BofA SECURITIES

US Utilities & Clean Tech

2024 Utilities, Power, & Clean Energy Conference: What We Learned So Far

Industry Overview

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Equity
United States
Utilities & Clean Tech

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Utility sentiment is weak but power springs eternal

We hosted our first two days of our three-day Utilities, Power & Clean Energy Conference in New York City with a large and diverse group of participants. We include highlights of our Monday and Tuesday meetings in the full report.

Data Center Galore: Power interest at a fever pitch

Investor and corporate conversations remain squarely focused on the implications of load growth and who can best capitalize on the benefit. The independent power producers (IPPs) with uncommitted merchant capacity are the clear beneficiaries: Constellation Energy (CEG), PSEG (PEG), Vistra (VST), NextEra Energy (NEE), and Dominion Energy (D). The IPPs appear keen to replicate what Talen Energy (TLNE – Not Covered) was able to achieve; however, the timeline for public announcements appear to be more protracted. See our sector readthroughs here. The in-service timelines for new data centers appears to be at least two years with demand growth principally in 2026+. Behind-the-meter solutions on a range of assets (i.e. natural gas and not just nuclear) are the conversations that generation owners appear to be having the most. For Vistra, the dual unit Comanche Peak appears to the be the priority but existing natural gas combined cycles are very relevant. PEG's effective three reactor 'site' of Salem 1 & 2 (57% owned by PEG and 43% by CEG) and Hope Creek proves to be an even more interesting angle given redundancy considerations and excess land that had been earmarked for expansion. Vistra has experience with its crypto mining customer Cipher (CIFR – Not Covered) at the Odessa site, proving intelligence. Renewable developers like NextEra Energy (NEE) are not to be forgotten too with NEE having made small direct data center investments a few years ago to learn more about the operating profiles.

(Gas) Generation is in vogue. But who will build it?

In a separate but related topic, the increasing tight grid conditions are prompting discussions between regulated utilities, their states, and independent system operators (ISOs) about potential solutions. From Texas to the Mid-Atlantic (PJM) there is an increasing recognition that that the wholesale markets (energy, capacity, ancillaries, etc.) may not be sending the appropriate ***durable*** investment signals necessary to attractive equity capital. We received the impression from more than one regulated utility operating in PJM that they would be open to building new generation if the appropriate contract/regulatory construct was present. See background from our recent regulatory meetings here: NARUC 2024: Reliability, affordability & re-regulating PJM generation

IPP: Independent power producers
IOU: Investor owned utilities
PSPS: Public Safety Power Shutoff
PJM: PJM Interconnection (mid-Atlantic grid)
ISO: Independent system operator
IRA: Inflation Reduction Act

Wildfire mitigation plans are back to top of mind

Nearly every utility meeting we attended included an investor asking detailed questions about operational, regulatory, and legislative profiles probed. Xcel Energy (XEL) has now underperformed its regulated utility peers -20% in just ten trading days, wiping away ~$6Bn market cap in short order. In general we were surprised at how few companies have Public Safety Power Shutoffs (PSPS) programs and similar best practices from the California investor owner utilities.

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Key Themes

We include takeaways on a range of key read-thrus.

- **Wildfire fear spread to peers:** We note an expanding set of conversations on wildfire readiness across the US with a focus on the West. Note investors are asking for both 1) Wildfire mitigation plans that have been formally filed *and* accepted by regulators; 2) a formal and approved Public Safety Power Shutoff (PSPS) plan from utilities to regulators to address future grid plans. For Texas we note the wildfire mitigation plan is part of the wider emergency planning process before the PUCT and is not a formally approved process by the PUCT. We believe resiliency spending could yet be revised higher in formal filings in April this year as expanded fire mitigation is expanded – watch PNM on this front.

  On Xcel, we note damage assessments have actually declined for structures damaged down to ~350 from earlier fears of upwards of 500 in the Smokehouse Creek fire (only ~37% contained) per the March 5th press conference with the Governor's task force. We see this as a small positive datapoint.

- **DOE funding is nearing:** We see real enthusiasm growing across the sector for prospects of DOE-enabled loans across the utility sector. With the spreads enabled under these loans as cheap as T+3/8, this would be a remarkable savings vs traditional investment-grade debt issuance for utilities and help mitigate the impact of higher rates on consumer bills and earnings. Watch SO as a potential meaningful recipient with ~$20 Bn of application pending, alongside PCG at ~$7 Bn. On balance, stay tuned for other meaningful applications to move into finalization thru 2024. This is likely an underappreciated avenue for many as the timeline remains compressed, with expectations for finalization of many of these applications prior to YE24. We could see this play more materially into EEI-timelines this Fall for updates across the sector.

- **Data Centers:** focus remains, but there is a clear and present pushback growing among regulators and regulated utilities to ensure they are paying their 'fair share' in supporting new generation investment. Worth keeping in mind that historically many industrial tariffs offered have been viewed as economic development incentives to bring new businesses to communities with a multiplier effect. Considering the muted economic benefit of a data center, we see an evolution in how these tariffs are being viewed. Watch carefully for evolution of utility tariffs in coming months raising industrial tariffs. It is difficult to characterize as a singular c/kWH estimate considering the fixed and variable nature of the bill (with the bulk of the increase likely tied to the fixed portions of the bill due to outsized ratebase generation investments needed).

Power Market Discussions

We met with an array of participants in the Power sector including PJM's EVP Stu Bresler as well as ERCOT's CEO Pablo Vegas. We present our latest thoughts:

- **Reliability front and center:** PJM and ERCOT have both been squarely focused on efforts to improve their respective grids.

- **PJM: no capacity reforms to come for now.** Don't look for any further petitions to FERC after they were summarily rejected earlier. Watch now instead for the level of Market Seller Offer Cap (MSOC) exemptions to increase. On balance, we are watching for potentially dramatic increases in capacity prices in just a few short years. Still not holding out for any meaningful improvements in pricing thru the medium term.

- **PJM: energy market reforms ahead:** Stay tuned on yet another round of energy market reforms to create greater reserves in daily operating markets as well as attempts to enable greater gas-electric coordination in committing power assets on a multi-day basis. Expect this reform to go out to FERC for approval in the late Summer/Fall for implementation as soon as this Winter.

- **Texas Energy Fund:** Appears to be having ready success despite initial fears this would not be funded. This is constructive to competitive markets and incumbents. We had feared lack of action this year would result in further legislative action in 2025. Watch for formal proposals in coming weeks

- **ECRS:** ERCOT is committed to the integrity of its market structures despite numerous challenges. We see this as a clear and important message.

- **PCM:** Performance Capacity Mechanism is alive and was recently filed by ERCOT. We see progress anew on getting this off the ground as yet another tool in ensuring plants stay connected.

- **Protracted timeframe to building new gas gen**. With expectations for 3-4 year development for new gas plants, time is of the essence in both PJM and ERCOT. Watch how this progresses – we perceive many companies including NRG and VST are actively developing new gas plants already in permitting to ensure timely new additions. Also watch for retrofits to existing plants in ERCOT.

- **State-level efforts:** We are watching states like NJ and MD revisit anew contracted generation to add new resources in the PJM market. Watch carefully this creeping re-regulation thesis in PJM – whether ratebase or via contracted generation. Watch also Ohio given robust new data center build.

Array Technologies (ARRY)

We hosted meetings with members of ARRY management, including Kevin Hostetler (CEO). ARRY's recent update was disappointing both in terms of 4Q results and FY24 guidance. While we clearly acknowledge the subpar optics of a sizable guidance miss, we remain constructive on shares as order trends remain robust (~$600Mn in 4Q alone) and a strong backlog (~$1.8Bn as of YE23) offer visibility to sales inflecting. Customer delays remain a key theme to monitor as 2024 unfolds. See below for key takeaways from our meeting. We maintain our Buy rating on shares of ARRY which trade at an attractive risk-reward profile.

Customer conversations support 2H inflection in sales

While we look for flattish volumes in 2024 – consistent with mgmt. expectations – the outlook for a 2H24 inflection in shipments bodes well for 2025. We expect a return to growth, albeit from a newer less robust base. Critically, ARRY is already seeing orders flow in for 2025 deployments, which support the growth outlook. Mgmt. continues to have constructive conversations with customers that indicate the 2H inflection in volumes remains the base expectation. Yes, the delays ARRY is experiencing have pressured volumes as customers push orders out multiple quarters. Still, industry discussions with developers and competitors do not suggest to us that ARRY is any way competitively disadvantaged, rather delays discussed remain a symptom of a wider slate of ongoing renewable delays. The core issues of permits, interconnection queues, coupled with supply chain availability, and constantly evolving labor schedules (that compounds delays should they happen) appear the same issues impacting all the players across the market.

Holding the line on pricing, margins as 45X kicks in

Despite volume pressures, we look for ARRY to continue to deliver strong gross margins. Specifically, we look for gross margins in the low-30% range for FY24 inclusive of 45x manufacturing tax credit benefits, while underlying gross margins are expected to remain in the mid-20% range. This is despite modest pricing reductions in 2024 which are purely a result of passing through lower commodity prices and the sharing of cost savings with customers. 45x tax credit benefits should further bolster margins, and management indicated $50Mn in credits was recognized in 4Q23. We continue to perceive upside to margins pending clarification from Treasury on fasteners and the like. See this as an underappreciated nuance and a potential source of upside that is not part of mgmt.'s current guidance. Continue to watch the gross margin line as international expansion continues. See Latin America and Australia as particularly attractive and expect ARRY to focus here. Europe remains a challenging market to enter as competitors continue to accept depressed pricing.

[Array Technologies: Hitting the reset button to kick off '24 – Reiterate Buy 28 February 2023]

Atlantica Sustainable Infrastructure (AY)

We met with Atlantica CFO, Francisco Martinez Davis and IR, Leire Perez during our Power, Utilities, and Clean Energy Conference. AY has allocated 60-70%, of their $300 million target towards COSO-1 and COSO-2, two standalone battery projects in California, and the new "Overnight," a 150 MW PV project in California. This 15-year PPA with an investment-grade utility will add to CAFD in 2026. AY's pipeline includes 2.2GW of renewable energy and 6GWh of storage projects, with a clear emphasis on solar and battery storage, particularly in North America, where the company deems the market attractive for PPA against the backdrop of anticipated rising power prices.

Awaiting outcome from the strategic review…

AY's investment decisions pivot on levered IRR, with double-digit hurdle rates in the US, varying across technologies and regions. The risk profile of transmission lines is perceived as lower, but management grapples with key considerations, such as maintaining an 80% dividend ratio while concurrently pursuing ambitious growth initiatives. The prospect of funding growth from internally generated CAFD is a strategic priority, aiming to mitigate dependence on external capital markets. However, the ongoing strategic review since February '23 introduces uncertainties, with no clear outlook on potential changes to the dividend policy, M&A activities, or alterations to the major shareholder structure, involving AQN. Consequently, the avenue of stock repurchases, even amid perceived stock undervaluation, remains currently unavailable.

Flat CAFD, Kaxu plant up & running

Management guided to $220-270 million for 2024 CAFD, signaling a relatively flat trajectory compared to the past two years. This range, incorporates the adverse impact of the Q3 Kaxu malfunction in South Africa, where the plant faced a shutdown in September and is currently operational at less than full utilization as of mid-February. Despite these operational challenges, AY demonstrates commitment to the Kaxu plant, due to favorable PPA pricing. Simultaneously, investors closely monitor the repercussions of regulations around electricity market prices in Spain, scrutinizing potential effects on distributions in 2024. Mgmt offered assurance that any impact will be compensated for in 2026, thus mitigating any tangible adverse effects.

Avista (AVA)

We met with Avista CFO Kevin Christie and IR Stacey Wenz during our Power, Utilities, and Clean Energy Conference. Given Avista's smid-cap size and proximity in the pacific northwest, discussions of wildfire risk relating directly to the company and to the broader industry represented a key discussion point. We also discussed the ongoing multi-year rate case recently filed in Washington and the future of fossil fuel in Avista's service territories. We maintain our Underperform rating on Avista given its below average growth and reliance on regulatory outcomes to return to growing earnings consistently by 4-6% annually.

