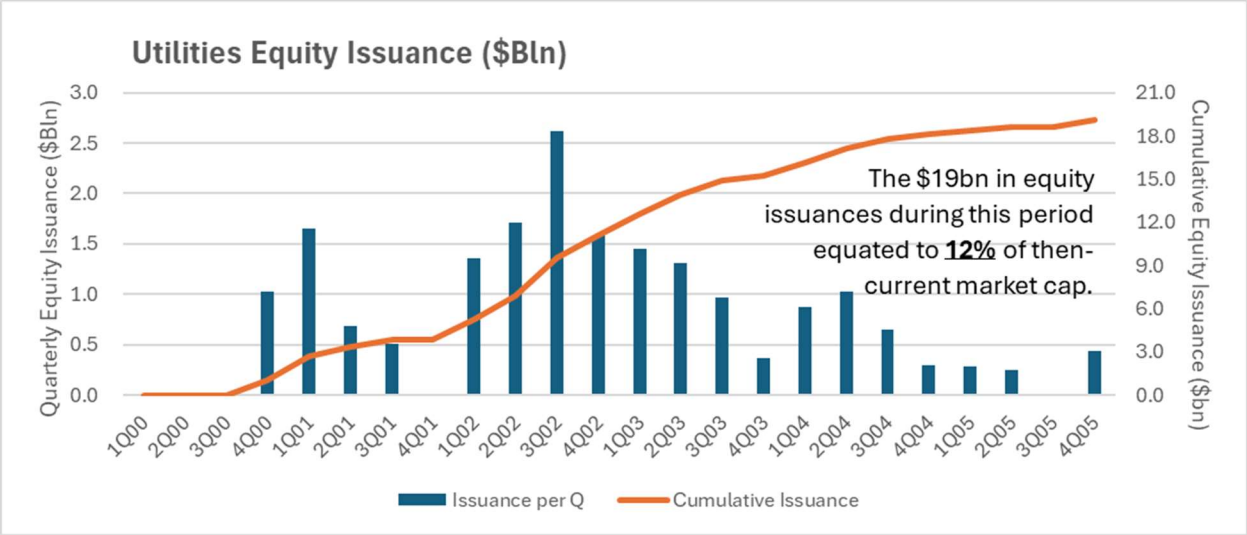

*Sources: Bloomberg, Recurrent Advisors*
*Notes: Universe includes AEE, AEP, AYE, CNP, D, DTE, DUK, ED, FE, PEG, PGE, PNW, PPL, SO, XEL*

In an attempt to frame the cash flow impacts, in the chart below we look at the industry's quarterly cash flow from operations less CAPEX and dividends. As you can see, during the CAPEX surge of 1999-2002, the cash deficit is particularly negative, averaging about a $3bn quarterly deficit (approx. 8% of market cap on an annualized basis). After a brief respite, CAPEX rose in response to the infrastructure push mentioned above.




*Sources: Bloomberg, Recurrent Advisors*
*Notes: Universe includes AEE, AEP, AYE, CNP, D, DTE, DUK, ED, FE, PEG, PGE, PNW, PPL, SO, XEL*

If the industry was determined to materially outspend cash flows from operations on CAPEX and dividends, how were the expenditures financed? The answer is… repeated equity issuances. During the 5-year period from 2000-2005, the industry issued nearly $20bn of equity, to help pay for the >$50bn cash flow deficit over the same time period.



