Trip Insights

The US

October 2025

4D infrastructure

A Bennelong boutique

This is the 21st edition in our series of *Trip Insights,* where we share our travel experiences and investment insights. This edition covers a trip by Peter Aquilina, lead North American investment analyst and Portfolio Manager of Sustainability, across the US in September and October 2025. Company management meetings and site visits are integral to our investment process, and where possible, we look to visit core regions at least annually.

The trip provided insights into the dynamic and ever-evolving political and economic landscape. From an infrastructure standpoint, the biggest takeaway was gaining a timely and first hand update on the once-in-a-generation load demand growth dynamic underpinning US energy sectors, and the ramifications this may have on shareholders and other stakeholders. The trip supported our sector and company due diligence and evolved our thinking on how to deliver the best risk/reward mix for our investors.

This piece outlines the key themes and takeaways from the trip, and how these have shifted our positioning across the region.

Contents

Trip agenda

Investor meetings included the following companies / brokers:

Company	Sector/topic	Location
Oneok	Midstream oil/gas	Tulsa, OK
OneGas Inc	Gas utility	Tulsa, OK
Crown Castle	Communication towers	Houston, TX
CenterPoint Energy	Electric/gas utility	Houston, TX
Targa Resources	Midstream oil/gas	Houston, TX
Southern Co	Electric/gas utility	Atlanta, GE
Exelon Corp	Electric utility	Chicago, IL
WEC Energy	Electric/gas utility	Milwaukee, WI
American Electric Power	Electric utility	Columbus, OH
Alliant Energy	Electric utility	Madison, WI
MG&E Energy	Electric utility	Madison, WI
CMS Energy	Electric/gas utility	Jackson, MI
DT Energy	Electric/gas utility	Detroit, MI
DT Midstream	Midstream oil/gas	Detroit, MI
Wells Fargo	Broker meeting	New York City, NY
Morgan Stanley	Broker meeting	New York City, NY
TD Cowan	Broker meeting	New York City, NY
Ameren	Electric utility	Wolfe Conference, NY
Consolidated Edison	Electric/gas utility	Wolfe Conference, NY
Evergy Corp	Electric utility	Wolfe Conference, NY
Kinder Morgan	Midstream oil/gas	Wolfe Conference, NY
PPL Corp	Electric utility	Wolfe Conference, NY
Sempra Energy	Electric/gas utility	Wolfe Conference, NY
AES Corp	Utility/IPP	Wolfe Conference, NY
Dominion Energy	Electric utility	Wolfe Conference, NY
Entergy Corp	Electric utility	Wolfe Conference, NY
NextEra Energy	Utility/IPP	Wolfe Conference, NY
OG&E Corp	Electric/gas utility	Wolfe Conference, NY

Politics

The Trump effect

Donald Trump's second term as President has been a turbulent period for policy development and financial markets. In our previous US-based Trip Insights in July 2024, we highlighted that a second term as President could see Trump look to extend the tax cuts implemented in 2018, increase tariffs on trading partners, repeal tax credits for clean energy implemented through Biden's Inflation Reduction Act, reduce regulation of energy and financial services, and likely take a more conciliatory foreign policy tone with Russia. Ten months in, he has attempted all, but the way and extent to which he has implemented these measures has been difficult for corporates to predict and plan for.

Trump has implemented many of his policy prerogatives through Executive Orders. So far in 2025 (as at 21/10/2025), he has signed 210 Executive Orders. This is more than any President has signed in a single year since Franklin D. Roosevelt in 1942[1] (290 signed). The problem with the extensive use of Executive Orders is that their implementation and legality is often unclear. For example, the implementation of international tariffs has been disputed in courts across the US, and the use of Executive Orders for stricter wind generation permitting is unclear as to application. The questions as to the use of Executive Orders and their legality has made the understanding of the application of regulation and law increasingly unclear.

Another example of Trump's sometimes erratic approach to policy implementation was with his establishment of the Department of Government Efficiency (DOGE), headed up by Elon Musk. DOGE was established in January 2025 with the target of finding efficiencies and eliminating costs within government departments. The department largely ended its work with the departure of Musk only four months later. The official DOGE website states that Musk's work has saved the government an estimated $214 billion (as at 26/10/2025), falling short of his $2 trillion goal. These numbers have been disputed, and the ramifications of the changes made to government departments are not yet clear.

Touching on a few of his key initiatives as relevant for infrastructure.

The One Big Beautiful Bill Act (OBBB)

The OBBB was passed into law on 4 July. It extended and expanded major tax cuts—most notably extending many provisions of the Tax Cuts & Jobs Act of 2017. It introduced new tax deductions for things like overtime pay and tipped income, raised some credits (for example the child tax credit), and increased deductions for seniors.

Alongside tax changes, the OBBB cut funding for some major social programs, such as Medicaid and the Supplemental Nutrition Assistance Program, and introduced work requirements for eligibility. It also boosted border security spending.

Proponents of the OBBB believe it will support economic growth through increased consumer spending and business investment. Critics warn the OBBB disproportionately favours higher income individuals and corporations, risks medical coverage reductions for low-income earners, and will increase the federal deficit by trillions of dollars over the next decade.

[1] The American Presidency Project - https://www.presidency.ucsb.edu/statistics/data/executive-orders

Importantly for infrastructure investors, the OBBB represented a substantial and significant re-balance in federal energy policy, advocating a pivot away from some clean energy incentives while also providing a runway for transition. Below are major changes implemented by the OBBB to clean energy tax credits[2].

- For solar and wind generation technologies (under Sections 45Y and 48E of the Internal Revenue Code) the Act reduced the 'safe harbouring' window (the point at which construction of a project is deemed to have begun under the code), and the placed-in-service deadline (previously four years after safe harbouring). Post implementation of the Act, projects beginning construction after 5 July 2026 must be placed in service by the end of 2027 in order to claim the full tax credit, while those safe harboured before that date, still have four years to be placed in service to receive the credit. Companies can, and many have, evidenced the safe harbouring of projects within their respective investment pipelines.
- For technologies other than solar and wind (eg battery storage, geothermal, hydropower) the deadline for safe harbouring was extended so that a full credit is applicable if construction begins before 2033, with phasing-down beginning in 2034-35 and ending in 2036. The inclusion of battery storage within this group was a positive surprise in the Act.
- A new set of restrictions regarding the Foreign Entity of Concern (FEOC) / 'Material Assistance' rules was introduced. Under the OBBB, certain clean energy tax credits (45X, 45Y, 48E) are disallowed or reduced if the project has significant ties to foreign entities (especially those from 'covered nations' such as China, Russia, Iran and North Korea) or purchases key components from these entities. The law defines 'Material Assistance' as the ratio of costs attributable to prohibited foreign entities relative to total costs. If that ratio exceeds a threshold, credits are reduced or eliminated.
- Transferability of credits for up-front cash remains in many places. This allows companies to trade their tax credits which are earned over time, for upfront cash, even when they don't have a large tax liability to offset.
- The clean fuel (including biofuels and Renewable Natural Gas (RNG)) production tax credit (Section 45Z) was extended, but its computation methodology and eligible feedstocks/credits were modified.

Companies we met while travelling suggested that the final form of the OBBB was as positive as could have been expected to support the continued development of renewable resources. This is primarily because it allowed for a wind down period in solar/wind tax credits, extended the credits associated with batteries, maintained support for renewable natural gas (RNG) and nuclear generation, and maintained the transferability of tax credits which supports financing of clean energy investments.

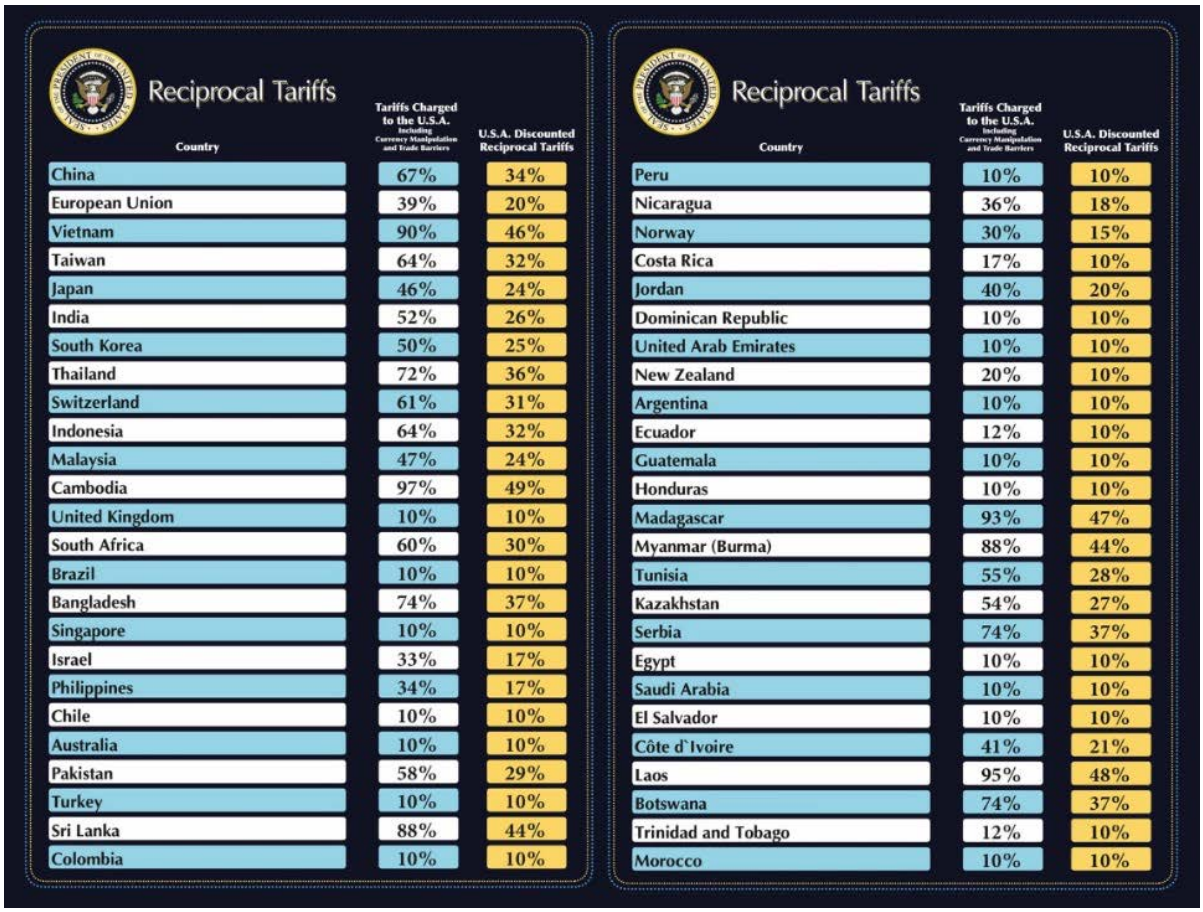
Are we done with tariffs?