Wildfire prevention not a new discussion item at AVA

As wildfire risk is not a new phenomenon in the pacific northwest, Avista's wildfire mitigation and resiliency plans have been set in motion for several years, and the company updates its Wildfire Resiliency Plan every two years. Wildfire mitigation and resiliency is explicitly contemplated in Avista's regulatory constructs: Avista Utilities benefits from deferral treatment for wildfire resiliency and insurance costs that exceed what is explicitly authorized in rates. Avista has public safety power shutoff (PSPS) capability across all of its states when conditions warrant, though the standard of application of PSPS lies with the utility as constructed, so further risk mitigation could require Avista to establish prudence in use or nonuse of PSPS, not entirely removing exposure to negligence claims. While the company is encouraged by the rising awareness for this issue nationally and continues to partner with neighboring utilities and EEI seeking federal support for wildfire risk, Avista ultimately believes that its initial pillars of concrete support through legislation and regulatory reform will come at the state and regional level. Management cited potential optimism in the establishment of statewide insurance funds, potentially in business-friendly Idaho first where the governor has been particularly proactive, although concrete progress remains elusive. While Avista has a regulatory construct that is more cognizant of wildfire threats, like the rest of the northwest smidcap utilities, we see significant, perhaps existential risk associated with potential liability in the event of a utility-caused wildfire in which the company is found negligent and liable.

WA rate case a key watch item for earning ROE

AVA recently filed its multi-year rate plan with the Washington Utilities and Transportation Commission for both its electric and gas operations (Dockets: D-UE-240006 & D-UG-240007). Avista has consistently pointed to the constructive conclusion of this proceeding as an indicator of when the company expects to reinstate its long-term 4-6% EPS guidance. The procedural schedule establishes an initial settlement-conference for May 28-29 and another for July 22-23, with response testimony scheduled for July 3. Generally, settlements in Washington are not fully unanimous, though AVA can seek to settle some more contentious items of the filing while allowing for some considerations to be fully litigated. We see the request to modify the volatility of the ERM (Energy Recovery Mechanism) as likely to complicate settlement discussions, though pending in-state peer Pacificorp's soon-to-be-concluded rate case in the state in which ERM modification is on the table, there may be precedent that removes complexity. AVA points to other peer utilities such as POR recently succeeding in having their power cost adjustment mechanism altered. In our view, smoothing out of the ERM would be a significant plus to enhance earnings predictability.

Gas LDC transition impact mitigated by combo utility

Washington state's Climate Commitment Act (CCA) has resulted in higher bills given the need for Avista to purchase credits so as to comply with the law. As currently specified, while there is no direct moratorium against natural gas, cost of compliance increases over time, so there will be continued upward pressure on bills unless the act is repealed or modified. That said, Avista is relatively well-positioned in the event that Washington state or the federal government implements a sunset of natural gas investment given the overlay of the electric and gas service territories in Washington. We expect the necessary investment in electric generation and further T&D buildout would compensate for the progressive dissolution of natural gas rate base.

Clearway (CWEN)

We met with Clearway CEO Chris Sotos, CFO, Sarah Rubenstein, and IR, Akil March during our Power, Utilities, and Clean Energy Conference. Clearway's long-term growth targets is $2.15 of CAFD/share, where mgmt. also reaffirmed upper range of 5% to 8% of DPS growth through 2026. Importantly, this will not necessitating new capital deployment. Emphasizing this commitment, the company injected $215min into investments for 2023 including approximately 620MW of wind and solar generation and an additional 150MW of storage. These investments are projected to yield an average CAFD of around 10%, supported by long-term contracts spanning 15 years+. CWEN's capital allocation strategy leans decisively towards prioritizing younger assets with extended contract terms over share buybacks. This approach takes into account the inevitability of future capital issuance, positioning it as a temporary but indispensable function in the pursuit of sustained growth.

Fewer deals amidst increased volatility

Navigating the dynamic landscape of M&A, CWEN confronts the challenge of diminished access to affordable capital in the renewables sector compared to the preceding 12-18 months. This is a significant shift, and the management's concern extends beyond absolute treasury levels, focusing keenly on volatility and its potential translation into PPA prices. Despite experiencing upward shifts, CAFD yields encounter a ceiling, contingent on market conditions and capital market dynamics. The company is patiently awaiting market stabilization before committing to sales, alluding to their revolver capacity, for judicious use in funding acquisitions before resorting to the capital markets.

PPA prices to remain above pre-2023 levels

With regard to PPA pricing, a heightened weighted average cost of capital is embedded in the prices offered to customers on new contracts. The consideration extends to the elevated equipment pricing environment post-pandemic and changes in trade policy. Despite these market shifts, PPA prices are projected to remain above pre-2023 levels. CWEN, alongside its competitors, observes that customers still place substantial value on these elevated prices, especially those who prioritize low emissions. CWEN don't foresee meaningful declines in PPA prices from where they are today. Equally in a competitive environment, they don't see an expectation for dramatic increases in returns that are produced for projects.

Edison International (EIX)

We hosted Maria Rigatti (CFO) and Sam Ramraj (Investor Relations) to discuss a variety of topical areas. This was a constructive conversation on the feedback to rate case filing, wildfire mitigation efforts and the potential for cost recovery of legacy wildfire/mudslide costs. Our base case remains that the cost of capital trigger upward approved will not be adversely changed, consistent with the financial guidance and filed tariffs for the utilities. We will be closely watching the legacy wildfire cost recovery processes to see if the California Public Utilities Commission (CPUC) continues its trend of more favorable actions. Overall a positive meeting but we maintain Underperform as we view shares as relatively expensive versus peers.

GRC intervenor testimony focuses on costs, not policy

Management described the initial intervenor testimony in its Southern California Edison (SCE) subsidiary general rate case (GRC) as not surprising as its rate change application was focused infrastructure replacement without controversial elements. Intervenors focused more on the unit cost of some spending areas, a favorable development rather than large debates around whether the wildfire hardening should be undertaken. For example, some intervenors opposed covered conductors in the past are now supportive. Similar to peer PG&E Corp's (PCG) rate case, some intervenors are looking at the balanced risk reduction vs cost for undergrounding tradeoff against undergrounding. EIX will file its rebuttal testimony shortly and largely characterized the intervenor filings as within their range of expectations while looking to file testimony supportive of their application.

Wildfire mitigation plans for California lead the nation

While wildfire discussions are relatively new for many utility executives outside of California, the EIX and the California investor-owned utilities have had a clear head start on mitigation efforts. Management stated that it has not had any ignitions from its 5,000+ miles of covered conductor investments. With respect to Federal wildfire policy reforms, senior EIX members are engaged with EEI and other groups to pursue changes. We believe the probability is low for the industry at this point in time.

Legacy wildfire cost recovery is upside, without offset:

Management described its cost recovery for legacy wildfire and mudslide costs as very well supported and indicated that the scoping memo was very much inline with its application. A final decision could occur in 1H25 for the TKM fires and the company is working to file the Woolsey cost application later in 2024, assuming it makes enough progress on settlements. The California Public Utilities Commission (CPUC) could grant full, partial, or no recovery - it is not an 'all or nothing' view in management's view. EIX has framed the upside potential via a sensitivity of every $1Bn of cost recovery as +$0.09 EPS and +50bp funds from operations (FFO) / debt. Importantly EIX confirmed that there any cost recovery should accrue to shareholders via lower interest expense.

Cost of capital update, waiting on the CPUC

As of March 1st, all of EIX's tariffs have been updated for the new cost of capital changes approved by the Energy Division. The next step is for the CPUC to address the protest to the advice letter although there is no timeline. EIX believes that the Energy Division was very detailed and comprehensive in its review; therefore, does not expect the cost of capital trigger enforcement to change. The customer reinvestment work for 2024 is underway and the company is continuing to push forward on the initiatives. This is a -$0.15 to -$0.20 negative driver embedded in 2024 operating EPS guidance as a reduction of operational variances.

Edison International: Higher cost of capital was not upside to the guidance plan. Reiterate Underperform 23 February 2024

Enlight Renewable Energy (ENLT)

We met with Yosef Lefkovitz, VP of M&A and Corporate Finance and other members of ENLT's Investor relations team. Highlights from the conversation include implications of US load growth and strong market fundamentals, ENLT's positioning to serve growing US power demand, interconnection as their superpower, and potential IRA repeal effects on the business.

Strong fundamentals, stronger market demand

Given the growing utility demand for renewable energy in the US, ENLT expects to see attractive and rising power purchase agreement (PPA) pricing on new projects due to the overall load growth, despite natural gas prices normalizing. Management is seeing a declining capex curve and tight PPA pricing as fundamentals and the need for power remain strong. Also supporting PPA terms is scarcity of projects in select portions of the country. PPA pricing remains sticky heading into 2024. Having already amended the majority of their PPAs +25% higher (1.8 GW), management expects PPAs moving forward to be at this higher level and above, improving returns for projects reaching COD in 2024-2026 to ~10% on an unlevered basis. This is fueled by a backdrop of strong fundamentals as we have seen battery and panel prices decline and interest rates stabilize lowering ENTL's cost of debt to 5.25%-5.75%. Mgmt believes battery pricing will continue to decline as they are seeing Tier 1 suppliers coming in with more competitive pricing when they used to command a premium. ENLT noted that current market pricing is very tight for battery storage. They have seen strong demand from the regulated utilities who are willing to pay a premium for battery storage given the flexibility and reliability that storage offers, making returns on the battery side very attractive.

Interconnection as their superpower

Given ENLT's position as one of the few public developers and IPPs in the space, their history of successfully operating and developing projects allows them to remain at the front of the interconnection queue. They can fast track projects through the interconnection process, reaching commercial operations faster than smaller developers with disadvantaged queue positions. Also ENLT does not believe they face the same financing risk that smaller developers have been facing, as their balance sheet allows them flexibility and helps them avoid financing delays that smaller developers have seen with construction finance.

Full IRA repeal? ENLT thinks not likely

In the event of a full Inflation Reduction Act repeal under a new Administration, ENLT believes PPAs will have to adjust higher to reflect the loss of or reduced tax credits to offset. Enlight emphasized that they will remain disciplined and will only developer projects that meet their return threshold. The narrative in the industry has flipped from off-takers being in control to developers stepping into the driver's seat, as offtakers are in greater and more desperate need for power generation and capacity.

First Solar (FSLR)

We hosed a discussion with First Solar, featuring CFO Alex Bradley and Richard Romero, Treasurer and Head of Global Project Finance. Key takeaways: 1) risks of further delays in the current year of projects that could skew from over to under-ship; watch inventory dynamics here of customers as they may shift delivery timelines within commitments; 2) Growing likelihood in our view that contracting environment may not meet one-to-one book-to-bill largely on account of uncertain backdrop on Uyghur Forced Labor Prevention Act [UFLPA] policy. Watch carefully Customs and Border Protection [CBP] actions in coming months as a key driver here. 3) To this end, mgmt remains focused on trade & policy twists with actions on Section 201 tariffs quite possible in next few months. Maintain our Buy rating: among management's key points is muted level of new cell capacity that will ultimately be constructed in the US enabling sustained domestic contents premium.

Pricing power alongside stricter UFPLA enforcement

Against the backdrop of declining solar panel prices, FSLR discussed securing an additional 2.3GW of net bookings at higher average selling price (ASPs) of 31.8 cents per watt, surpassing Q3'24 at 30 cents. Notably, management highlighted the stricter UFPLA enforcement by the CBP on Chinese panels (Tier 2 players) and Indian sellers. This is a result of heightened pressure from both US domestic players and Tier 1 Chinese manufacturers as they experience delays in getting their good through.

Backlog: healthy and selecting right to be selective

FSLR's contracted backlog is fully committed through 2026, with a deliberate over-allocation position just a few percentage points above production. This strategic move serves as a precautionary measure, anticipating potential adjustments in delivery volume from customers, particularly in light of challenges posed by other industry players. While interconnection queues remain a concern, discussions with developers and recent regulatory talks in DC affirm potential delays for 2024.

However, management maintains a cautious approach to new booking stemming from policy and election risks, with the goal of achieving a one-to-one book-to-bill this year and selling through their open position in 2027. In the unlikely event of a full republic sweep resulting in an outright IRA repeal, FSLR sees potential risks, including the 45X and domestic content adder. While ITC and PTC extensions have occurred under both administrations in the past, management are less concerned. The potential expiration of the 201 exemption in addition to a favorable election outcome could lead to a 24-month process to ramp capacity to meet new demand (as they secure the supply chain, access to land, and electricity). But in response, FSLR could also contemplate buybacks versus issuing a one-time dividend and consider M&A opportunities around adjacent technology and intellectual property.