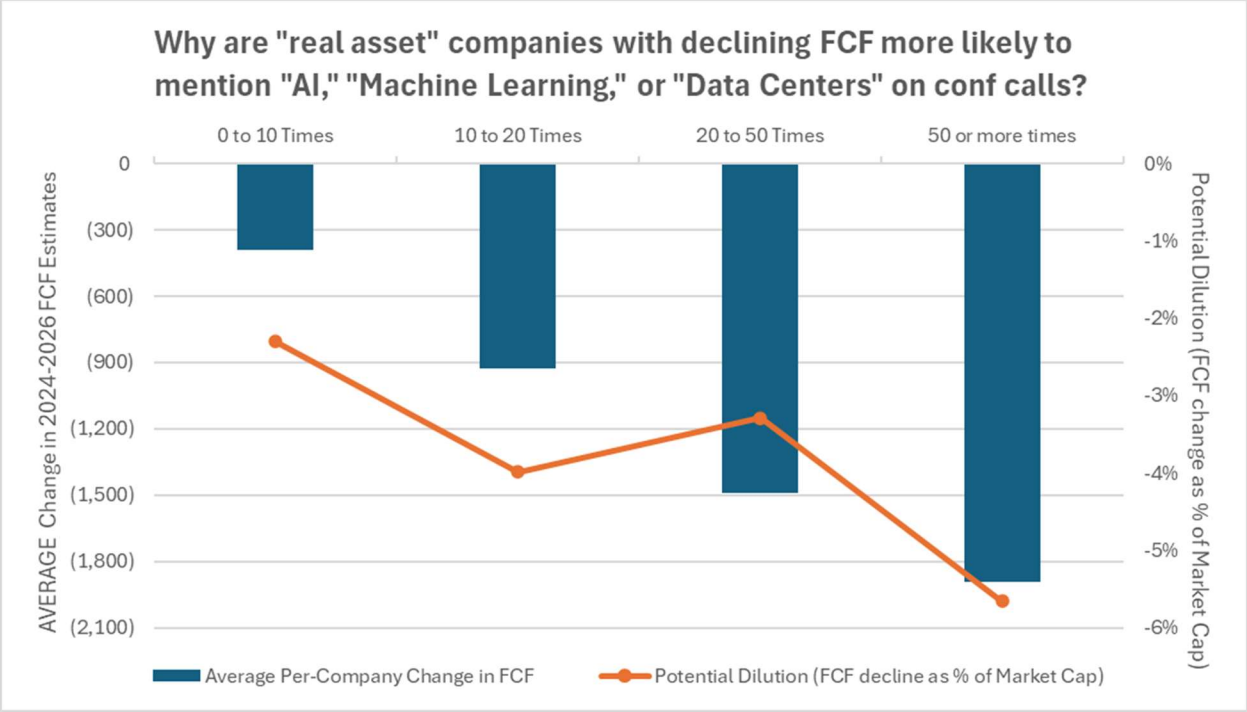

*Sources: Bloomberg, Recurrent Advisors*
*Notes: Universe includes AEE, AEP, AYE, CNP, D, DTE, DUK, ED, FE, PEG, PGE, PNW, PPL, SO, XEL*

In the utility industry, where the dividend is deemed as a "non-discretionary" expenditure, growth CAPEX is often less "discretionary" than it is in other "real asset" subsectors. In the early 2000s, deficit

spending was financed in large part by issuing equity, especially following periods when the sector outperformed the broad equity markets.

## Given this massive cost, why are certain Real Asset companies (and Real Asset fund managers) pushing the AI boom?

If the AI buildout is likely to be expensive, and real asset investment booms often generate returns that are lower and take longer to materialize than anticipated, why are certain companies (and fund managers) pushing the AI theme so hard? It would appear, based on the analysis below, that companies who expect significant FCF deterioration (and therefore are more likely to need equity funding) are pushing AI the hardest. Companies who mentioned AI more than 20 times on their calls represent an outsized share of potential dilution, as seen below. When we exclude the FCF-positive energy sector, we see that the managements most inclined to talk up the benefits of AI are, on average, experiencing an increase in negative FCF equivalent to 6% of market cap. Some companies are seeing FCF negativity equivalent to 10% to 20% of market cap – exactly in-line with the level of equity issuance seen in the deregulation boom detailed above.




*Source: Recurrent research, Bloomberg, SEC public filings.*
*Notes: The above analysis includes the same companies mentioned in the footnote above.*

While the last 10+ years in the public markets, where most companies have been net buyers of their own equity, the above analysis can seem jarring. If 10% dilution for large-cap companies seems unlikely, the above case study of utilities in the early 2000s offers a historical example of significant CAPEX in a "megatrend" leading to extreme equity dilution.

We will leave a deep-dive into the Recurrent portfolios for another day, but we will note that as of today, we see the EBITDA and CAPEX outlook for our portfolios as actually improving in the last 12 months based on Bloomberg estimates – implying that a slight increase in 2024-2026 capex estimates could be more than offset by an improved EBITDA outlook. We believe our portfolio continues to

represent a high-optionality, low-cost play on a potential AI boom – and we are happy to let other "real asset" managers foot the bill in the meantime

This email may contain forward-looking statements. These statements are not guarantees of future performance and undue reliance should not be placed on them. This email also may contain references to indices. Such references are for comparison purposes only and should not be understood to mean that there will be a correlation between the Strategy's returns and any index. All investing involves risk.

Recurrent Investment Advisors LLC
*Manager of the of the Recurrent MLP & Infrastructure Fund*
3801 Kirby Dr, Ste 654
Houston, Texas 77098
d: 832.241.6400

RECURRENT
INVESTMENT ADVISORS