A core presidential campaign promise was the increasing of tariffs on trading partners to improve domestic competitiveness. Fast forwarding to 2 April 2025, or 'Liberation Day', Trump communicated an imposition of a base universal tariff on imports from most countries, and additional tariffs targeted at countries with large US trade surpluses (or arguably those he didn't like).

The tariff strategy adopted by Trump appears to be based on:

- reducing/eliminating trade deficits that the US held with individual countries;
- protecting and supporting the development of US based manufacturing; and
- the use of tariffs as bargaining chips in bilateral/multilateral negotiations with foreign entities. The administration clearly views tariffs not just as revenue tools but as levers in negotiation on trade and other foreign policy issues.

[2] The One, Big, Beautiful Bill Amends Renewable Energy Tax Credits – Summary of Key Changes; Bradley J. Nowak & Philip J. Delano, CPA



Reciprocal Tariffs

Country	Tariffs Charged to the U.S.A. Including Currency Manipulation and Trade Barriers	U.S.A. Discounted Reciprocal Tariffs
China	67%	34%
European Union	39%	20%
Vietnam	90%	46%
Taiwan	64%	32%
Japan	46%	24%
India	52%	26%
South Korea	50%	25%
Thailand	72%	36%
Switzerland	61%	31%
Indonesia	64%	32%
Malaysia	47%	24%
Cambodia	97%	49%
United Kingdom	10%	10%
South Africa	60%	30%
Brazil	10%	10%
Bangladesh	74%	37%
Singapore	10%	10%
Israel	33%	17%
Philippines	34%	17%
Chile	10%	10%
Australia	10%	10%
Pakistan	58%	29%
Turkey	10%	10%
Sri Lanka	88%	44%
Colombia	10%	10%

Reciprocal Tariffs

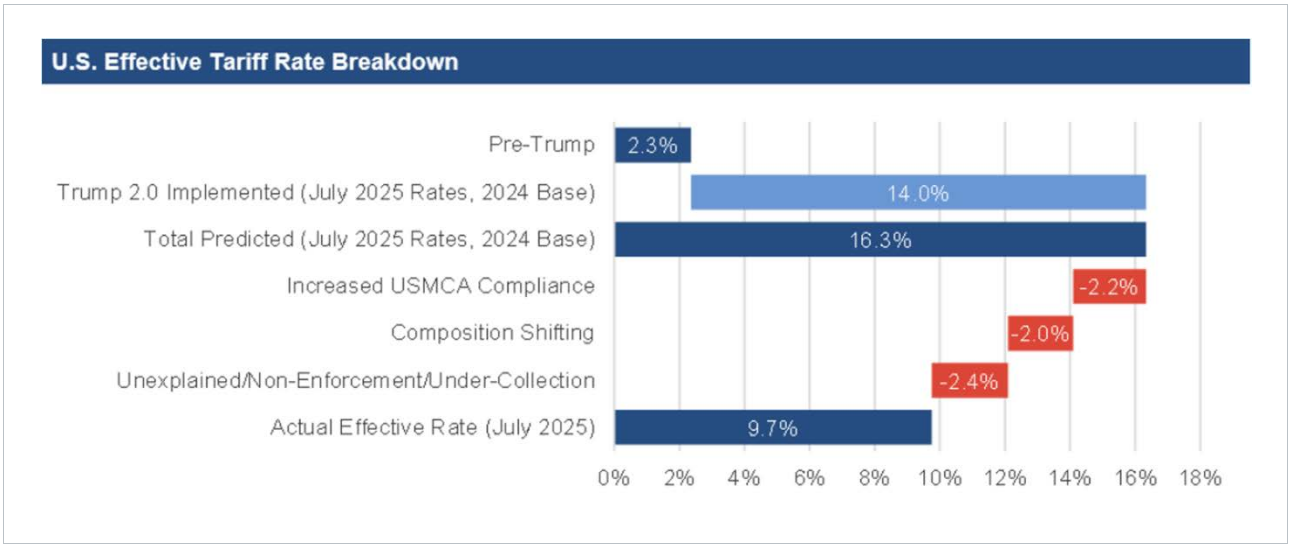
Country	Tariffs Charged to the U.S.A. Including Currency Manipulation and Trade Barriers	U.S.A. Discounted Reciprocal Tariffs
Peru	10%	10%
Nicaragua	36%	18%
Norway	30%	15%
Costa Rica	17%	10%
Jordan	40%	20%
Dominican Republic	10%	10%
United Arab Emirates	10%	10%
New Zealand	20%	10%
Argentina	10%	10%
Ecuador	12%	10%
Guatemala	10%	10%
Honduras	10%	10%
Madagascar	93%	47%
Myanmar (Burma)	88%	44%
Tunisia	55%	28%
Kazakhstan	54%	27%
Serbia	74%	37%
Egypt	10%	10%
Saudi Arabia	10%	10%
El Salvador	10%	10%
Côte d`Ivoire	41%	21%
Laos	95%	48%
Botswana	74%	37%
Trinidad and Tobago	12%	10%
Morocco	10%	10%

Image: Trump's targeted tariff increases as of 'Liberation Day'

The tariffs triggered strong reactions from key trade partners. For example, the European Commission and the European Union (EU) prepared retaliatory tariffs while China quickly imposed significant retaliatory tariffs. The US delayed or paused certain tariff implementations to supposedly allow for negotiation.

On 28 May 2025 the United States Court of International Trade (CIT) ruled that the Liberation Day tariffs (those broad IEEPA-based sweeping tariffs) exceeded the President's authority under IEEPA. The administration appealed. As such, the broad Liberation Day tariffs are in limbo with many blocked or delayed while the courts consider appeals. In the meantime, the administration has shifted to sectoral and bilateral tariff negotiations with specific trading partners such as the EU, UK, China, and the North American partners in Mexico and Canada.

With many bilateral negotiations agreed in some form, analysts are assessing what the overall effective tariff rate (UTR) in the US could be on an ongoing basis. It is clear that the go forward ETR will be significantly higher than what was experienced prior to Liberation Day (see chart below for one assessment). However, the implications of this increased ETR are still being assessed in inflation levels and real GDP growth. Analysts believe that to date the majority of tariff increases have been borne by corporates in the US, and not as yet been passed on to consumers. This has moderated the current impact on consumption but as this could be passed onto the consumer over time the longer term impact on inflation, GDP growth and consumer confidence remains unclear.



Source: ITC DataWeb and Evercore ISI

Infrastructure impact

The impact of higher tariffs on US infrastructure companies is primarily through higher costs of imported equipment and inventory. Components such as turbines, steel, solar photovoltaic panels, and battery components are often imported from tariff-affected countries, with the biggest supplier being China. While some domestic supply chains have been developed in the US (supported by Biden's Inflation Reduction Act), some procurement channels are still from overseas.

The other impact on the US is through the redesign of trade routes with those countries hard hit by tariffs looking for alternative trading partners. This has a direct impact on port and rail volumes in the US, both import and export, while also indirectly impacting the economic environment and outlook.

Midterm elections in 2026

The US Mid Term elections will be held in November 2026, and could result in the Republicans losing the majority position in either the House or Congress. This would make it more difficult for the party to pass legislation in President Trump's remaining term. The polls currently indicate a small lead to the Democrats in the House, but with a large proportion of voters (+10%) undecided[3].

One of the major issues for voters is the increased cost of living. This issue increases the risk that politically motivated Governors and Senators could restrict utilities who look to increase electricity, water and gas prices next year. This trip highlighted the increasing importance of 'affordability' as regulators opine on utility investment plans and associated consumer rates.