International: also seeing price pressures

Chinese subsidization and dumping has led to a collapse in cell and module pricing in key international markets such as India and Europe. But management expressed cautious optimism on the ALMM (Approved List of Models and Manufacturers) law, which has previously incentivized domestic manufacturing investment. However, if the ALMM requirements are not expanded, FSLR contemplates utilizing India as an export hub into the US, recognizing the associated lag due to longer lead times.

First Solar, Inc.: The Domestic King: Premium Pricing Persists, Reiterate Buy. 28 February 2024

FlexGen Power Systems (Private)

We hosted meetings with members of FlexGen Power Systems mgmt., including Kelcy Pegler (CEO) and Yann Brandt (Chief Commercial Officer). Mgmt provided an overview of the business and shared some key highlights including their focus on augmentation, their technological product differentiators, and expectations of experiencing operating leverage this year.

Web of configurations driving their EMS System

FlexGen operates in the energy storage space and provides integration and software technology for energy storage projects in the US and globally. FlexGen's HybridOS energy management system (EMS) platform delivers the full stack of energy storage value, including ancillary services, capacity, and energy markets. Energy management systems are becoming increasingly important as battery storage becomes commoditized, and augmentation is starting to occur. The differentiator of their EMS compared to competitors is that their system is hardware agnostic and uses lab testing to perform commissioning, driving the development of new and complex system configurations. They currently have 38 system configurations in field operations and each new configuration gives them a deeper library, producing a flywheel effect for the business.

Moving commissioning into the lab

FlexGen also runs a fleet of energy storage assets throughout the US with customers including utilities, IPPs, and enterprise businesses. The company has three revenue streams and contracting styles including: project commissioning, commissioning with partial procurement of inverters and/or AC/DC blocks, and full commissioning and procurement of batteries / inverters, with the last being the highest margin business. They currently have ~20% market share and are highly focused on augmentation moving forward as they believe this is where they will be able to capture incremental market share. Mgmt views Fluence (FLNC) to be their largest competitor as their projects are larger utility scale projects. One of the differentiators of their business is their "one touch commissioning" process that tests setup, validity, and functionality of new energy storage projects in a lab environment and decreases 12 weeks of commissioning in the field to half a day of lab work.

Tech business model driving operating leverage

The company currently has ~$50mm in EBITDA and plans to almost double its top line, expecting to generate $80-120mm of cash flow this year. The company expects that revenue will double with only a ~$10mm increase in operating expense, given the technology and service nature of the business model. Also, the company might consider a revolver this year to ensure a collateral backstop.

Hannon Armstrong Sustainable Infrastructure Capital (HASI)

We hosted meetings with Hannon Armstrong's Chief Executive Officer, Jeffrey Lipsonm, and Chief Financial Officer, Marc Pangburn, at our Power, Utilities and Clean Energy Conference. See below for key highlights from our meeting which include mgmt's expectations about yield and cost curves, pipeline and portfolio origination insights, and potential co-investment business opportunities. We maintain our Buy rating on shares of HASI which trade at an attractive risk-reward profile.

Outlook based on stable margins

In 4Q23, HASI saw weighted average portfolio yield remain flat at 7.9% QoQ, but new originations in 2023 saw yields at 9%+, driven by higher costs of capital with the new 2023 cost of debt at 7%. Mgmt reiterated that they do not see margins widening in the near term, indicating their 2024-2026 guidance was built around stable margins. Given HASI raises capital in the public markets and invests in the private markets, which tend to move slower, they could see a benefit to the business due to a lag effect where debt becomes cheaper and private investments remain higher yielding.

RNG driving origination growth

In 2023, HASI saw portfolio growth of 44% YoY driven by an increase in the higher-yielding Fuels, Transport & Nature (FTN) portfolio segment, increasing 368% in value to ~$800mm YoY. Within the FTN segment of the business are RNG and fleet transport projects. The RNG segment is the larger piece, with landfill gas projects presenting attractive opportunities for HASI, who recently completed a project with Ameresco (AMRC). HASI has had success with their FTN projects due to their contracted cash flows, proven technologies, and quality off-takers. FTN credit yields and equity returns are reasonably robust relative to other growing subsectors in the portfolio and will support long-term portfolio value.

Interesting opportunities within solar

Despite the headwinds to profitability that public solar companies have been facing, HASI has had minimal delinquencies in their resi solar portfolio given the strong credit profile of their customers. Interestingly, 4Q23 saw a 41% increase in Community Solar portfolio value and a 2% increase in Residential Solar portfolio value. Mgmt is very interested in community solar and sees attractive opportunities in the space given the subscription-based model, low credit risk, enablement through state legislation, and ultimate transformation into a flow business.

Partnerships support portfolio development

Another value driver for HASI's portfolio / originations is their network and partnership pipeline. 90-95% of HASI's recent projects originated from partners / network relationships rather than an auction. The brand recognition of the business and track record of successful projects in the space have supported their partnership pipeline.

Co-investment opportunity supports EPS

HASI sees potential to builds out a co-investments business as their ability to source, underwrite, and manage a multitude of bespoke transactions stands out in the market. They are in conversations with different funds who are looking to deploy capital and want to co-invest with HASI for a management fee given their expertise. We view mgmt's strategic focus on building out the co-investment business as a solid avenue to be less reliant on capital markets to fund balance sheet originations.

National Grid (NG, Not Covered)

We met with John Pettigrewand (CEO) and James Flanagan (IR Manager). In November 2023, National Grid raised its capex guidance for the 2022-26E period to £42bn from £40bn due to faster anticipated progress with ASTI (Accelerated Strategic Transmission Investment) projects in the UK. They are confident in the new $42bn capex plan are committed to their balance sheet / credit rating and plan to maintain net debt to RAV in the low 70% range.

Transmission reform is a focal point

Mgmt has been highly focused on UK policy and regulation over the last 12 months with transmission planning reform and community benefits being top of mind. They have been working with UK regulators to better understand the profile of expected future capex delivery and are working through the uncertainties around what the future transmission planning process will look like to inform their capex funding beyond 2026. Most of the funding required for their 17 Accelerated Strategic Transmission Investment (ASTI) projects will be funded with capex beyond 2026, with £3bn of the current £42bn capex plan being attributed to ASTI project needs. The fundamental change at Ofgem, supporting funding and development of ASTI projects, has been a tailwind for NG's UK projects.

Funding visibility beyond 2026 is uncertain

Mgmt reiterated that they have a strong funding toolkit with diverse optionality and the ability to tap the senior debt markets, use internal equity/cash flows which could be boosted by rate cases, asset sell-downs, issue equity if pricing is attractive, and utilize partnerships/joint ventures. The avenue of funding that they choose for 2026 and beyond is highly dependent on the regulators required capex delivery profile and UK transmission planning reform. Management emphasized that they are waiting to provide guidance on their capital plan beyond 2026 until they have better visibility on these two items. With an upcoming election in the UK, mgmt emphasizes that both parties are highly focused on the energy transition, and they do not see the election outcome as having a huge impact on their current investment plan.

NG Ventures hitting key milestones

NG Ventures has seen a lot of investments the last few years, with the team's offshore wind joint venture in New York and liquified natural gas (LNG) facility in the United Kingdom reaching key milestones. In the fall of 2023, the team won the bid at their NY offshore wind JV for a solicitation with a provisional off-take award of 1.3GW. They were also recently waitlisted after submitting a bid for New York's fourth offshore wind project with the winning bids at $150/MWh per the New York Governor’s disclosures. The team's LNG facility in the UK is in final stages of construction on its fourth tank and will soon be able to supply 33% of the demand for LNG in the UK. All the future available capacity of the fourth tank has been fully sold as well.

NET Power (NPWR, Not Covered)

Significant lead times across critical components…

In our recent dialogue with NET Power, featuring CFO Akash Patel and CEO Danny Rice, key insights into the challenges and strategic considerations within the global energy supply chain emerged. NET Power faces significant lead times across critical components of the energy infrastructure, specifically air separation, heat exchangers, and turboexpander. These components, considered commoditized, are expected to take until the end of 2027 for deployment and installation, primarily due to factors in the sub-supply chain, including materials sourced from entities like Baker Hugues and Lummus. The former two components can be commissioned independently, and construction is set to commence in 2025. Net Power are actively pursuing two derisking paths concurrently. Baker Hughes will undertake testing and validating of combustor testing in H2'24, followed by turbine testing at the end of 2026, with subsequent shipment to West Texas. The focus then shifts to achieving optimal thermal efficiencies. Considerations for supply offtake agreements at the plant are integral to the strategic planning.

NET Power expects Occidental will be a key off-taker

The choice of West Texas for the SN1 plant location is justified by factors such as minimal permitting risk, existing Carbon Capture, Utilization & Storage (CCUS) infrastructure, land ownership by OXY, and more favorable commercial agreements compared to other regions. NET Power's ability to secure third-party partnerships for the launch of Serial Number 1 requires substantial capital, with support from the Department of Energy (DOE) funding through the Loan Program Office (LPO), prompting an invitation to submit a Part II application, representing the pathway to sequestration. Mgmt. acknowledge a change in Administration is an area that could impact this.

Attractive opportunities in MISO, CISO, Alberta & Middle East

Crucially, NET Power owns the intellectual property for the entire cycle, not just individual components. This positions them to create an ecosystem, providing control over interactions with original equipment manufacturers (OEMs). Despite starting operations in one of the more challenging locations, ERCOT, NET Power recognizes the varied dynamics influenced by factors like 45Q, carbon prices, and gases in different markets. The company identifies MISO and CISO as compelling markets, with the latter presenting economic advantages despite current complexities. Breaking into the California market holds potential for addressing net-zero ambitions, and Alberta is considered a competitive market with higher carbon prices. The Middle East emerges as an attractive region, driven by expectations of the implementation of carbon pricing.

NextEra Energy (NEE)

We hosted meetings with members of including John Ketchum (CEO) and Kristin Rose (Director of Investor Relations). The background and details of the development cycle and the company's experience with data centers years prior is a favorable update. We maintain our Neutral rating on shares of NEE which trade at a balanced risk-reward profile.

Data centers a substantive driver of demand for NEER

Data centers are a growing theme for NEE's renewable development arm (NEER). Data center and technology customers already account for 6GW of capacity in operation and/or in the backlog. We look for NEER to continue to derive sizable growth from this end market. This theme is now new to NEER, which purchased two data center facilities four years ago. While these facilities are de minimis from an earnings contribution perspective, mgmt. believes their ownership has offered valuable insights into the operational needs of developers. Management indicated 45% of the opex and 55% of the capex related to a data center is tied to power needs. Demand for behind the meter (BTM) solutions appears particularly robust as reliability remains critical consideration for data center developers. Expect a substantive pivot to 2027 at the June Analyst Day - we see a sweet spot for origination acceleration in this time period. We would expect to see a corresponding uptick in mgmt.'s own compounding growth expectations, with a clear focus towards C&I counterparties such as data centers. Our latest call on green data centers with experts highlighted for instance the relative advantages of Florida for growing AI-derived data centers & other state-level incentives.

Look for 'haves' and 'have nots' to be a growing theme

We look for NEER's scale as an increasingly key differentiator in the renewable development space, consistent with the company's views We perceive a growing split between developers of scale (the 'haves') and smaller players (the 'have nots'). Relative to expected COD's, NEER's backlog appears to track closer to the low end of the range for 2023-2024 with limited time left to add. As such, we see tuck-in acquisitions as potentially a key tool used by mgmt. to accelerate growth in 2024 and beyond; challenges smaller developers face in tax equity, labor shortages, and the like could make this a more relevant discussion point through this year. At this point we stress investors should watch execution on 2025-26 given development window largely appears to have pivoted towards 2026 for many developers we speak to. Bottom line, despite execution challenges across the industry, expect backlogs for the likes of NEE and many other solar peers to continue to expand to record levels. The timing of such projects remains key (2024 vs 2025 vs beyond).

OneGas (OGS)

We met with ONE Gas SVP and COO Curtis Dinan, CFO Chris Sighinolfi, and Director of IR and Sustainability Erin Dailey. Topics of discussion included OGS's long-term guidance, recent regulatory updates pursuant to the company's Kansas rate case filing last week. Importantly, OGS affirmed there was no significant impact to its services or infrastructure relating to the Smokehouse Creek Fire near the company's service territory in the Texas panhandle. While certainly challenged from a number of macro factors, we find OGS' messaging of its outlook and long-term assumptions to be very transparent and straightforward. Still, we maintain our Underperform rating given the magnitude of equity dilution expected over the course of the plan.

KS rate case a primary regulatory focus; reasonable ask

While OGS recently filed interim recovery filings in Oklahoma and Texas, the most significant regulatory update in the current quarter was last week's filing of Kansas Gas Service's (KGS) general rate case filing with the Kansas Corporation Commission (KCC). OGS requested a $58Mn net increase of rates ($93Mn gross rate increase less $35Mn of Gas System Reliability Surcharge [GSRS] embedded in current customer bills since the last general rate case filing). OGS is requesting a 10.25% ROE versus 9.3% currently. The headline increase is reasonable at a net 9% increase to customer rates. Of note, OGS is also requesting a thickening of its equity layer to 59.6% versus an implied 56% prior. Given positive Staff testimony in in-state peer Atmos's recent gas rate case to raise the equity layer to actual levels at approximately 59%, we expect there is a reasonably good chance KGS could be successful in achieving some step up in equity as a portion of capital structure. We give credit to 59% equity/total capital in our estimates.

APRA mechanism approval may take more than one try

More interestingly, the filing requests an interim performance-based ratemaking mechanism – the Annual Performance-based Rate Adjustment (APRA) – that would enable KGS to adjust rates in the event ROE is above or below a certain range given specific performance metrics are met, similarly to the annual Performance-based Rate Change (PBRC) interim filing in Oklahoma. In the event the APRA is not approved, KGS is requesting continued implementation of the GSRS and trackers relating to cyber security, pension and other post-employment benefits, and ad valorem tax.

Despite OGS's comprehensive testimony describing the various impacts and hypothetical implantation of the APRA, we expect the KCC could withhold from approving implementation of the mechanism until a commission-issued study of the potential impact of the mechanism can be conducted. Still, the filing bodes well for future consideration of interim recovery, especially at a time when ratemaking reform is top of mind in the state considering the efforts of Kansas electric utilities to establish a more constructive regulatory environment. OGS states it is not involved in the efforts of other Kansas utilities and is focusing on maintaining its own two-way dialogue with the commission. We do expect any success by the efforts of Evergy and others in the state could positively affect OGS and the other natural gas LDCs in the state, albeit there is very low visibility to the magnitude of potential benefit at this time.

Financing policy to remain, accretive long-term

Since resetting its growth and financing outlook in October 2023, investors have questioned whether current operating conditions might merit a change in OGS's historical financing policy of using short-term debt to finance CWIP and gas supply costs with short-term commercial paper before terming out to long-term debt. In a normalized rate environment with a contangoed curve, this structure leads to positive carry and is accretive, though the quick fluctuations in rates and the yield curve over the previous two years resulted in OGS being turned upside down with expensive refinancing. OGS states they have done several internal analyses to determine whether a financing structure using only long-term debt might be more appropriate; their findings were that it would be resoundingly dilutive long-term. While we see the merit of OGS's argument, we note that exposure to this sort potential reset from volatile macro conditions runs counter to the defensiveness that investors have historically valued in OGS. Nonetheless, we would not expect a change in strategy in the near-term when interest rates remain relatively elevated. We expect this discussion of proper financing structure could be more pertinent to strategy when rates normalize and OGS has benefitted from a return-to-normal interest curve environment.

Ormat Technologies (ORA)

We met with CFO Assi Ginzburg and VP, Head of IR and ESG Planning & Reporting Smadar Lavi at our Power, Utilities and Clean Energy Conference. Topics of discussion included updates about operations in Kenya, US geothermal project timelines, and future growth prospects. We maintain our Neutral rating on shares of ORA which trade at a balanced risk reward profile.

KPLC payments serve as a tailwind for ‘24 cash flows

Mgmt had positive updates to share about operations in Kenya which have been under scrutiny due to Kenya Power and Lighting Co's (KPLC) lack of payments for ORA's supplied capacity in 2023. ORA has been successfully collecting payments from KPLC totaling an amount of ~$40-45mm thus far in 2024. These payments, which will continue throughout 2024, will serve as a tailwind to 2024 cash flows. Also of note, is the de-risking of PPA negotiations with KPLC, as mgmt. reiterated ORA's PPAs are the cheapest in Kenya. Timing of a resolution is still uncertain, mgmt. is pursuing a win-win whereby PPA terms would be extended, payments would be guaranteed, and curtailments eliminated. Lastly, mgmt noted there is upside to guidance surrounding Kenya operations due to recent findings from a drilling exploration in the region which will support capacity generation.

Permitting process delays US geothermal projects

The current headwind on timing for geothermal development projects is permitting. ORA is working with lobbyists in DC to get exploration permits which would reduce development timelines by 1-2 years, but the process is moving slowly with timing unknown. Interconnection processes and PPA negotiations are no longer gating items for ORA in the development process and permitting seems to be the last hurdle. Most of ORA's PPAs go through 2026 and they are looking to implement portfolio PPA pricing for renewals and new PPAs whereby a PPA will be signed for a portfolio of assets at a range of pricing.

BESS to drive meaningful growth

Ormat is currently in construction on 11 different development projects and expects to see robust 3x growth in their fleet of battery storage (BESS), as well as 20-30% growth in the geothermal business through 2026. Mgmt is excited about the storage side of the business given the strong fundamentals of declining battery prices, sticky PPA pricing, and ITC benefits. ORA sees advantages in both the geographic location of their BESS projects, being in high ITC areas, and their fast-tracked interconnection agreements which allows for them to get power capacity into the hands of customers quicker. We look to see how the future combination of geothermal and battery storage assets effects project returns and capacity generation.

Pineapple Energy (PEGY, Not Covered)

Pineapple Energy (PEGY), a prominent solar energy service provider and leasing company operating in the US, recently shared insights during a hosted discussion featuring CEO Kyle Udseth and CFO Eric Ingvaldson. PEGY specializes in solar installation for both residential and business clients, emphasizing the significance of clean, affordable, and resilient rooftop solar solutions, often coupled with battery storage.

Still seeing healthy resi demand; financing product not a priority for now

Despite challenges in the residential solar sector, such as the anticipation of a sustained high-interest rate environment, PEGY remains optimistic about the robust demand for their offerings. They highlighted the potential impact of elevated interest rates on electric utilities, anticipating that these costs might be passed on to consumers through substantial annual increases in their electric bills. PEGY positioned itself differently from competitors like Sunnova and Sunrun, emphasizing that they are not merely "financing companies." Notably, PEGY expressed openness to exploring solar storage loans and competitive dealer pricing if the availability of batteries improved and prices declined. In general, we recognize the risk to loan products from various residential solar finance companies following Fed hikes, leading to potential losses and the folding of some companies.

Still in growth mode through M&A

Highlighting a positive milestone, PEGY shared their positive EBITDA but underscored the need for strategic moves, considering alternatives to being public, or pursuing a third or fourth acquisition to achieve scale. With an $80 million revenue business, the potential acquisition of two companies under Letter of Intent (LOI) is projected to double revenues, marking a significant accretive impact.

Competitive landscape among vendors in solar & storage

On the competitive front, PEGY addressed negotiations with Enphase, citing potential room for further discussions or the possibility of switching to SolarEdge. They noted Enphase's effective marketing strategies for quality panels but emphasized the importance of exploring alternatives given little differentiation. Additionally, PEGY discussed the competitive dynamics in battery storage, highlighting Tesla's Powerwall 3's aggressive stance due to market-based competition, notably from Franklin.

Rise Light and Power (Private Company)

Our recent discussion with Cameron Willard, Director of Commercial Management at Rise Light & Power - provided valuable insights into the dynamics of the offshore wind space.

GE a key supplier of blades and nacelles

The Light & Power team own and operating the Ravenswood Generating Station. A key project within this initiative, Attentive Energy One, delivering offshore wind opportunities, is between 3 players: TotalEnergies, Rise Light & Power, and Corio Generation. Attentive Energy One recently entered into a partnership with General Electric for manufacturing offshore wind blades and nacelles. Moreover, it envisions the conversion of the Ravenswood gas-fueled power plant in New York City, owned by Rise, into a clean energy hub. The project's profitability is underpinned by guaranteed Offshore Renewable Energy Credits (OREC) revenue, a 40% Investment Tax Credit (ITC), secured access to the New York electricity grid through Rise, and competitive pricing for turbines supplied by General Electric. To ensure financial stability, contract terms incorporate an inflation adjustment mechanism, compensating for changes in construction costs until Final Investment Decision (FID) occurs.

HVDC Submarine Power Cables: Supply Constraints

An overarching goal for Rise Light & Power is to localize and diversify the supply chain for the offshore wind industry. Recent challenges faced by wind developer Orsted highlighted the importance of addressing supply chain issues, particularly in the insulation vessels sector, with its globally extended lead times. Management closely monitors the marine logistics sector, especially in Europe, for insights into the impact on rates for first-generation projects. Today, there is only one facility in the U.S. that can manufacture export cables, and as offshore wind energy grows, so does the need for high-voltage cables.

Hedging interest rates for PPA strike price stability

In navigating PPA strike prices, interest rates play a pivotal role. Rise Light & Power is also awaiting the stabilization of the supply chain with the second generation of wind projects. While interest rates remain a significant component, new projects in New Jersey incorporate an inflation adjustment, and pricing aligns with the yield curve. The management team maintain a cautious stance regarding qualifying for the IRA's domestic content adder and the extent to which they can share these with suppliers. Despite these considerations, the overall sentiment within the management team remains optimistic, noting a tight market with increasing demand and the infusion of smart capital into the renewable energy space.

Spearmint Energy

We hosted meetings with Spearmint's President and CEO Andrew Waranch and Director of Sustainability & ESG Yelena Kuznetsova at our Power, Utilities and Clean Energy Conference. Mgmt provided an overview of the business and shared some key focus areas they are working on such as different initiatives to scale the business and their current fundraising process.

Energy storage scales in ERCOT

Spearmint Energy is a standalone energy storage developer and is comprised of three distinct businesses including battery and solar project development, energy storage offtake, and renewables power trading. Spearmint is the tenth largest battery operator in the industry. Their first operational battery energy storage system (BESS), Revolution, is operating in Texas and produces 150MW of power. The project included $92mm tax equity investment, marking the first ITC structure for a standalone BESS. They are beginning construction on projects that will produce 600MW of battery power this year with hopes of producing 2.4GW by summer 2025. They plan to almost double headcount from 35 to 70 in 2024. Some headwinds the business is facing include labor shortages on the utility scale developer side and a shortage in the supply of breakers.

Diversity in off-takers

Spearmint is currently seeing 33% of their capacity go to utilities through RFPs, noting this can be a drawn out 2-3 year process. They also sell 33% of their capacity to merchants as the debt markets have softened. Lastly, their remaining production goes to off-takers like investment bank trading desks and energy service firms. Mgmt sees the off-taker portion of the market as scare today with more players being increasingly needed.

Private renewable market is hot

Spearmint is currently in the market raising hundreds of millions of dollars in funding in various forms such as term loans, tax equity bridge loan (TEBL), and construction finance. Notably, the RFP for the fundraise has received a large amount of attention with over 20 investors looking at the capital raise, driven by the strong fundamental market backdrop and increasing investor interest in renewables.

Sunrun (RUN)

We met with Sunrun CFO Danny Abajian and SVP Finance & IR Patrick Jobin during our Power, Utilities, and Clean Energy Conference. Our conversations touched upon the cadence and visibility of cash generation over the course of FY24 in relation to liquidity and needs, as well as the rationale behind the company's convertible debt issuance to repurchase the prior issuance with relatively modest impact, if any to net recourse debt. We maintain our Buy rating on RUN and view it to be the cleanest residential solar story in our coverage given positive cash flows over the last two quarters and relatively stronger visibility to meeting annual recurring cash flow targets versus peers.

Street not rewarding convertible debt de-risking

We previously remarked upon RUN's convertible debt issuance announced with 4Q23 earnings and the nature to which it sidesteps liquidity and potential insolvency threats facing many of the company's publicly traded residential solar competitors. See details here. With RUN down 24% since an update in which FY24 growth estimates exceeded guidance, a second consecutive quarter of positive cash generation was reported, and run-rate annualized recurring cash generation targets remained unchanged, we ascribe RUN's weakness to concerns of the prudence of tapping corporate capital, though if the company can achieve its goals of effecting a net debt-neutral issuance over the next few quarters, we expect there to be significant support for the stock as the loop is closed. Current valuation levels clearly do not support ascribe significant value to growth, so RUN has responded with a cost and cash focus that should become incrementally apparent through the course of 2H24 after dipping in 1Q. RUN was generally surprised that many of the first convert holders had taken more of a "buy and hold" approach and thus liquidity of the prior issuance was lower, though they were able to repurchase $97.5Mn of bonds concurrent with the new issuance in addition to repurchasing $26Mn principal value of the initial issue in 4Q23 and into 1Q24. At current prices, repayment of the initial convertible debt maturing in 2026 imply a yield to maturity of 7-8%.