[3] Newsweek: Polls Reveal Warning Signs for Democrats Ahead of Midterms; *20/10/2025*

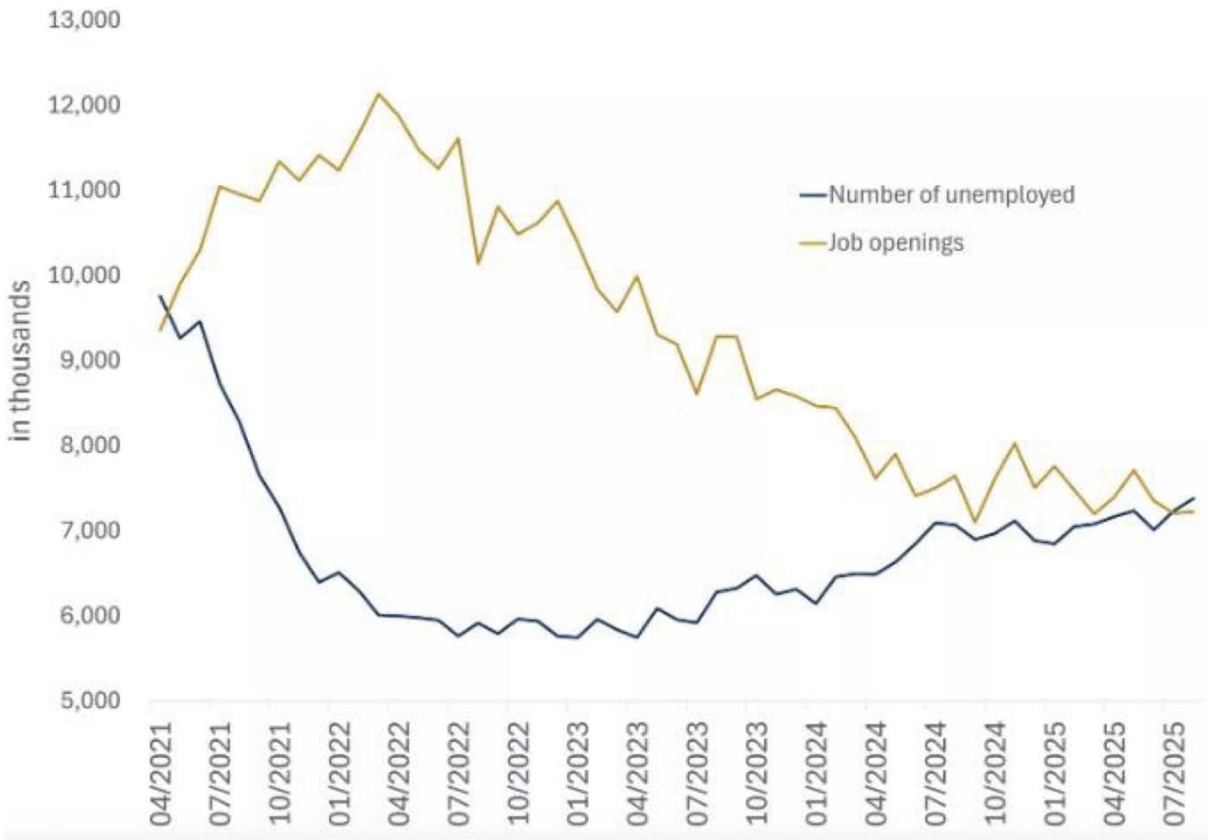
Economics

With Trump's policy objectives outlined above, the economic impacts in the US have, so far, been limited in the hard data (CPI, GDP, consumer spending), but more pronounced in soft data such as consumer and business sentiment.

The impact of tariffs on inflation has to date been more moderate than originally anticipated by many analysts. The Governor of the Federal Reserve stated "*We are open to the prospect of the inflationary impact being less severe than expected*." This is probably because the full impact of tariffs has not yet been fully passed onto the customer, with corporates wearing the price increase. This is an evolving situation with September inflation increasing to 3.0% annualised, above the Federal Reserve's target range.

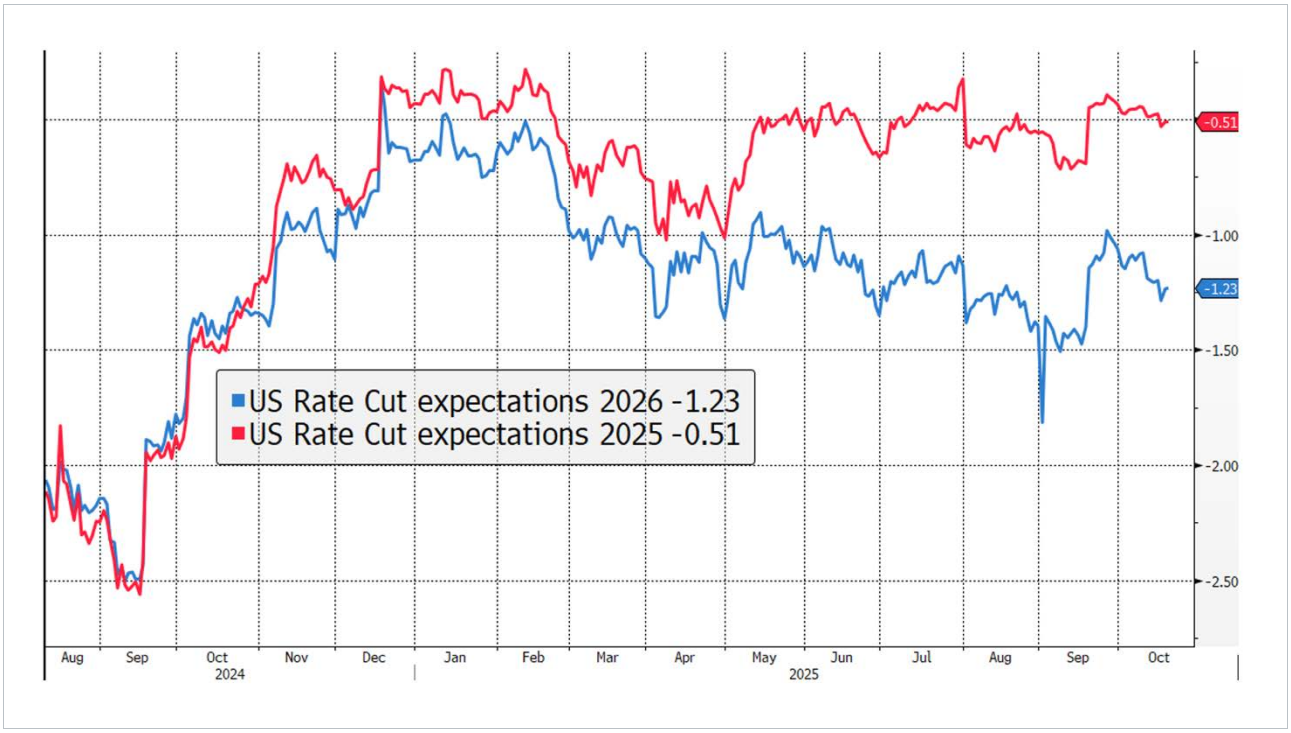
There are indications of weakness in the US labour market, which is now the greater focus for the Federal Reserve. Recent labour market data sees job seekers outnumbering job openings for the first time since early 2021 (see chart below).

Job seekers now outnumber jobs available



Source: Edward Jones

Chairman Powell made comment following the Federal Reserve's September meeting that "*downside risks to employment*" have shifted the balance of risks in the economy, leading investors to believe that the central bank is likely to remain on its easing trajectory, despite inflation remaining above target. The market is now pricing in five rate cuts by the end of 2026, with two of those in 2025.



Source: Bloomberg

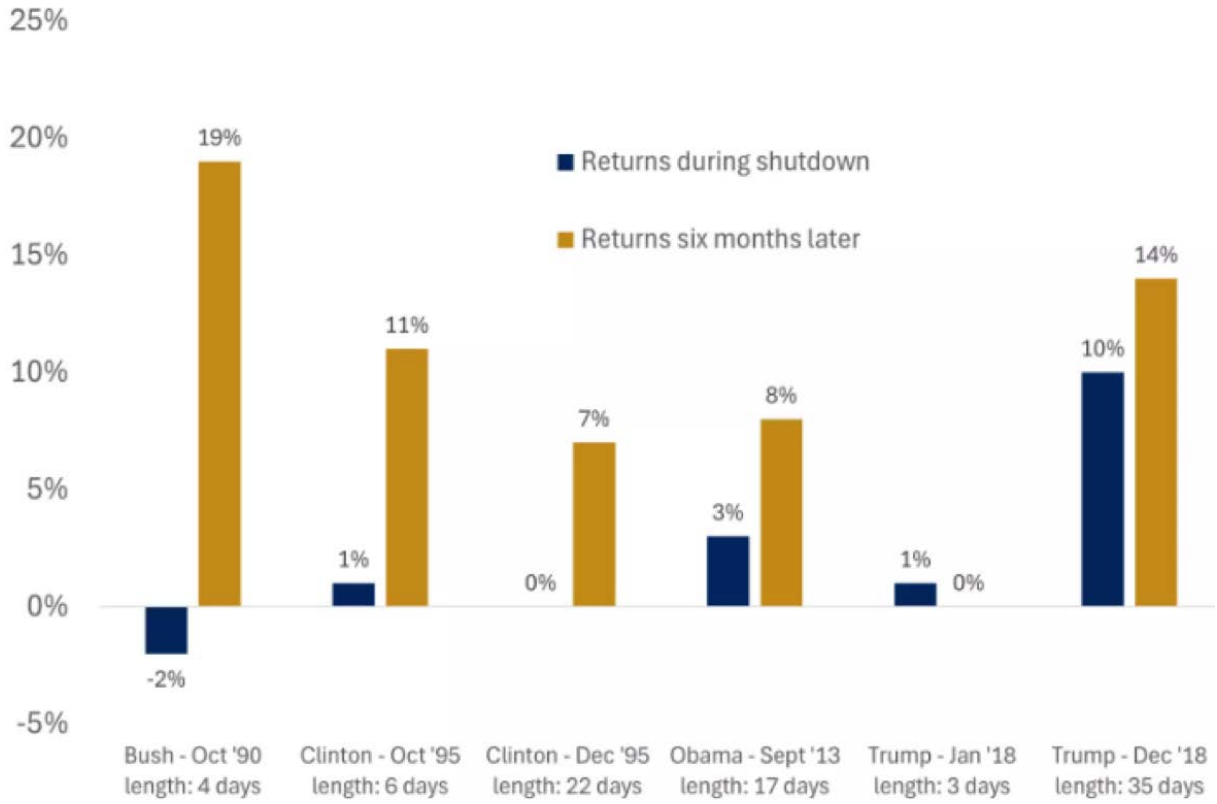
Trade and tariffs are still an area of focus, with China recently re-igniting tensions announcing restrictions on the export of rare earth metals, heavily utilised in tech sectors. President Trump responded with threats of applying a 100% tax on all Chinese exports to the US although shortly thereafter retracted the threat. Until resolved the threat remains relevant as the Tech sector is supporting the US growth outlook and importantly the load demand growth thesis underpinning the energy sector.

The importance of investment from the Tech sectors cannot be overstated. In a podcast interview by The New York Times[4], a Harvard Economist, Jason Furman, stated "AI is really showing up on the demand side. It's building those data centres, buying those microchips and, by my estimate, in the first two quarters of this year, 92% of the increase in demand in the US economy was due to just two categories in GDP — one called information processing equipment and the other called software". This was supported by other financial analysts. George Saravelos, Head of FX Research at Deutsche Bank tells clients that "AI machines – in quite a literal sense – appear to be saving the US economy right now… in the absence of tech-related spending, the US would be close to, or in, recession this year".

The US government is currently in a state of shutdown with negotiations to pass required funding bills at a stalemate between the Democrats and Republicans. This applies limitations on government spending, including the payment of wages to government employees. This could have negative impacts on economic growth and equity markets. Previous government shutdowns have resulted in weaker equity market returns as investors turn more risk averse, although markets have historically rebounded post resolution.

[4] *The New York Times: The next Economic Bubble is Here; Ross Douthat*

S&P 500 performance during and after recent government shutdowns



Source: Edward Jones

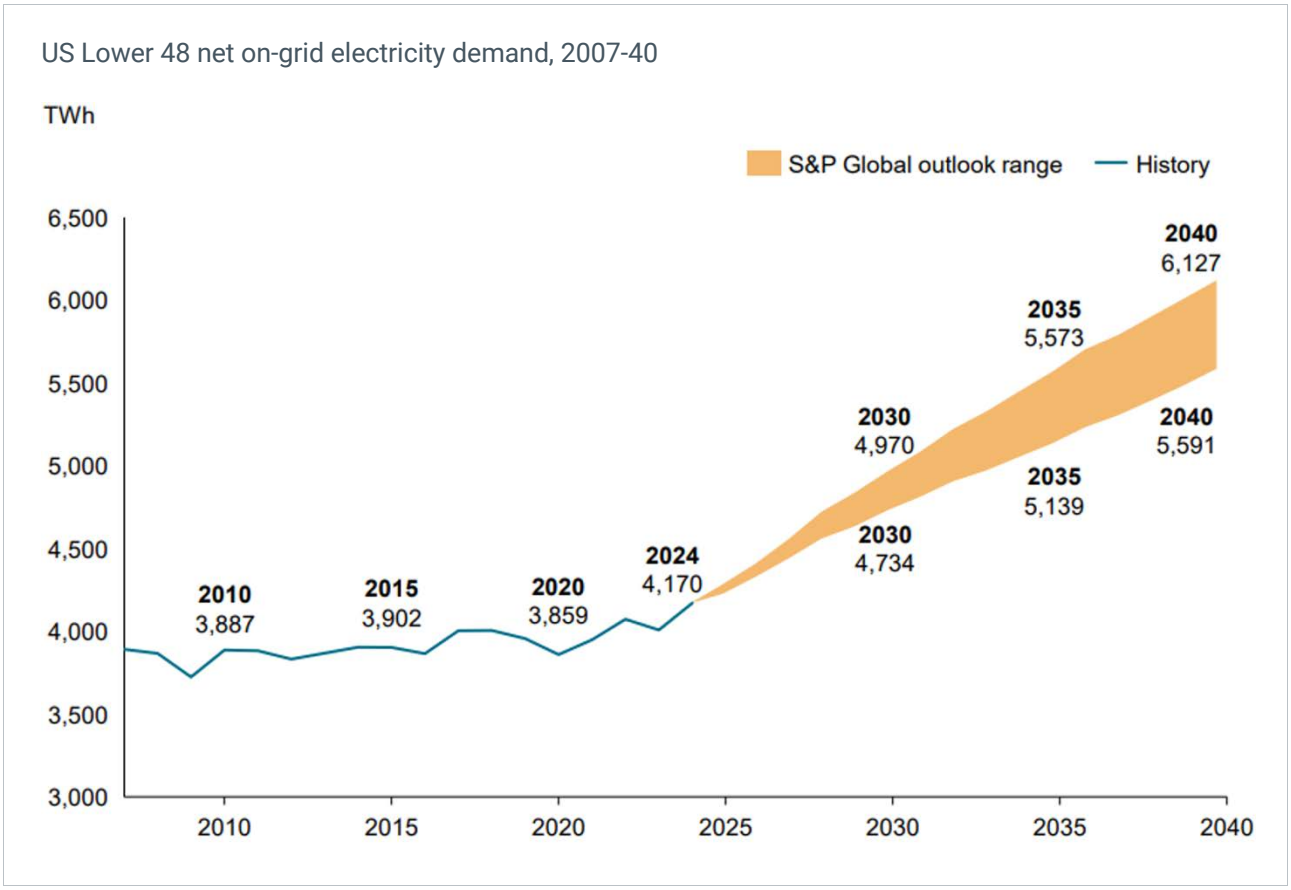
Electric and gas utilities

Is increasing load demand real and what are the implications?

As a result of industrial onshoring, electrification of industry, buildings, and transport and most significantly through the rapid development of data centres, power load is experiencing rapid growth, with expectations that this will accelerate at least through to the end of the decade. This dynamic provides a once in a generation investment opportunity for some exposed US energy operators which should translate into strong earnings growth.

Image: Large data centre load development in Wisconsin

From the mid 2000s to 2023, US power demand stagnated as higher energy efficiency offset demand growth from population and economic activity. Over the period 2016-2024 load demand growth across the US was just 0.5%. Over the last 12-18months, load demand expectations have rapidly accelerated in part supported by legislation such as the Bipartisan Infrastructure Law (+$1.2 trillion), CHIPS and Science Act (+$280 billion), and the Inflation Reduction Act (+$500 billion). While power load demand forecasts vary, a significant uptick is consensus[5].



Source: S&P Global Commodity Insights

This influx in load demand growth is positive for utility operators as it provides another driver of investment and rate base growth (supporting earnings) and if implemented correctly, is supportive of affordability for the existing customer base by sharing the fixed cost base of the network across a wider customer (and load volume) base. With affordability being a key prerogative of regulators, load demand growth reduces the risk of negative regulatory decisions.

One risk with load demand growth, specifically that delivered through large individual loads such as data centres, is that the incremental investment in generation and transmission needed to facilitate that demand should not be subsidised by the existing customer base (especially residential and small commercial customers). Just as importantly, existing customers and utility companies should not take the risk in subsidising investment to support a large load customer, in the scenario that the customer doesn't purchase sufficient load over the life of the investment (often 20-30 years) to fully finance the incremental investment need. This could be due to a change in strategy, or they may experience financial distress. This could have credit ramifications for utility companies.

[5] US grid operators' recent filings to FERC indicate a load demand CAGR to 2030 of 4.7% (up from 2.6%); where JP Morgan forecasts a CAGR of 1.8-2.8% over the same period[5]. Citi Research assume a 2.8% load demand CAGR over the next 15 years, with data centres contributing 0.9%

To avoid, or at least mitigate, the risks of cross subsidisation and credit risk associated with facilitating new large load demand customers, electric utility companies indicated that they are taking the following measures with those customers requesting load in excess of 20 MW – 50 MW.

- Filing a separate 'large load tariff' with respective regulatory bodies which shows that these customers will be financing their incremental supply needs through this tariff.
- Have the customer sign a contract with maturity upwards of eight years and take-or-pay provisions associated with the load.
- Require an ultimate parent guarantee, rather than just that of a subsidiary of the multinational tech firms.
- Require the posting of collateral or a line of credit as support for customer contracts.

The load demand opportunity is more pronounced for some utility companies than others, based on it affecting only certain parts of the US. The location of large load demand developments, predominantly manufacturing and data centres, is based on a number of factors. These include:

- The availability of affordable, large land parcels which can be zoned for industrial purposes.
- Access to reasonably priced power that can be deployed quickly - excess generation capacity is supportive of data centre desire for speed to market.
- Transmission capacity - to avoid excessive interconnection request timelines.
- Access to water supply for cooling purposes.
- Access to a telecommunications fibre network.
- Access to a highly skilled workforce.
- Any state based benefits which could be offered to attract data centre developments including land tax breaks/concessions.