Cadence of cash generation more visible than peers

RUN reiterates its run-rate annualized $200-$500Mn recurring cash generation for 4Q24 as well as cumulative positive free cash flow from 4Q23 to 4Q24. We see RUN accomplishing this goal through a combination of accelerating project activity through the year (1Q24 CA installation demand expected to rise 40% sequentially versus 4Q23), hardware deflation, and accelerating battery attachment rates (recent attach rates trending above 45% in 4Q23 which accelerated from 33% in 3Q23). We see these items as driving higher net subscriber value through the course of the year. 1Q24 cash generation is expected to face certain challenges, including lower fixed cost absorption and one-time true up of the advance rate on the recently refreshed warehouse loan. Still, cash recognition and generation is going to be necessarily *lumpier* than install activity given timing of terming out the warehouse facility, where market rates can vary and render programmatic timing rather inopportune. This points to the prudence of guiding on a run-rate basis given quarterly fluctuations in certain activities.

Industry health a concern; RUN cautious but optimistic

RUN observes the general disruption and ongoing distress cycle occurring across residential solar dealers and even large peer installers, yet feels the greatest realistic threat of these issues may be a rising cost of capital for the sector. RUN does not view this industry concern as driving major consolidation through tack-on M&A, but rather consolidation by market exit more represents the market share opportunity, excluding general installation outgrowth. RUN's growth prospects in the current market paradigm reflects a bifurcation between relatively weaker dealer activity and strengthening direct business. RUN's end-to-end product is structured to perform best in the current high cost of capital market environment, though on display currently is the diverse access the company enjoys through a number of avenues to market. Still, rising direct-to-customer mix and continued management of counterparty exposure should support RUN's profitable growth relative to peers.

SunPower (SPWR)

We met with SunPower Mike Weinstein (Investor Relations) to discuss the company's outlook after resetting its long-term outlook with 4Q23 earnings. Key topics of discussion included a summary of the change in strategy accompanying the ongoing leadership transition, and the outlook for recovery beginning in 2H24 as hardware deflation and operating cost improvement begins to filter through the income statement. While we see prudence in newly outlined cost containment efforts and view the recent capital fundraising efforts to have all but eliminated insolvency risk, we still see near-term cash generation being challenged and the prospect of significant equity dilution from either defined financing as prescribed in the recent Total/GIP agreement or through an equity issuance in the public or private markets, and therefore maintain our Underperform rating.

CEO departure marks a shift in outlook; still challenged

On February 27 SunPower announced that CEO Peter Faricy had departed the company. Ultimately, the marketing-focused growth strategy proved ill-timed given demand trends from 2021 to early 2023 did not continue and residential solar markets continued to deteriorate through much of 2H23. For a cyclical business like SunPower's, driving significant platform investment that can suppress profitability and cash generation on an ongoing basis proved to introduce difficulties into the business model that became difficult to manage over time. Taking into consideration this mistimed strategy relative to the broader macro environment and repayment of the prior convertible debt issuance directly ahead of the NEM 3.0, SunPower determined that a change in strategy was in order. SPWR asked former CEO Tom Werner to act as interim executive chairman and interim CEO, reflecting Total's desire to return SunPower to the same organizational priorities and structure as that before the capital forecast and guidance reset. The search for a long-term replacement is underway and expected to take 6-9 months. In the meantime, we see a rigorous operational focus on profit and cash as potentially driving upside to near-term results, although much of the performance will ultimately depend on the strength of the underlying residential solar market.

Late 10-K filing, all cash bonus to officers cautious

We see the recent notice of late 10-K filing and disclosure of all cash bonuses to certain officers of the company to be indications of further stress at SunPower. Mgmt. attributes the late 10-K filing to the longer-than expected audit and preparation of the initially delayed 10-Q filing in December, which left less time for preparation of the annual filing. This is not surprising but is not encouraging. We are concerned that there were consecutive delayed financial filings, which further limits SunPower's access to public markets without a comprehensive S-1 filing. We also see the all-cash bonus compensation to certain officers as an implicit low vote of confidence in the underlying long-term value of the stock. We expect there could be further negative catalysts ahead, especially in the event a new CEO wishes to reset long-term guidance yet again to provide a clean platform from which to anchor expectations.

NorthWestern Energy Group

We met with NorthWestern CFO Crystal Lail, Director of Corporate Finance & IR Travis Meyer, and Treasurer Emilie Ng at our Power, Utilities, and Clean Energy Conference. Key topics of conversation included a thorough discussion of wildfire protocol and prospective regulatory and legislative solutions. Our discussion also touched upon resource adequacy in Montana and utility-owned generation in the state. We maintain our Buy rating on NWE given high visibility to its stated 4-6% EPS CAGR with no equity required through the base plan and multiple upside levers.

Base plan intact, partly de-risked from regulatory catalysts

Counter to historical perception, we see NWE's regulatory paradigm to have largely stabilized in recent years, which may not be fully appreciated with the stock trading at a -1x discount to smid-cap peers currently. Historically, volatile regulatory treatment in Montana justified a relative valuation discount, but we point to the recently concluded rate case where they received authorization for a rate increase of nearly 75% of their request with ROE held steady at prior levels. Future rate cases with the Montana Public Service Commission (MPSC) are less likely to feature a significant rate increase request given filings will be more frequent with high visibility to spending prudence. We also see a similarly constructive (and historically less volatile) environment in South Dakota where NWE's recent rate case yielded an authorized rate increase representing 70% of the initially filed request. We see this rate case improvement, 4-6% EPS growth biasing toward the top half of the range with no equity issuances, and further upside opportunity from potentially incremental generation and T&D spend in Montana, and see merit to NWE's discount to smid-cap peers dissipating over time.

Montana short power; could the state empower NWE?

The gap between Montana's power supply capacity and the state's growing need remains a key focal point, especially given the most recent weather event in January when NWE and other regional utilities needed to purchase electricity on the spot market. This results in volatility with risk being managed according to the PCCAM mechanism, which NWE has sought to manage by firming supply as exemplified by the Colstrip ownership transfer from Avista effective in 2026. Discussions of the continued supply shortfall in the state have informed deliberation of future generation capacity, as the need for dispatchable power extends well beyond the contemplated 175MW capacity to be added once the Yellowstone County Generating Station is placed in service in late 2024. Recent commissioner commentary and MPSC Staff commentary from last October indicates a level of understanding that incremental utility-owned baseload generation could ease capacity concerns and soften spikes in power prices during seemingly more recurring abnormal weather events. Further, economic development is a key concern of the Governor's office and many in the state legislature, yet the deregulated power market in Montana with industrial/large commercial customers procuring power directly has resulted in power costs being uncompetitive with other states. NWE has seen a groundswell of local support for legislation-driven reform of the structure of the market, yet we note the Montana legislative session operates biannually and is not in session for 2024, so any material changes would not be formally deliberated until 2025. Still, we identify Montana power market reform and resource adequacy discussions to be a key watch item for incremental investment and EPS upside going forward.

OGE Energy Corp. (OGE)

We met with OGE Energy Corp. CFO Bryan Buckler and Director of IR Jason Bailey at our Power, Utilities, and Clean Energy Conference. Our discussions focused on Oklahoma Gas & Electric's (OG&E) ongoing rate case with the Oklahoma Corporation Commission (OCC), incremental generation opportunities implied by the recent draft IRP filing, and a discussion of economic development and load growth in the company's service territory. We see OGE Energy as having a high degree of visibility to meeting its consolidated 5-7% EPS range, provided a constructive Oklahoma rate case outcome, while the balance sheet is one of the strongest in the sector given target FFO/debt of at least 17% each year of its five-year capital plan as currently constructed. We see these qualities as justifying OGE's approximately +0.5x premium to the utility group, and maintain our Neutral rating.

OK rate case front and center; active filing cadence

OG&E classifies its current rate case filed with the OCC (Docket: PUD2023-000087) as fairly vanilla, with the $333Mn rate increase request primarily reflecting regular maintenance capital over the last two years. The requested rate increase would represent a +14% increase in residential customer bills; we see reasonable headroom for bills given a -15% reduction in fuel cost that went into effect in customer bills in November 2023, as well as modest rate increases from recent cases, including just +2% in the most recent case concluded in 2022. OGE believes it is inappropriate to use AEP subsidiary Public Service Company of Oklahoma's (PSO) recent rate case, in which a settlement agreement was modified to reduce ROE as stipulated by parties from 9.5% to 9.3%. We expect the OCC's treatment of OG&E could be different given its size relative to OGE Energy consolidated versus PSO relative to AEP, as well as the ongoing dialog that typically occurs among a commission and its largest in-state utility with local corporate headquarters.

Load growth the primary bull thesis

OG&E projects 3-5% load growth in FY24, with five-year load growth notably above the company's historical 1-year level. In FY24, residential load is anticipated to rise 1%, while commercial is expected to grow 13-15%. While there is a diversity of industries growing in Oklahoma, a significant portion of the company's commercial load growth is driven by bitcoin mining and, looking forward, could include incremental data center load. OGE acknowledged that while bitcoin customers now represent approximately 5% of load, their margin profile is just under 2% currently, though economics for OG&E should improve over time as the economic incentive credit rolls off and customers are locked into a ten-year agreement. As of current, the state has not seen significant customer concern over residential subsidization of commercial load, though we expect given the sharp in-state focus on bill affordability that conversations could ultimately emerge as commercial load rises in mix. In aggregate, this load growth is driving a significant capacity need in order for OG&E to remain compliant with SPP target peak reserve margins of 15%. OG&E has sized an 1100MW need that was affirmed in its recently published draft IRP, which if affirmed could result in the initiation of an all-resource request for proposals (RFP) mid-year. This will provide OG&E with direct visibility to generation costs, which the company will use to come to a decision regarding their incremental needs.

Wildfire update: some work to do

Given OG&E's proximity to the Smokehouse Creek Fire in the Texas panhandle, questions of wildfire mitigation have become more directly applicable to OGE in the minds of investors. From our conversations, some mitigation work in the form of typical system hardening in high-risk areas appears well underway. Still, lack of PSPS capability reduces OG&E's responsiveness to conditions that may be especially conducive to wildfire risk. The company expects to drive a more active dialogue with the OCC in the coming quarters to begin discussing proper protocols. Oklahoma operates on the negligent standard in which liability can be imputed through proven imprudence; there is no inverse condemnation in the state.

PG&E (PCG)

We met with management of PG&E to discuss latest trends. Overall, backdrop was exceptionally constructive in our view. While we appreciate the backdrop on equity financing has weighed on shares it appears management is evaluating a range of options to further avoid equity issuance even into 2025. We see a variety of key factors contributing to a constructive 1H24 as these tools avail themselves, including principally the ability to close on the PacGen sale. Maintain our Buy rating and re-rating opportunity.

Financing backdrop is the focal point

With shares still trading at a meaningful discount to peers, management remains loathe to pursue equity market financing. To this end, expect all levers to be pursued to avoid the use of an ATM in 2025. To this end, we note only see robust interest in the PacGen sale this year but also return of working capital from reduced commodity prices as helping to enable additional cash flows in 2025. On balance, there remain a variety of avenues that management is actively evaluating. Even if 2025 can be resolved, we see potential for yet higher capital spending to materialize – and then once more the focus on ATM to return for 2026. The ability for shares to re-rate higher on the back of continued success could create a fortuitous cycle in which this unlocks the companies ability to accretively raise external financing once more.

Affordability: rates to drop

Among the key surprises for many watching is the meaningful potential drop in rates posed for ’25. As such we see a backdrop for the acute affordability focus in the media to ease after a teens-rate increase earlier this year. On balance management is biased towards the lower end of its 2-4% rate inflation range thru the 3-year period off ’23.

Undergrounding backdrop: remains robust

We stress there is a clear ability to see more spend allocated to undergrounding as the next 10-year phase is evaluated. We stress the initial period was moderated to just 250-miles/yr. We see the cost containment in the program to $3mn/mi relative to budget for 3.3mn/mi with the plan initially despite meaningful rainfall in ’23 as a clear indication of its successes. We see both community and legislative support as potentially boding well for an uptick in ’26 and then a real shift higher in ’26. Watch this evolve, as this could add meaningfully to the backdrop.