Based on discussions with companies, the greatest load demand growth was occurring in southern states (such as Texas, Arizona, and Louisiana), Atlantic coast states (such as Virginia and Georgia), Midwest states (such as Indiana, Ohio, Wisconsin, Iowa, and Pennsylvania), and in the west (California and Oregon). There appears to be alternative markets where projects are being considered, but ongoing developments in these regions are less certain. A map outlining the location of developments follows.

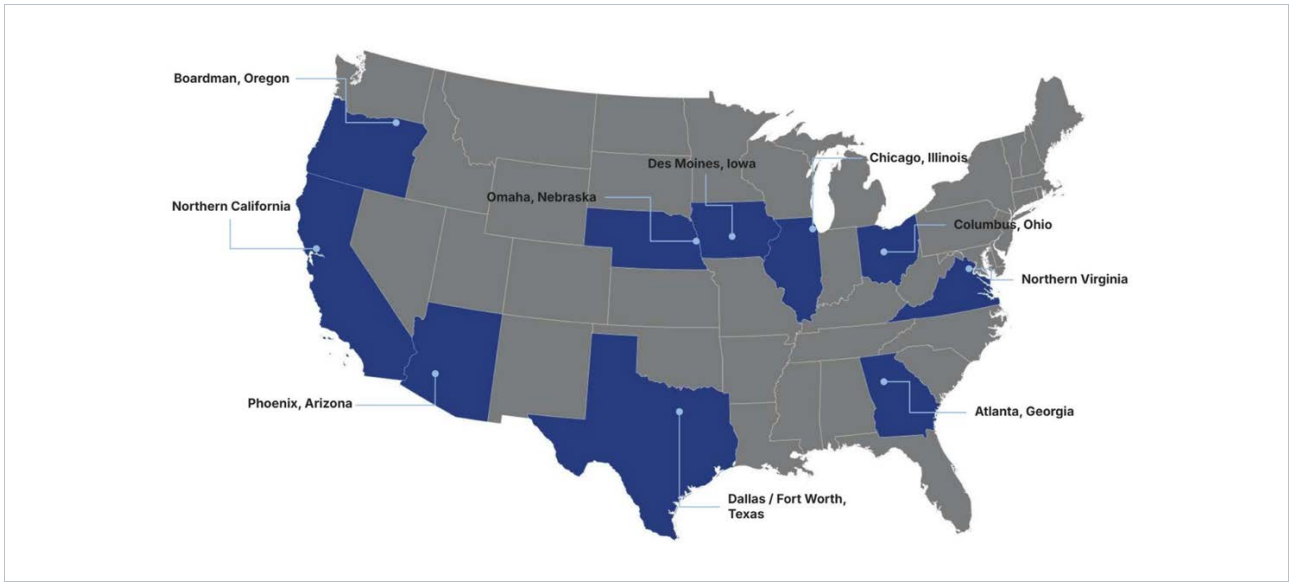


Image: Data centre development exposure

Utility management teams are aware that tech and data centre companies are likely engaging on development negotiations with multiple utilities at the same time, and that the aggregate of their load demand pipelines is likely to include significant duplication, and only an unknown proportion will materialise. Utilities were adopting different methodologies in communicating the load growth opportunity to the market and regulatory stakeholders.

- Some only communicated fully or highly contracted pipelines – the most conservative approach.
- Some risk assessed opportunities based on their level of development, and applied a weighting to the various groups, utilising technical 'Monte Carlo' methodologies.
- Some have adopted a base plan and then just speak to the long list of potential enquiries, irrespective of how improbable they are to eventuate.

We have a preference for utilities operating in core States, adopting a more conservative approach to load growth, offering upside to potential investment plans and earnings. These include NextEra Energy, Alliant Energy, American Electric Power, Southern Co, and Xcel Energy.

Power pricing and the supply mix

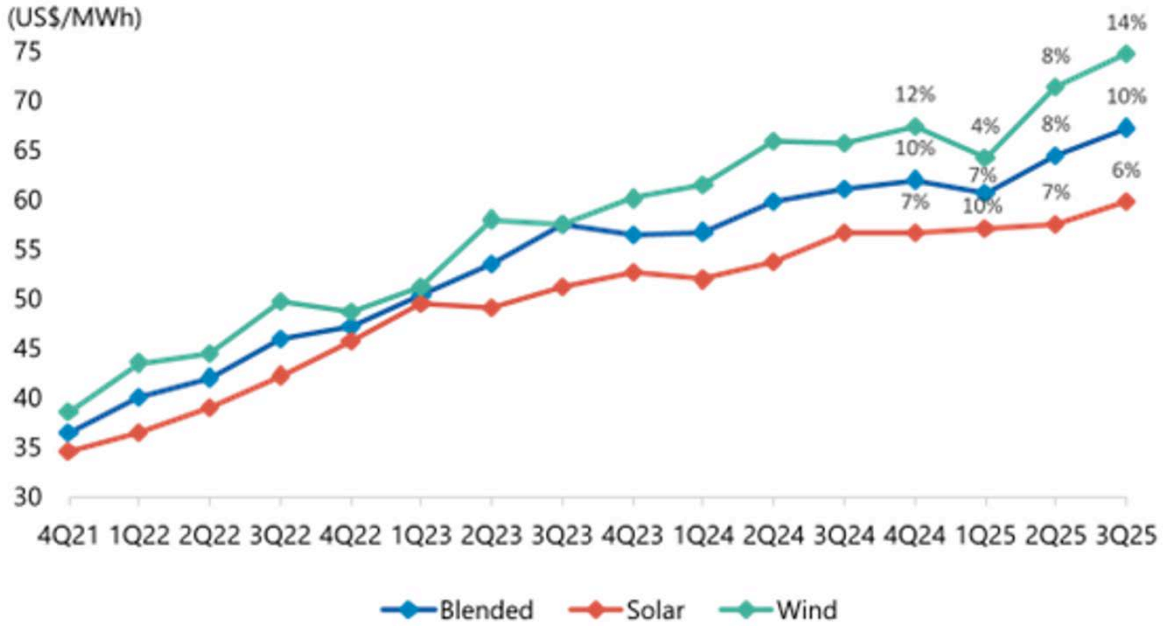
With rapidly increasing load demand, supply is struggling to keep pace. This has led to a significant increase in merchant and PPA power prices for all sources of power generation. This provides an investment opportunity for Independent Power Producers (IPP) such as NextEra, but can create affordability issues for customers of utilities who operate in some merchant power markets.

PPA pricing: With the demands of data centre power being 24/7, they generally require secure baseload (non-intermittent) power sources such as gas and nuclear. Tech companies, which own and operate data centres, also often have their own carbon abatement commitments which limit their ability to utilise fossil fuelled generation in the longer term. This extends the requirement to secure, green, baseload supply. This creates complications as no new nuclear facilities are being built in the US because of their high development cost. New hydro is not an option due to lack of investible opportunities, and renewable power, even with strong solar/wind resource (high capacity factors), is intermittent. Intermittency of renewables can be solved to some degree when paired with batteries, which can add four and eight hours of additional load time, or when combined with peaking gas generation, but the latter is not a long term solution. This tight capacity is supporting significantly increased PPA pricing:

- According to LevelTen Energy, national PPA prices for solar power have risen to approximately $57 per MWh by the end of 2024 (and continue to rise), an increase of approximately 108% from the start of 2021.
- Huatai Research believes that direct connection agreements between major tech players and nuclear power providers are priced at $100/MWh. Combined with a $20/MWh transmission fee, this results in a total cost of $120/MWh[6].
- Talen Energy's expanded PPA with Amazon for 1,920MW of nuclear power (Susquehanna plant) carries a $1.4 billion annual run-rate revenue at full capacity, translating to approximately $83/MWh assuming 100% utilization and excluding price escalators.

[6] Huatai Securities Research: ES May Be an Overlooked Path Amid AI-Driven Power Growth in US; 21/10/2025

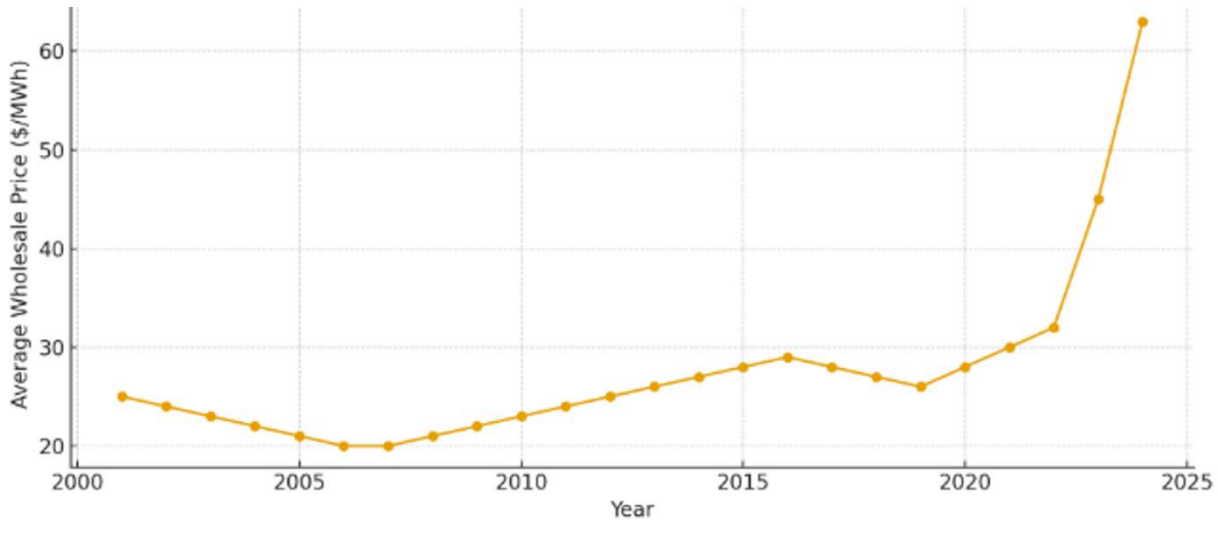
Exhibit 1 – LevelTen North America PPA Price Index sees continued upward pressure on offtake prices in 3Q25



Source: LevelTen and Jefferies Research

Merchant prices: Escalating load demand and a lack of new supply is creating pricing irregularities for merchant markets. The US Energy Information Association (EIA) publishes wholesale power market price information back to 2014. While there are dislocations across markets, overall prices are on an upwards trajectory in 2024 and 2025.

Illustrative: US Wholesale Power Price (Annual Average, $/MWh) (2001-2024)



Source: The EIA and 4D analysis

This data is supported by the recent PJM market capacity auction clearance price. The most recent clearing price was $329.17 per MW-day for the delivery years 2026/2027. This represented an increase from the same auction for the delivery year 2024/2025 of $28.92 – an approximate 15x increase.

The requirements of large load customers for firm, and preferably clean, supply is also driving changes in the power supply stack. Huatai Research provided the below table[7] outlining a significant amount of new gas generation capacity expected to be delivered by 2030. Despite there being multiple forecasts of how the supply energy stack will change in the period to 2030, it is clear that renewables, batteries and natural gas fuelled generation will be the major contributors to new supply in the US.

Coal-fired power plants retire in 2025/2026, and begin to halt retirement in 2027	2024	2025E	2026E	2027E	2028E	2029E	2030E
Supply side							
Apparent installations	**1,177**	**1,232**	**1,288**	**1,347**	**1,403**	**1,455**	**1,499**
Yoy	2.8%	4.6%	4.6%	4.6%	4.1%	3.7%	3.0%
Coal-fired power	174	166	162	162	162	162	162
Petroleum	29	29	29	29	29	29	29
Gas-fired power	508	511	513	518	528	543	559
Nuclear power	97	99	99	100	101	102	103
Normal hydropower	80	80	80	80	80	80	80
Solar	123	173	223	269	313	349	376
Wind power	153	160	169	175	176	176	176
Others	14	14	14	14	14	14	14
Pumped storage	23	23	23	23	24	25	25
Electrochemical energy storage	26	39	65	93	122	152	184
Assumed new supply	**29**	**51**	**55**	**65**	**66**	**68**	**61**
Coal-fired power	-5	-8	-3	-	-	-	-
Petroleum	-0	-	-	-	-	-	-
Gas-fired power	0	3	2	5	10	15	16
Nuclear power	1	2	-	1	1	1	1
Normal hydropower	-0	-	-	-	-	-	-
Solar	31	51	49	47	44	36	27
Wind power	5	7	9	6	1	-	-
Others	-0	-	-	-	-	-	-
Pumped storage	0	-	-	-	1	0	-
Electrochemical energy storage	10	13	26	28	29	30	32
Effective installations (GW)	**889**	**904**	**925**	**952**	**984**	**1,018**	**1,051**
YoY	0.9%	1.6%	2.3%	3.0%	3.3%	3.5%	3.3%
Coal-fired power	157	149	146	146	146	146	146
Petroleum	24	24	24	24	24	24	24
Gas-fired power	457	460	462	466	475	489	503
Nuclear power	90	91	91	92	93	94	95
Normal hydropower	54	54	54	54	54	54	54
Solar	25	35	45	54	63	70	75
Wind power	38	40	42	44	44	44	44
Others	13	13	13	13	13	13	13
Pumped storage	22	22	22	22	23	24	24
Electrochemical energy storage	10	16	26	37	49	61	74
Effective installations (GW) - barring electrochemical energy storage	879	888	899	915	935	957	978
YoY	0.0%	1.0%	1.2%	1.8%	2.2%	2.3%	2.2%
Demand side							
Peak load in the US	**745**	**760**	**775**	**791**	**807**	**824**	**841**
YoY	0.4%	2.0%	2.0%	2.0%	2.1%	2.1%	2.1%

Source: The EIA, GEV, BNEF and Huatai Research

[7] Huatai Securities Research: ES May Be an Overlooked Path Amid AI-Driven Power Growth in US; 21/10/2025

Affordability is always a concern

Despite the benefits that load demand brings for customer affordability, when implemented optimally, affordability is still a concern for customers, legislators and regulators. The key method to support affordability, within a utility's control, is by maintaining, and even reducing O&M expenditures which are passed on to customers in bills. Management teams have flagged process optimisation and technology adoption as being key avenues to drive O&M efficiencies.

Affordability of customer bills can be measured in different ways. They can be measured as annual growth in customer bills, the relative cost per unit of power (compared on a regional or national basis), the relative cost of the average customer bill, or the ratio of the average customer bill to the average customer earnings (proportion or earnings). Companies indicated different methods of measuring affordability were adopted by their respective regulatory commissions. For example, companies in Michigan outlined that regulators were focused on minimising the growth in average bills over time, where regulators in warmer southern states (where power volume usage is higher due to greater cooling requirements) were focused on relative power unit rate levels. Below is an extraction from Barclays Research in which they undertake their own assessment.

Ticker	State	3Yr Average Residential Rate (cent/kWh)	Total Residential Sales (TWh)	Residential Customer Count	Average Customer Usage (kWh/month)	Average Customer Bill ($/month)	Median Household Income ($/year)	Wallet Percentage (%)
ETR	LA/AR/TX, etc	12.4	36.3	2,596,043	1,166	145	64,693	2.7%
SO	GA/AL/MS	15.4	49.3	3,919,624	1,047	161	74,400	2.6%
NEE	FL	14.1	70.9	5,287,101	1,118	157	75,630	2.5%
OGE	OK/AR	11.7	9.9	768,341	1,071	126	65,276	2.3%
PNW	AZ	15.2	15.6	1,256,120	1,034	157	84,700	2.2%
HE	HI	44.1	2.3	472,536	405	179	98,240	2.2%
AEP	OH/OK/VA, etc	15.0	36.6	3,866,826	790	119	75,070	1.9%
D	VA/SC/NC	14.1	39.0	3,188,589	1,019	143	91,828	1.9%
PCG	CA	34.9	27.2	5,047,462	449	157	100,600	1.9%
NI	IN	18.0	3.4	428,844	662	119	76,710	1.9%
DTE	MI	19.4	15.1	2,067,758	610	118	79,460	1.8%
CMS	MI	18.7	12.5	1,657,843	628	117	79,460	1.8%
PPL	PA/KY/VA	14.7	18.6	2,154,127	719	105	72,041	1.8%
DUK	NC/FL/IN, etc	14.1	65.3	7,409,922	735	104	72,973	1.7%
EVRG	KS/MO	13.3	15.7	1,468,313	892	118	84,016	1.7%
POR	OR	15.7	7.7	809,573	796	125	89,700	1.7%
WEC	WI	17.7	10.8	1,493,175	603	107	82,560	1.6%
IDA	ID/OR	11.4	6.0	539,849	921	105	81,902	1.5%
AGR	NY/ME/CT	19.8	13.9	2,051,002	565	112	89,291	1.5%
NWE	MT/SD	13.4	3.4	368,037	760	102	81,576	1.5%
ED	NY/NJ	30.5	14.0	3,403,241	342	104	87,676	1.4%
AEE	MO/IL	13.2	18.3	2,156,513	708	93	80,082	1.4%
OTTR	ND/MN/SD	11.0	1.2	105,692	926	102	89,144	1.4%
AVA	WA/ID/AK	10.9	4.2	361,606	965	105	92,113	1.4%
BKH	SD/CO/WY	15.9	1.5	192,186	638	102	90,690	1.3%
EIX	CA	29.8	19.5	4,599,981	354	105	100,600	1.3%
XEL	MN/CO/TX	14.9	25.7	3,321,140	645	96	94,118	1.2%
AES	IN/OH	13.8	6.5	945,460	573	79	77,563	1.2%
ALE	MN/WI	14.5	1.1	138,968	641	93	91,566	1.2%
MDU	ND/MT/WY	11.4	1.1	119,261	766	87	85,790	1.2%
EXC	IL/PA/MD, etc	16.2	57.3	8,343,744	572	93	93,221	1.2%
PEG	NJ	18.9	13.3	2,056,231	541	102	103,500	1.2%
SRE	CA	42.3	3.9	1,499,139	219	93	100,600	1.1%
ES	CT/NH/MA	28.3	11.4	2,910,129	326	92	104,168	1.1%
FE	OH/NJ/PA, etc	14.3	36.9	6,000,000	512	73	85,918	1.0%
TXNM	TX/NM	15.1	3.4	834,000	339	51	64,140	1.0%

Source: Company Data; Bureau of Labor Statistics; Standard & Poor's; Barclays Research
Table: Relative affordability – assessed by average bill as proportion of median household income

Some utilities, largely experiencing strong load demand growth, have made commitments to regulatory bodies to stay out of rate cases for periods of up to four years. This commitment keeps customer bills stagnant for that period. Examples of this include:

- **Alliant Energy** committed to keeping bills constant in Iowa until 2029. They will endeavour to earn the allowed regulatory return on investment through the anticipated load growth coming within the region.
- **Southern Co** adopted an Alternate Rate Plan (ARP) in Georgia which keeps bills flat for the upcoming three year regulatory period covering 2025-2028.
- **PPL Corp** included a clause within its most recent rate case settlement with stakeholder groups in Kentucky, to not file another rate case until August 2028.