Interconnection spend poised to go up too

We see spending under SB410 legislation to address swift interconnection (now wrapped under Phase 2 of the General Rate Case) as a further angle to watch for upside to shares. Mgmt has baked only $1 Bn into its current outlook but this could jump to $4 Bn thru the plan period with approval – this could materialize by mid-’24 and yet further expand financing needs for ’25.

Improving balance sheet still

Rating agencies continue to hold a positive outlook and we continue to expect normalization vs peers. We stress credit spreads are still roughly ~100bp wide of peers and see this as a powerful driver in the financing model over time. To this end, we stress DOE funding for upwards of $7bn could be uniquely beneficial to the financing plan given the nearly 200bp spread improvement if able to tap this for at least some of the plan funding. Watch for details later in the plan.

PPL Corp (PPL)

We hosted meetings with Joe Bergstein (CFO), Tadd Henninger (SVP Finance and Treasurer), Andrew Ludwig (Investor Relations), and Connor Gibson (Investor Relations) after the company's recent positive 4Q23 comprehensive update. Areas of discussion were the investment program, regulatory outlook (for the company and in-state peers), regional reliability, and the wildfire mitigation plan. We continue to view PPL as one of the best risk adjusted return profiles among regulated utility companies with the ability to positive re-rate to a larger premium vs peers.

Regulatory calendar remains light with Rhode Island first

PPL remains in the relatively advantaged position of not having active rate cases and being able to learn from peers filings. In mid-2025 we would expect PPL to file in Rhode Island (the first since 2018 under the prior owner National Grid) and potentially in Kentucky. The Rhode Island capital program is concentrated on electric resiliency & reliability and natural gas safety. The latest long-term capital plan refresh actually moderated Rhode Island spending, seemingly in response to stakeholder feedback and to better align with affordability. PPL has a large and different capital plan that the prior owner had and there is a learning process for parties to determine how to best align. Management is optimistic that the latest ISR filing where there has been more stakeholder alignment should yield a constructive outcome.

Differentiated investment and financing plans

PPL continues to emphasize that its ~6.3% rate base growth plan does not have any placeholder capex or material load growth assumptions embedded today. With the visible cost cuts (that management exceeded it target for in 2023) are a contributor to earnings but the delta between the 6-8% EPS growth and 6.3% rate base growth is favorably shrinking. Following the latest increase, PPL still expects the rate base CAGR to steadily 'tick higher' annually as larger capital programs are introduced in later years. We continue to view Kentucky transmission as a prime opportunity for hundreds of million incremental spending in the future. Stakeholder conversations in Kentucky have focused on building the 'right' transmission that improves reliability, with differences between the operating company investment plans of PPL and that transmission company capital replacement cycles of non-PPL peers. As the final element, PPL's plan continues to support premium credit metrics 16-18% funds from operations (FFO) / debt without the need for equity issuances. As many peer utilities updated their long-term capital and financing plans with 4Q23, a number of companies added equity issuances to their plan to finance the growth.

PPL is having early conversations around data centers in both Kentucky and Pennsylvania as described on the earnings call. From these conversations, management indicated that most potential customers are okay with natural gas fired generation as a base but the differentiation focuses more on the degree of associated renewables that come in tandem with the natural gas.

Leading wildfire mitigation plan among Eastern utilities despite lower risk

Management went into great detail discussing its wildfire mitigation plan elements which we view as more advanced than many eastern states. First, the only area of PPL's service territory in the moderate risk category per FEMA is Eastern Kentucky with the balance characterized as low wildfire risk. PPL modified, refreshed, and enhanced all of their wildfire mitigation plans after the August 2023 Hawaiian Electric (HE) wildfires. Critically, PPL has PSPS with senior management oversight in both Kentucky and Pennsylvania. We view PSPS as one of the most critical risk reduction mechanisms for utilities. PPL is also more advanced than average with sensors on distribution lines to have automatic de-energization as well as dynamic line ratings on transmission assets to have enhanced information collection.

Gas generation? Management is open to helping provide a solution

With respect to new natural gas generation in PJM as well as PPL's states more specifically, management indicated that the necessary conversations for reliability are starting. PPL spoke extensively in prepared remarks about the need for flexible baseload resources to help prevent the looming issue of overbuilding intermittent renewables. It appears that PPL would be open to building new generation under a strong regulatory construct that provided earning visibility at low risk. This is not an element of the current rate base growth profile and any opportunities here would be incremental to the base plan.

Sempra (SRE)

We hosted Karen Sedgwick (new CFO) and Glen Donovan (Investor Relations) for a deep dive on each of the major business segments: Texas, California, and Sempra Infrastructures. The next catalyst will be the Texas resiliency filing in April followed by California rate case proposed decisions as soon as early Summer (~June). Investor expectations for incremental Infrastructure segment growth remain low but management has highlighted the latent growth options in the portfolio related to LNG and Mexico. We maintain Buy on shares of SRE which have an attractive growth outlook and trade at an overly discounted level.

Early wildfire learnings in California should help Texas

Sempra has and continues to be an industry leader for wildfire prevention and system hardening at its San Diego Gas & Electric (SDG&E) subsidiary. The Texas subsidiary Oncor has applied many of the best practices from SDG&E including having a filed wildfire mitigation plan (WMP) which some Texas utilities do not have. Oncor still does not have the advance risk reduction features from SDG&E such as PSPS and as extensive grid cameras. Oncor's primary WMP tools are situational awareness, vegetation management, and partnerships with first responders to ensure coordinated & speedy mobilization for fires if/when they start. Sempra has hosted senior Texas stakeholders at its SDG&E wildfire prevention center in California to show its best practices.

Wildfire mitigation plan spending is a component of the new resiliency program that the Texas legislature and regulators recently supported. The Texas utilities including Oncor are expected to file the resiliency programs in April 2024. We got the impression that wildfire prevention spending will increase in this forthcoming plan but it is unclear how much is truly 'upside to the upside' within the resiliency program versus deprioritizing other spending. Sempra has not disclosed the potential size of this spending area but confirmed that it has enough balance sheet capacity in its current prospective credit metrics to finance without incremental equity after the recent $1.8Bn equity increase from the 4Q23 refresh. Oncor's service territory is very large which creates more cost challenges but some strategic undergrounding of infrastructure could play a part. To a favorable degree, the topography and regulation should support undergrounding at a lower unit cost per mile than seen in California (~$3Mn per mile).

California rate case ALJ in Summer with resolution by YE24

Sempra conservatively expects to conclude its California rate cases by YE24 with new rates for the start of 2025. A proposed decision is expected in early Summer (~June) and we would not be surprised to see a similar cadence as for peer Pacific Gas & Electric (PG&E) late 2023 rate case where there was a series of ex-parte meetings before rate case finalization. Also similar to PG&E, we would expect to see a flatter earnings profile 1Q24-3Q24 without revenue relief followed by a step-up in 4Q24 for retroactive rate case implementation. As filed the rate cases represent approximately +$20/month average residential bill impact for SDG&E and +$10/month for Southern California Gas (SoCalGas) customers. If the California Public Utilities Commission (CPUC) follows the amortization cycle from the PG&E case, this would likely lead to a larger bill increase in 2025 followed by a flat/declining profile in 2026, particularly with the benefit of lower commodity costs as a tailwind for customers.

California Cost of capital: All remain confident

All three large investor owned utilities do not believe that the California Public Utilities Commission (CPUC) will adversely change the authorized cost of capital to reverse the recently implemented increases. There does not appear to be a timeline for the CPUC to act without a statutory requirement. There has certainly been more of an affordability focus in California recently after the PG&E rate increases but Sempra does not view the items as related. Similarly, Sempra does not anticipate any major new legislation being enacted which materially impacts the utility earnings.

Infrastructure remains a growth 'call option' to the base plan

Management continues to have constructive conversations around contracts for Port Arthur 2 liquefied natural gas (LNG) export terminal. Sempra acknowledges that the delay in Department of Energy (DOE) permitting could make conversations take longer but the company remains confident that it will be able to secure the necessary permits. Cameron phase two (train four) requires an extension from the Federal Energy Regulatory Commission (FERC) related to the current May 2026 in-service date deadline which we do not believe will be a large hurdle.

At Mexico, Sempra indicated that there are a lot of different projects that they are looking at and evaluating. The political and judicial backdrop clouds visibility but the company emphasizes it has been successful working with the AMLO Administration and anticipates the same under new leadership. Little growth is embedded the long-term plan for Mexico so this remains a latent area of upside. Alternatively, Sempra has a history of capital rotations of mature assets in the region which remains an option as well.

UGI Corp (UGI)

We hosted members of UGI's management team including Mario Longhi (Interim President and CEO), Sean O'Brien (CFO) and Tameka Morris (Sr. Director, Investor Relations). The focus of investors has been on the US propane business (AmeriGas) where challenges include ongoing customer attrition and elevated leverage. We remain cautious on shares of UGI amid an ongoing strategic review and maintain our Underperform rating.

AmeriGas: Sale or hold? Look to next update for answers

We continue to perceive the outlook for AmeriGas as acutely challenged as customer attrition and elevated leverage weigh on the business. This remains the principal focus of mgmt. and the Board amid the ongoing strategic review, and we expect a substantive update on this front on the next earnings call. We still see a sale of the subsidiary as the preferred outcome, though see leverage as a key mitigating factor to completing a transaction. Absent a sale, we would expect mgmt. to focus squarely on cost reductions while as the first step to right sizing the business. In addition, efforts to curtail customer attrition would likely take considerable time as mgmt. would work to retool the operating model. In this scenario, we would not expect mgmt. to return to acquisitions for the business before rectifying the attrition problem. We see a spin of AmeriGas as the least likely scenario for mgmt. to take considering leverage. While bundling the international propane business could conceivably make a spin more attractive, we do not perceive this as a preferred avenue as the international business still generates cash flows that finance the utility capex.

Balance sheet considerations cannot be overlooked

Balance sheet optimization still appears to be a top priority. We look for mgmt. to first focus on reducing leverage at AmeriGas to the sub-5x target through a combination of open market repurchases and/or tender offers, effectively shifting the debt elsewhere in the corporate complex. Debt issuances at UGI International as well as parent issuances remain possible sources of funds in addition to AmeriGas relatively limited cash flow. Mgmt.'s expectations for AmeriGas free cash flow of ~$150Mn in FY24 would likely need to be supplemented with ~$250Mn of other sources in order to deliver on leverage targets. Parent level deleveraging also remains a priority, and mgmt. sees a sub-4x level as optimal. Considering the constraints brought on by AmeriGas as well as a desire to grow the dividend, we do not see this as achievable in FY24. Dividends from the utility business are a possible source of funds that could be used to deleverage. The utility payout ratio remains in the single digits, and we would expect mgmt. to keep this no higher than 10%. Look for this to be a key topic on the next earnings update.

Table 1: Stocks mentioned
Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
ARRY	ARRY US	Array Technologies	US$ 12.87	C-1-9
AY	AY US	Atlantica Sustain	US$ 17.43	B-1-7
AVA	AVA US	Avista Corp	US$ 33.5	B-3-7
CWEN	CWEN US	Clearway Energy	US$ 21.79	B-1-7
EIX	EIX US	Edison Intl	US$ 67.11	B-3-7
XENLF	ENLT IT	Enlight	ILS 61.5	B-1-9
ENLT	ENLT US	Enlight Renewable	US$ 16.94	C-1-9
FSLR	FSLR US	First Solar	US$ 159.06	C-1-9
HASI	HASI US	Hannon Armstrong	US$ 25.36	C-1-7
NEE	NEE US	NextEra Energy	US$ 55.4	B-2-7
NWE	NWE US	NorthWestern Energy	US$ 48.04	B-1-7
OGE	OGE US	OGE Energy Corp	US$ 33.59	B-2-7
OGS	OGS US	ONE Gas, Inc.	US$ 61.47	B-3-7
ORA	ORA US	Ormat Technologies	US$ 64.51	B-2-7
PCG	PCG US	PG&E Corp.	US$ 16.43	B-1-7
SPWR	SPWR US	SunPower Corp.	US$ 3.07	C-3-9
RUN	RUN US	SunRun	US$ 11.99	C-1-9
UGI	UGI US	UGI Corp.	US$ 25.1	B-3-7

Source: BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

Array Technologies (ARRY)

Our $17/share PO is based on a 50/50 weighted DCF and EV/EBITDA multiple methodology. We also add NPV of tax credits. Our DCF valuation is $14.00/sh, and our EV/EBITDA valuation is $13.50/sh. NPV of tax credits is $3.00/sh.