These commitments are appreciated by regulatory bodies, provide certainty of bills for customers, and allow companies to focus on execution by maintaining O&M expenses and delivering on anticipated load growth from large customers.

State legislative support for utilities

A number of states passed legislation in 2025 which is supportive of utility companies, specifically their ability to recover investment efficiently. Legislative changes have been largely the result of utility companies successfully lobbying their need to efficiently recover investment and earn a reasonable return while outlining the economic benefits for states.

Without efficient recovery of investment, utilities find it more difficult to raise needed capital to finance investment to facilitate large load customers. These customers such as manufacturing facilities, industrial operations and data centres have economic benefits for states in which they develop and operate. Examples of such legislation changes include:

State	Legislation	Description
Texas	HB 5247	Allows qualifying electric utilities to apply for interim rate adjustments annually through 2035. Defers costs associated with eligible T+D capital investments placed into service during period covered by Universal Tracker Mechanism (UTM) filing. Expected to improve achieved equity returns by 50-100 bps.
Texas	HB 143 HB 144 HB 145	All wildfire related pieces of legislation. Allows for de-energisation of wires under fire related circumstances. Requires utilities to file a wildfire plan with the Texas commission annually – supports prudency test. Explicitly allows utilities to self-insure for wildfire risk in certain circumstances.
Oklahoma	SB 998	The Oklahoma commission must permit utilities to begin charging customers for construction costs of a new, or expanded, natural gas generation facility before commercial operation (Work in progress included in rate base). No indication of the expected improvement in regulatory recovery, but gas generation should be a significant driver of investment.
Ohio	HB 15	Ended certain investment recovery 'riders' on utility bills (including for aging coal plants), and replaces them with a new multi-year regulatory framework with forward test year (cost basis) and true-up provisions for rate cases. Expected to deliver greater regulatory efficiency, greater transparency, and improved achieved utility returns.
California	AB 254	Expands the state's existing Wildfire Fund by creating an $18 billion 'Continuation Account' to bolster wildfire liability claim payments for utility-caused fires. $9 billion contribution from the three investor owned utilities and $9 billion from a charge on customer bills over 10 years. Split of the $9 billion utility contribution to the fund: PG&E 47.85%; Edison International 47.85%; and SDG&E 4.30%. Other bills supported general wildfire management by state financing vegetation management.

Balance sheet and asset sales

With investment needs of utilities stronger than ever, utility management teams are cognisant of the need to simultaneously maintain a healthy balance sheet. This is to ensure access to reasonably priced debt capital markets. There are two components to this:

1. Ensuring strong cashflow generation – with FFO / Debt being a key metric utilised by Ratings Agencies (S&P, Moody's, Fitch) in determining credit quality and the ratings of companies, the numerator (operating cashflow) is a key determinant of financial health. Utility companies ensure strong operating cashflow generation by achieving healthy regulatory returns on investment – that is maintaining costs, achieving constructive regulatory decisions, and ensuring efficient recovery of investment.
2. Maintaining reasonable debt levels – the focus is on not over-utilising debt financing. Alternative forms of financing include cashflow generation, raising equity, and potentially through business/asset sales.

The first point above is why companies are focused on achieving constructive regulatory outcomes, and pushed for legislation changes, often to improve their ability to efficiently recover investment. The second point has led to some companies undertaking asset/business sales as long as attractive valuations can be achieved on the sales. Companies try to avoid equity issuances where possible as the share dilution associated with the issuance impedes Earnings per Share (EPS) growth, which is a key focus for shareholders.

Examples of companies who have undertaken asset/business sales include:

- Sempra – On 23 September 2025, Sempra announced the sale of an additional 45% stake in their Sempra Infrastructure Partners (SIP) to KKR for $10 billion (company retains 25%). The valuation represented an attractive 13.8x EV/EBITDA. The sale proceeds will be received on a deferred basis with the first $4.7 billion in proceeds received on closing, and an 8% return being earned on the remaining stake. Management outlined that the proceeds would be used to finance regulatory investment, predominantly in the Oncor (Texas based) business. They suggested that KKR made two offers with a higher valuation for the 45%, and a lesser one for a smaller stake. They also outlined that deconsolidating SIP through the larger stake sale would be supportive of an improved credit categorisation of Sempra.
- CenterPoint Energy – When meeting management, they outlined that they were open to divesting all of their businesses other than the Houston electric utility, and that they were in the process of a potential sale of their Ohio-based gas utility business. On 21 October 2025, post trip, CenterPoint confirmed the agreement to sell the business for $2.6 billion (EV / rate base (2024) of 1.9x). The valuation was not as attractive as their previous gas utility divestitures but provided necessary proceeds to finance the significant investment needed in their Houston electric utility.

With load demand requirements driving utility investment to all time high levels, we anticipate the potential for further asset and business sales to efficiently finance this investment. We are supportive of divestitures as long as valuations realised, and utilisation of the capital, creates shareholder value.

Midstream

Load demand driving gas demand

With most large load demand growth requiring baseload energy capacity, and speed to market being a focus for data centre developers and operators, natural gas presents itself as an attractive generation source over the medium term (until baseload clean energy is readily available). Some analysts believe gas will increase its market share as a fuel source for power generation. The combination of increasing power supply to meet demand, and increasing market share of gas as a fuel source, provides an attractive investment opportunity for midstream companies in providing the connection between gas supply basins, and gas powered generation facilities.

The strategy adopted in partaking in the provision of gas varies by midstream company.

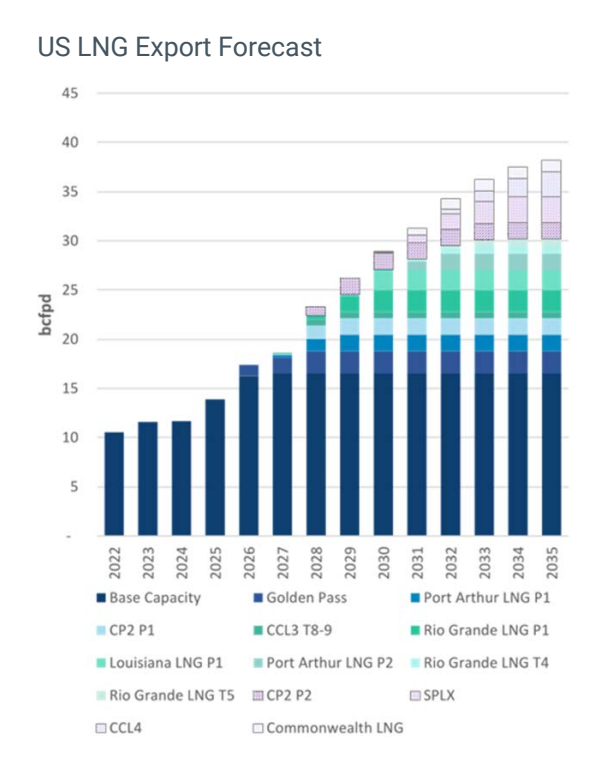
- **DTM and Kinder Morgan** are maintaining the traditional midstream strategy in augmenting their existing network footprint to make connections to growing gas supply basins, such as the Permian, Haynesville and Marcellus/Utica, as well as demand centres. This strategy minimises permitting risk and requires minimal capital – resulting in higher investment returns.
- **Oneok** have announced new, greenfield pipeline developments. These projects are more capital intensive, have higher execution and permitting risk, and generally have lower associated returns on capital. The benefit of these developments is that they are large and can deliver strong earnings growth, and can provide new strategic connections which could develop into more organic opportunities in the future.
- The natural gas focused midstream company, **Williams Co**, has announced deals in which they provide gas supply to a gas generation facility that they will develop and operate. The power from this generation facility will deliver power to an on-site data centre operation. Williams Co is utilising gas driven turbine inventory that they have available for pumping stations. The company has communicated the expectation for attractive investment returns, albeit it seems like a step out of their field of expertise which could bring operational risk.

Irrespective of the approach adopted, the generation load demand dynamic and the need for incremental gas generation, are providing a strong growth opportunity for gas focused midstream companies.

Liquified Natural Gas (LNG) supply

The additional investment opportunity presented by growing load demand in the US complements the existing drivers of investment for the natural gas focused midstream sector. One of the existing drivers of natural gas demand growth is utilisation in large Liquified Natural Gas (LNG) developments. LNG developments have been in the US since the early 2010s when the US started exporting gas to overseas markets, mostly Asia and Europe. The size and number of LNG facilities has grown since then, and the US is currently in the midst of a development cycle with a number of new facilities at various stages of development.

These LNG facilities use large volumes of natural gas and so the current development cycle of projects is expected to further drive a step change in natural gas demand. The chart below indicates projects which are under construction, have achieved their Final Investment Decision (FID) and are pre FID (in dotted border).



Source: Jefferies Research

The above indicates the potential for +20 bcf/d of incremental load demand from LNG facilities by 2035. This would more than double the existing capacity across the US. This is a further driver of gas demand in the US.

Support for permitting of new pipes

A historical impediment to the development of transportation pipeline infrastructure in parts of the US has been difficulties in getting Federal and state based permitting and thereafter navigating judicial impediments from various stakeholder groups – usually focused on issues such as environmental, indigenous and NIMBY (groups representing local residents concerned that infrastructure projects will upset their local amenity).

In campaigning for the Presidency, Trump adopted the tag line "drill baby, drill", and suggested that he would support the oil/gas industry by reducing the overly bureaucratic review of pipelines. In January 2025, Trump declared a national energy emergency, directing federal agencies to utilise all available emergency authorities to facilitate the production of domestic energy resources. This directive represents a dramatic push to remove regulatory barriers and expedite critical infrastructure projects such as pipelines[8].

Through Executive Order the administration directed Federal agencies (such as FERC) to review and reform existing permitting processes to reduce delays and regulatory hurdles. In addition, Trump directed the Environmental Protection Agency (EPA) to rescind the current social cost of carbon methodology, removing a major impediment to pipeline consideration.

Midstream companies felt it was increasingly likely that greenfield pipelines would be developed, especially in the Northeast of the US. FERC pipeline approval submissions are being scrutinised less and completed more quickly, and the assessments undertaken by the US Army Corp of Engineers for pipeline projects that affect waterways has been expedited from up to two years, to a matter of months.

OPEC and crude pricing

Some midstream companies service customers focused on the production of crude oil. Albeit these midstream companies are rarely directly exposed to crude prices, they are often indirectly exposed through the associated gas volumes that are transported on their pipelines, and more commonly through their gathering and processing (G&P) networks. When global crude prices are relatively low (currently WTI is just over US$60/Bbl as at 23/10/2025), US producers operating in basins with lower quality economics will plateau or even reduce production of crude, resulting in reduced associated gas volumes on the midstream company's assets. Crude producers that operate in higher quality economic basins will usually have a lower price threshold at which they start to reduce production – meaning it is less likely that the midstream company servicing the producer will experience reduced volumes.

In our published paper *Global Matters 25: The impact of the oil shock on North American midstream assets,* we outlined how global demand for crude combined with the OPEC decision regarding supply levels, influences global crude prices. With current concerns for the global economy, including China which is a key consumer of crude, there is a headwind to global crude prices. To the degree that OPEC maintains production, there are fears that crude prices could take a further step down around the US$50/Bbl range. This level of pricing would make production uneconomic in some crude directed basins across the US.

[8] Seyfarth: Navigating the New Energy Landscape: Key Takeaways from Trump's Recent Executive Actions; 12/02/2025

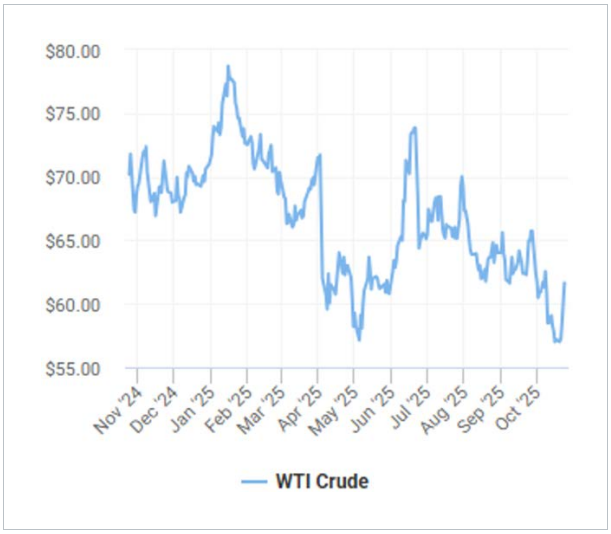


Image: WTI crude pricing history as at 24/10/2025

In discussions with midstream companies which service crude producers, we received mixed views regarding certainty of volume expectations, asset utilisation, and therefore earnings, into 2026. Targa Resources (Targa) transports associated gas out of the Permian basin, which is one of the most economic crude focused basins in the US, and potentially the world. Management outlined that they were very confident regarding associated gas volumes, and their own asset utilisation, for 2026 based on their discussions with major producer customers such as Chevron, Exxon, and Pioneer. These producers engaged Targa because they need greater associated gas processing and transportation capacity in 2026 based on their own crude production plans in the Permian basin, that Targa services. Albeit Targa haven't provided 2026 earnings guidance as yet, following our meeting they did announce two new processing plants and an increase to pipeline capacity, in their confirmed investment pipeline. This portrays confidence in producer activity in 2026 and beyond.

Unlike the experience of Targa, other midstream companies servicing crude producers outlined a lack of visibility into customer production and therefore expected utilisation of their assets in 2026.

Telecommunications towers

There are only three US based telecommunication tower companies in 4D's investment universe. We visited Crown Castle (CCI) in Houston on this trip.

Strategic repositioning

Having announced the sale of its small cells and fibre business segment to private investors in March 2025, much of the conversation with CCI management was regarding the ongoing strategy as a pure play, US towers focused company. The CCI Board appointed a new CFO, Sunit Patel, in March 2025 (around the time of the announced small cell sale), and then a new CEO, Chris Hillabrant, in August 2025. Understanding the new management team's plans for the restructured CCI business is key in understanding the investment proposition.

CCI management discussed the rationale for the sale of the small cells and fibre business segment for $8.5 billion. They outlined that despite their view that the small cells investment proposition is sound, it was more capital intensive than the towers business, was not appreciated by the market and was taking some time to develop multiple customer tenants – a requirement to earn attractive returns. When activist investor, Elliot, took a shareholding in the company agitating for a sale, the Board was pressured into undertaking a strategic review and the ultimate decision to exit. We believe this was the right decision.

Image: Small cells attached to the top of a ground keepers shed in downtown Houston

Going forward management are looking to 'right size' the business as a towers-focused entity, drive cost efficiencies and improve customer service. This strategic focus on the towers operations is supported by the appointment of the new management team, who are perceived as better equipped to execute on this mandate.

Mobile Network Operator (MNO) activity

The major MNO customers of the US towers companies are AT&T, T-mobile and Verizon, with EchoStar (acquired DISH) playing a lesser role. These MNOs have spent over $100 billion on C-band (or 5G) spectrum in auction processes over2021/2022. Following these auctions, they rapidly invested in the roll-out of updated antenna technology on tower assets to facilitate delivery of 5G to customers. That initial roll-out to establish 5G coverage is now coming to completion.

The next phase of investment, which some of the MNOs have begun, is the densification of coverage. This is to support higher frequency 5G spectrum, which can transmit greater data volumes. This supports faster downloads, high frequency streaming, virtual reality applications, autonomous robots and drones, autonomous vehicles and other Gen AI applications. This densification increases tenancy on CCI's towers network (multiple customer antennas on a single tower), which drives organic earnings growth for CCI and other towers companies. CCI management outlined that they were starting to experience a ramp up in densification requests from the MNOs, driven by cutting edge Gen AI applications. This creates optimism for earnings and cashflow growth in the sector, which had been stagnant for the past couple of years.

Image: An automated food delivery device from UberEats which drive 5G data requirements

Is Elon a risk to the towers industry?

Elon Musk's Starlink announced the acquisition of EchoStar's AWS-4 and H-block licenses for $19 billion. These represent mid-band spectrum around 2 GHz. This spectrum gives Starlink terrestrial authority for building a hybrid network that blends satellites for wide-area coverage, with terrestrial small cells for capacity.

Starlink's strategy is not to deliver headline speed, as even Starlink's low earth orbit (LEO) is too far from customers to transfer high frequency spectrum for larger data volumes. Instead, the value is in reliability and continuity. A customer can send a message, complete a voice call, or complete a transaction even when outside terrestrial coverage. The addition of AWS-4 spectrum enables Starlink to extend this beyond pilots into a scalable commercial platform[9].

The Starlink platform is therefore not perceived as a competitor to the existing tower/MNO wireless model, but rather a wholesale complementary service to customers, which can be sold via the MNO retail networks.

Summary

The next wave of technological advancements such as Gen AI, cloud computing, data centres and technological manufacturing is providing a once in a generation investment opportunity for some US infrastructure sectors. The investment opportunities for gas and electric utilities, gas focused midstream companies, and even towers companies are extensive. The increasing need for power and data capacity doesn't apply equally to all, and there are instances where we believe the market is overestimating earnings growth, and overstating valuations of some companies. Through our discussions with companies we look to identify the best placed companies within these sectors with the ability to capitalise on the opportunity set afforded to them and deliver earnings growth and value upside.

[9] RCR Wireless News: Starlink's $19 billion spectrum play (Analyst Angle); *Vish Nandlall*; 11/09/2025

Our views on specific US infrastructure sectors can be summarised below.

- **Electric and gas utilities**: It's clear that the load demand dynamic is a structural thematic that should support investment and earnings growth through at least this decade. However, load growth doesn't support all US utility companies equally. We like those companies with underappreciated growth potential, lower affordability concern and regulatory risk, supportive regulatory environments, strong relative cashflow, and healthier balance sheets. We currently favour NextEra Energy, Alliant Energy, Dominion, American Electric Power, Southern Co, and Xcel Energy.
- **Midstream**: Due to the likely increase in natural gas demand from power generation and export LNG facilities, the fundamentals of growth for gas focused companies is strong and the trip reiterated our positioning. By contrast midstream companies that operate in crude focused basins are more exposed to global drivers of demand/supply for crude through the indirect price impact. That exposure varies depending on the economics of basins in which individual companies operate. We remain cautious in our assessment of these companies.
- **Telecommunications towers**: We are optimistic regarding the potential for increased MNO activity driven by the need for increased density of service to support mobile data demands. This should drive organic earnings and cashflow growth well into the future.

We maintain a diversified portfolio of high-quality infrastructure names globally, and believe that specific names in the US currently offer an attractive mix of quality and value, with the load demand growth dynamic, and attractive valuations supporting potential returns.

For more insights from 4D Infrastructure, visit 4dinfra.com

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