EV/EBITDA approach:
- Based on the average of comps at 10.0x/8.0x 2024E/2025E EBITDA. We use an average given ongoing uncertainties in the utility scale solar market which we expect to be reflected in valuation alongside a more normalized business outlook in '25.

DCF approach:
- We derive FCFF and net off stock comp and contribution to margins from Inflation Reduction Act Credits which are valued separately
- FCFF discounted a 12.3% cost of capital given risk associated with the execution of the growth strategy but noting ARRY is financed with lower cost debt
- Terminal multiple of 12.0x akin to where ARRY has traded on an average 2 year forward basis.

NPV of tax credits:
- We add in the discounted value of tax credit upside also at 12% through full phase down in 2032

Upside risks to our PO are (1) a stronger-than-anticipated outlook for solar projects in the US, (2) higher cost deflation on key inputs, including steel and freight, and accretion to margins (3) policy clarity in the US, which would give more long-term certainty for ARRY's buyers

Downside risks to our PO are (1) a slower recovery in US solar projects, (2) lack of execution on margin advancement and cost-cutting initiatives, and (3) an increasingly inflationary backdrop on supply chain

Atlantica Sustainable Infrastructure (AY)
Our $22/sh PO is based on a 75% DDM valuation and 25% DCF valuation. Our Growth value is $21 (weighted 75%). Our DCF value is $23 (weighted 25%). We continue to reflect disproportionate focus on core asset cash flows, and perceived growth remains interesting but less compelling, given the current interest rate and operating environment across the market.

Assumptions in our DCF valuation are:
- A 10.38% discount rate calculated using CAPM methodology, along with country risk (125bps) and company-specific (100bps) premiums.
- 2.5% annual escalator in corporate expenses

Main assumptions in our DDM valuation are:
- Run-rate CAFD generated by the current portfolio of $240 Mn
- 3% annual distribution per share growth, which is based on 3-yr historic average for the portfolio

Downside risks are 1) the company may not be able to access capital markets at favorable terms, 2) the company may not be able to make accretive acquisition opportunities to fuel growth, 3) the company may not be able to grow DPS at the targeted growth rate, 4) the company may not be able to sustain its current dividend levels, and dividend yield could increase, 5) PCG related counterparty exposure is among the nearest exposures to watch.

Avista (AVA)
Our $32 PO is based on our 2026E sum-of-the-parts (SOTP) analysis, based on the electric group multiple of 13.6x for electric and 13.4x for gas. Both electric and gas peer P/E multiples are grossed to reflect the group's 5% CAGR to reflect capital appreciation across the sector. We then use a blended electric and gas multiple of approximately 75% and 25%, respectively, for AVA's WA and ID jurisdictions given the composition of its rate base. We apply a -2x discounts to WA, ID, and OR to capture below average-growth, inconsistent execution, and regulatory uncertainty. We apply the gas multiple to its OR jurisdiction as it is entirely comprised of natural gas distribution assets. We apply an electric multiple to its Alaska subsidiary, AEL&P, as it is a vertically integrated electric utility, with a -1x discount. The Corporate & Other segment is valued with (1) a utility P/E multiple on the HoldCo expenses, (2) nearly offset by the disclosed fair market value of other assets & investments.

Upside/downside risks to achievement of the price objective are changes in: 1) regulatory, political, and legislative, 2) interest rates and commodities, 3) wildfires and natural disasters, 4) phase-out of natural gas, 5) capital expenditures, 6) debt and equity needs, 7) credit ratings, 8) clinical trials, and 9) other investments.

Clearway Energy (CWENA / CWEN)
Our $27/sh PO is based on 67/33 weighted DDM/DCF methodologies. Our DDM value is $30 and our DCF value is $20. We use a 67% weighting to reflect disproportionate focus on existing and future yield over core asset cash flows. Perceived growth remains the prevailing methodology employed across the market.

In our DCF, we discount the current portfolio's expected cash flows. Main assumptions include:
- Our 8.63% cost of equity applies a CAPM methodology and includes 1.0% company-specific premium
- Outstanding corporate debt is assumed to be refinanced and amortized on a 20-year term.

Assumptions under our DDM approach are:

- 8.0% growth through 2026
- A 2.0% required yield based on the 2023E dividend yield for the YieldCo peer set.

Risks are 1) misalignment between the new sponsor and the company's growth strategy, 2) the inability to purchase high-quality assets at accretive multiples, 3) the failure to successfully develop projects, 4) the inability to access capital markets at attractive terms, and 5) PCG related counterparty exposure is among the nearest exposures to watch.

Edison International (EIX)

Our $61 PO is based on sum of the parts analysis with a peer 13.4x 2026 P/E grossed-up 5% for group growth. A -1x P/E discount is applied to the CPUC and FERC jurisdictional utilities to reflect below-average growth and regulatory considerations. Parent expenses are valued at an average multiple. The negative wildfire adjustments are netted-out to reflect a probabilistic approach to the risk of shareholder funded wildfires and the ongoing contribution to the California fund on an NPV basis.

Positive and negative risks are changes in: 1) Wildfire and other natural disasters/catastrophic events, 2) regulatory, political, and legislative outcomes, 3) interest rates, 4) equity needs, 5) earned returns and operating costs, 6) Edison Energy performance, 7) ability to deploy capital, 8) environmental, social, & governance [ESG] profile, and 9) wildfire liabilities for shareholders.

Enlight Renewable Energy Ltd (ENLT / XENLF)

We arrive at our $19.50 (ILS 70.98) /share price objective in three pieces.

(1) Value for the operating business (OpCo) which is comprised of assets producing energy today and those that are in construction or pre-construction phases that are targeting an operational startup in the next 24 months. We benchmark these cash flows on a sliding scale from 8% to 8.5% based on the relative execution risk with the low end of the range applied to currently producing assets.

(2) Value for future growth generated in the development company (DevCo). We benchmark value created as the DCF of cash flows from of future projects immediately before their construction benchmarked at a 9% discount rate which is a cushion above the current cost of capital. We discount value created in a future year to current using a 10% discount rate and apply an 10x terminal value multiple on our 2030E NPV.

(3) We net off any payment streams that sit at the parent level at a 10% discount rate including overhead, tax, and corporate debt schedule. We add in a current value of cash as well.

Downside risks: (1) Risks of project delays (2) Rising rates and inability to pass through these costs into pricing (3) Competition and (4) Risks to regulatory delay including interconnection (5) Exposure to merchant power prices.

Upside risks: (1) Accelerated growth to volumes (2) Improvements in the regulatory backdrop (3) Exposure to elevated power pricing.

First Solar, Inc. (FSLR)

Our price objective is $187/share, based on an EV/EBITDA method. We apply a 3.2x multiple from a group of Chinese and other international solar comp group/module peers, and add a 0.5x premium for FSLR's lower risk to protectionist trade policies. We value FSLR's core EBITDA at a lower than historical multiple given significant pressure to 2027+ pricing from Chinese oversupply. We also add net cash balance and $84/share net present value to account for production tax credits stipulated in Inflation Reduction Act.

Downside risks: 1) worse/declining price environment, 2) declining margins or worse-than-expected cost structure, 3) unfavorable trade policy dynamics, 5) worse Chinese/global demand environment, 6) worse execution on systems business, and 7) technology fails to live up to expectations 8) FSLR capture of production tax credits fall short of expectations

Hannon Armstrong (HASI)
Our valuation with $27/share price objective uses 33/33/33 DDM/DCF/PE methodology, with $20 DDM valuation, $27 DCF valuation, $35 relative P/E valuation.

For the DCF, we apply a cost of equity of 10.9% with 4.22% 10-year Treasury, 0.96 adj. beta, a 200bps discount to the peer overall group, and a 3x premium to peer group of commercial mortgage REITs and business development companies (BDCs) to value the existing portfolio and growth prospects.

For the DDM, we assume 6.5% annual DPS growth for 2023-2024, 5.0% growth for 2025-2030, and 2% terminal growth, vs. near-term guidance for 5-8% DPS growth and 10-13% EPS growth.

Our assumptions for 7.5% yield and 6.9% cost of debt arise from analysis of historical and projected portfolio composition (and associated yields by asset class) and expectations for fixed vs. floating-rate debt.

For the PE valuation, we apply a 1x discount to the '25E peer P/E multiple of 14.1x. Our peer group includes CM REITS, BDCs, environmental service companies, & industrials.

Upside risks: 1) Origination growth above expectations, 2) acceleration in securitization transactions, 3) dividend growth faster than expected, 4) SG&A costs below expectations, 5) faster-than-expected yield expansion.

Downside risks: 1) Origination growth below expectations, 2) slowdown in securitization transactions, 3) shift toward greater proportion of BTM vs. GC assets resulting in drag on portfolio's yield, 4) rapid rise in interest rates, 5) slowing dividend growth.

NextEra Energy (NEE)
Our $61 PO is derived using an sum-of-the-parts (SOTP) approach, with the utilities and parent segment valued on a 2025E P/E basis, and the generation segment valued on a 2025E EV/EBITDA basis. In addition, we include NEE's ownership stake in NextEra Energy Partners (NEP) as well as the value of fixed fee IDR (DCF, at 10% disc rate). We assign 25E peer multiples of 14.9x for electric and 21.4x for water (grossed up by 5% and 7%, respectively, to reflect capital appreciation) with discount/premium to reflect the growth/risk profile of the businesses. We apply a 15% premium for FPL and Gulf. For NEER, we apply a peer EV/EBITDA multiple of 10.0x, which we adjust depending on asset type. We give contracted renewables an in line multiple with peers. We utilize a DCF (12% discount rate) of new renewable for projects beyond 2024 and include a 12x terminal multiple. We value contracted nuclear on a DCF approach using an 10% discount rate. We apply a 1x premium multiple to pipelines, -6.0x discount to gas infrastructure and -4x discount for supply and trading given lower asset quality, a 0x premium for contracted gas peakers and 1x discount for merchant peakers (other), again based on asset quality.

Risks to our PO are: 1) regulatory/political/legislative outcomes, 2) weather and natural disasters, 3) commodity price changes, 4) fluctuations in stock prices for NextEra Energy Partners, 5) renewable development margins & margin, and 6) election commission review.

NorthWestern Energy Group (NWE)

Our $55 price objective is based 2026E price/earnings (P/E) methodology. We apply the electric utility small and mid-cap sector P/E of 13.4x as a base then gross-up +5% to reflect capital appreciation across the sector. We value at an in-line multiple given improved regulatory treatment and our forecast for sector-average growth through the five-year planning period.

Risks to our price objective are changes in 1) regulatory, political, and legislative outcomes, 2) ability to recover costs and earn the regulatory allowed return on equity [ROE], 3) differences in future equity needs, 4) capital expenditure forecasts, 5) commodity and interest rates, 6) natural disasters and wildfires, and 7) management changes.

OGE Energy Corp (OGE)

Our OGE PO is $35/share based on a sum of the parts. For the utility and HoldCo we apply the FY26 peer multiple of 13.4x. Electric peer P/E multiple is grossed up for +5% to reflect capital appreciation across the sector, a consistent methodology across our coverage universe. We apply a 0.5x premium for incremental growth not yet embedded in plan as well as the above-average balance sheet metrics.

Upside and downside risks are changes in: 1) regulatory, legislative, and political outcomes, 2) ability to earn the allowed rate of return, 3) interest rates and commodity costs, 4) customer and sales growth, particularly energy and data mining customers, 5) natural disasters, 6) credit rating agency requirements, 7) capital expenditure plan, and 8) request for proposal outcomes.

ONE Gas, Inc. (OGS)

We use a sum-of-the-parts analysis to calculate our $57 price objective for OGS, applying a FY26E Gas LDC peer multiple of 13.4x (grossed up by 5% to reflect capital appreciation across the space). We use a 1x discount to the group to reflect below-average utility growth rates and inherent lag that limits actual returns relative to those authorized.

Upside and downside risks are: 1) political, regulatory, and legislative changes, 2) capital expenditures, 3) inflation and operating costs, 4) commodity prices, 5) pandemics, natural disasters, and weather, 6) policy changes for natural gas investments.

Ormat Technologies (ORA)

Our $71/sh PO is based on a DCF + DevCo methodology, with a DCF value of $38/sh plus a DevCo value of $33/sh.

In our DCF, we discount the existing portfolio's expected cash flows. Main assumptions include a 8.99% Cost of Equity with 1.00 adj. beta and 4.01% 10-yr Treasury under the CAPM (with project-specific adjustments, 2% international risk premium and 0.5% development premium).

In our DevCo, we value long-term growth prospects with the assumption of geothermal value at $1.50mn/MW and battery storage at $0.28Mn/MWhr. Our long-term assumptions are slightly lower than mgmt.'s Analyst Day targets given operational challenges. We apply an 11x terminal value, akin to where ORA has traded historically, and discount the value created in each year back to today at a 12% cost of equity capital. Additionally, we include the NPV of future storage investment tax credits. We also discount these credits back at a 13% rate.

Risks: 1) operational issues including planned/unexpected maintenance costs and shutdowns, 2) geological uncertainties and catastrophic events incl. earthquakes and volcanoes, 3) international exposure with higher credit, financial, political, and regulatory risks, and 4) re-contracting price risks 5) Ability to execute in a nascent storage segment.

PG&E Corporation (PCG)
Our PO of $19 reflects an in-line P/E versus the respective electric (16.1x) and gas (16.0x) peer P/E groups with both grossed-up by 5% to reflect capital appreciation across the sector) based on 2025E. The acute wildfire risk is incorporated separately via a scenario probability weighted at 100% assuming PCG hits the cap in 3-year increments. Lastly, we net out 50% weighting of HoldCo debt and add back 50% weighting of interest expense to derive our Price Objective.

Risks to achievement to estimates and Price Objective are: 1) Wildfire and other natural disasters/catastrophic events, 2) regulatory outcomes, 3) interest rates, 4) equity needs, 5) earned returns and operating costs, 6) Fire Victim Trust monetizations, 7) ability to deploy capital, 8) asset sales, 9) management changes, and 10) environmental, social, & governance [ESG] profile.

SunPower Corp. (SPWR)
Our $2.50/sh PO is based on a combination of SOTP and NPV. For future growth assets we use a DCF based on FCF to equity ests from '23 to '29. We apply a 6x terminal value multiple and a 18% discount rate, in-line with our approach for resi solar peers which reflects recent market volatility and higher execution risk on long term growth. We add back the net cash position, and value for contracted assets in SPWR's joint venture financing partnership, SunStrong. On SunStrong, we include 20% credit for renewal value stake.

Upside risks 1) better than expected pricing environment, 2) improving margins/cost structure, 3) declining input costs., 4) better than downstream planned sys biz expansion, and 5) reduced customer acquisition costs.

Downside risks 1) worse/declining price environment, 2) declining margins or worse than expected cost structure, 3) worsening liquidity position4) worse Chinese/global demand environment, 5) worse execution on downstream systems biz, 6) tech fails to live up to expectations.

SunRun (RUN)
We arrive at our $20/share price objective in two pieces: PowerCo and DevCo. Our PowerCo attribution of $9/sh reflects the DCF of existing home contracts benchmarked against a 15% discount rate plus net cash / debt at the corporate level. We use a DevCo attribution of $11/sh, reflecting DCF of future years of subscribing new customers benchmarked to a 15% discount rate. We discount the value creation of the future years of subscribing customers at a 15% discount rate and apply an 6x terminal value multiple on our 2030E NPV discounted back to 2024. We net out holding company recourse debt and cash within our PowerCo valuation.

Downside risks: are associated with the ability to meet cost reduction expectations, MW deployment guidance, Net Energy Metering (NEM), and access to debt capital markets given the highly leveraged strategy employed.

UGI Corp. (UGI)
Our $22 PO is derived from our SOTP analysis. We mark-to-market (MtM) our UGI Utilities segment to 2025E peer 2025E P/E multiples of 14.9x for gas & 14.7x for electric. For U.S. & international LPG, we apply an 8.9x EBITDA base multiple in-line with propane comps & apply a -4x discount to UGI International (based on a challenged energy environment in Europe) and a -4x discount to AmeriGas based on challenges to customer retention & a slow return to the M&A market. We apply an 8.9x 2025E EV/EBITDA multiple to the midstream segment with premiums based on the asset. For the renewables business, we take the NPV of future cash flows, which implies a 0.9x FY25E EV/EBITDA multiple. For parent debt in the Corp & Other segment we net out 50/50 weighting for recapitalization & add back 50% of parent interest exp.

Upside risks: favorable weather, improving propane logistics efficiencies domestically or in Europe, increased conversion rates or faster new home construction within PA, and favorable currency exchange rates. Macroeconomic concerns are declining interest rates, lack of volatility and declining natural gas prices, and a general economic upturn.

Downside risks: unfavorable weather, propane logistics issues and shortages domestically or in Europe, reduced conversion rates or slower new home construction within PA, and unfavorable currency exchange rates. Macroeconomic concerns are rising interest rates, volatile and rising natural gas prices, and a general economic slowdown.

Analyst Certification

We, Julien Dumoulin-Smith and Paul Zimbardo, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

North America - Utilities and Alt Energy Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Alliant Energy Corporation	LNT	LNT US	Julien Dumoulin-Smith
	Array Technologies	ARRY	ARRY US	Julien Dumoulin-Smith
	Atlantica Sustainable Infrastructure	AY	AY US	Julien Dumoulin-Smith
	Atmos Energy Corporation	ATO	ATO US	Julien Dumoulin-Smith
	CenterPoint Energy	CNP	CNP US	Julien Dumoulin-Smith
	Cheniere Energy Inc	LNG	LNG US	Julien Dumoulin-Smith
	Clearway Energy	CWENA	CWEN/A US	Julien Dumoulin-Smith
	Clearway Energy	CWEN	CWEN US	Julien Dumoulin-Smith
	CMS Energy	CMS	CMS US	Julien Dumoulin-Smith
	Consolidated Edison	ED	ED US	Julien Dumoulin-Smith
	DTE Energy	DTE	DTE US	Julien Dumoulin-Smith
	Enlight Renewable Energy Ltd	ENLT	ENLT US	Julien Dumoulin-Smith
	Enlight Renewable Energy Ltd	XENLF	ENLT IT	Julien Dumoulin-Smith
	Entergy	ETR	ETR US	Paul Zimbardo
	First Solar, Inc.	FSLR	FSLR US	Julien Dumoulin-Smith
	Fluence Energy	FLNC	FLNC US	Julien Dumoulin-Smith
	Hannon Armstrong	HASI	HASI US	Julien Dumoulin-Smith
	MDU Resources Group, Inc.	MDU	MDU US	Julien Dumoulin-Smith
	Nextracker Inc	NXT	NXT US	Julien Dumoulin-Smith
	NiSource Inc	NI	NI US	Julien Dumoulin-Smith
	NorthWestern Energy Group	NWE	NWE US	Julien Dumoulin-Smith
	NRG Energy	NRG	NRG US	Julien Dumoulin-Smith
	PG&E Corporation	PCG	PCG US	Julien Dumoulin-Smith
	PNM Resources Inc.	PNM	PNM US	Julien Dumoulin-Smith
	PPL Corporation	PPL	PPL US	Paul Zimbardo
	Public Service Enterprise Group	PEG	PEG US	Julien Dumoulin-Smith
	Sempra	SRE	SRE US	Julien Dumoulin-Smith
	Sunnova Energy	NOVA	NOVA US	Julien Dumoulin-Smith
	SunRun	RUN	RUN US	Julien Dumoulin-Smith
	TPI Composites	TPIC	TPIC US	Julien Dumoulin-Smith
	Vistra Corp	VST	VST US	Julien Dumoulin-Smith
	Xcel Energy Inc	XEL	XEL US	Julien Dumoulin-Smith
NEUTRAL				
	AES	AES	AES US	Julien Dumoulin-Smith
	Algonquin Power & Utilities Corp	AQN	AQN US	Paul Zimbardo
	Algonquin Power & Utilities Corp	YAQN	AQN CN	Paul Zimbardo
	AltaGas	YALA	ALA CN	Cameron Lochridge
	Ameren Corporation	AEE	AEE US	Julien Dumoulin-Smith
	Ameresco	AMRC	AMRC US	Julien Dumoulin-Smith
	American Electric Power	AEP	AEP US	Julien Dumoulin-Smith
	ChargePoint Holdings	CHPT	CHPT US	Cameron Lochridge
	Constellation Energy Corp	CEG	CEG US	Paul Zimbardo
	Duke Energy	DUK	DUK US	Julien Dumoulin-Smith
	Emera Inc	YEMA	EMA CN	Julien Dumoulin-Smith
	Essential Utilities	WTRG	WTRG US	Julien Dumoulin-Smith
	Evergy, Inc	EVRG	EVRG US	Julien Dumoulin-Smith
	Exelon	EXC	EXC US	Paul Zimbardo
	Generac Holdings Inc.	GNRC	GNRC US	Julien Dumoulin-Smith
	Hydro One	YH	H CN	Julien Dumoulin-Smith
	Idacorp	IDA	IDA US	Paul Zimbardo
	Maxeon Solar Technologies	MAXN	MAXN US	Julien Dumoulin-Smith
	NextEra Energy	NEE	NEE US	Julien Dumoulin-Smith
	NextEra Energy Partners	NEP	NEP US	Julien Dumoulin-Smith
	OGE Energy Corp	OGE	OGE US	Julien Dumoulin-Smith
	Ormat Technologies	ORA	ORA US	Julien Dumoulin-Smith
	Pinnacle West	PNW	PNW US	Julien Dumoulin-Smith
	Portland General Electric Company	POR	POR US	Julien Dumoulin-Smith
	Southern Company	SO	SO US	Julien Dumoulin-Smith
	Southwest Gas Holdings	SWX	SWX US	Julien Dumoulin-Smith
	TransAlta Corp	TAC	TAC US	Julien Dumoulin-Smith
	TransAlta Corporation	YTA	TA CN	Julien Dumoulin-Smith

North America - Utilities and Alt Energy Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
UNDERPERFORM				
	Allete Inc	ALE	ALE US	Julien Dumoulin-Smith
	American Water Works	AWK	AWK US	Julien Dumoulin-Smith
	Avangrid	AGR	AGR US	Paul Zimbardo
	Avista	AVA	AVA US	Julien Dumoulin-Smith
	Black Hills Corporation	BKH	BKH US	Julien Dumoulin-Smith
	Bloom Energy	BE	BE US	Julien Dumoulin-Smith
	Dominion Energy	D	D US	Paul Zimbardo
	Edison International	EIX	EIX US	Paul Zimbardo
	Enphase Energy	ENPH	ENPH US	Julien Dumoulin-Smith
	Eversource Energy	ES	ES US	Paul Zimbardo
	FirstEnergy	FE	FE US	Julien Dumoulin-Smith
	Fortis	YFTS	FTS CN	Julien Dumoulin-Smith
	Fortis Inc	FTS	FTS US	Julien Dumoulin-Smith
	FREYR Battery	FREY	FREY US	Julien Dumoulin-Smith
	FTC Solar	FTCI	FTCI US	Julien Dumoulin-Smith
	Hawaiian Electric Industries	HE	HE US	Julien Dumoulin-Smith
	MGE Energy	MGEE	MGEE US	Julien Dumoulin-Smith
	New Jersey Resources Corp	NJR	NJR US	Julien Dumoulin-Smith
	ONE Gas, Inc.	OGS	OGS US	Julien Dumoulin-Smith
	SolarEdge Technologies	SEDG	SEDG US	Julien Dumoulin-Smith
	Spire	SR	SR US	Julien Dumoulin-Smith
	Stem, Inc.	STEM	STEM US	Julien Dumoulin-Smith
	SunPower Corp.	SPWR	SPWR US	Julien Dumoulin-Smith
	UGI Corp.	UGI	UGI US	Julien Dumoulin-Smith
	WEC Energy Group Inc	WEC	WEC US	Julien Dumoulin-Smith
RVW				
	New Fortress Energy	NFE	NFE US	Cameron Lochridge

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Alternative Energy Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	8	47.06%	Buy	8	100.00%
Hold	5	29.41%	Hold	3	60.00%
Sell	4	23.53%	Sell	1	25.00%

Equity Investment Rating Distribution: Energy Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	83	61.48%	Buy	64	77.11%
Hold	28	20.74%	Hold	21	75.00%
Sell	24	17.78%	Sell	18	75.00%

Equity Investment Rating Distribution: Utilities Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	72	46.45%	Buy	52	72.22%
Hold	45	29.03%	Hold	32	71.11%
Sell	38	24.52%	Sell	21	55.26%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

R1 Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	**Total return expectation (within 12-month period of date of initial rating)**	**Ratings dispersion guidelines for coverage cluster**[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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