

Can hydropower compete and conquer in a new energy era?

- Hydropower now emerges as a source of reliable and green energy for AI
- U.S. power market is geared towards nuclear and hydropower as power of choices
- BGRIM stands as the best play on U.S. hydropower play

U.S. hydropower: once overlooked but now a revitalizing energy source

Once an overlooked power source, hydropower is now back on the radar for global electricity-hungry data center industry, thanks to its dual tasks of hydropower as a clean and reliable electricity source and reservoirs as a water source for cooling purpose. The U.S. hydropower industry is a great example as it is now actively looking to restart not only nuclear but also hydropower, once perceived dying energy source (nuclear on safety and hydropower on environment). Yet the challenges lie on hefty funding for hydropower relicensing. Though facing higher costs of relicensing than the cost of power generations from gas, wind, and solar, hydropower may enable U.S. to be on the game to take advantage of the infrastructure already exists, potentially overcoming the super-tight electricity supply that now jeopardized the U.S. AI industry growth against China.

Hydropower plants account for 6% of total power generation in U.S.

In 2024, hydropower accounted for 27% of total U.S. utility-scale renewable electricity generation and 5.86% of total U.S. utility-scale electricity generation. But now hydropower finds itself in a similar position to that of nuclear energy a few years ago, where existing facilities risk closure due to relicensing costs amid competition from cheaper renewable newcomers. The Bipartisan Infrastructure Law, launched under the Biden administration, provides USD753.6m subsidy for hydropower.

12GW power capacity could be recreated via hydropower plant overhaul

Just 3% of U.S. 90,000 dams generate electricity and up to 12GW of hydropower could be added by overhauling for the 65-year average, 450 hydroelectric plants (16GW) waiting for relicensing in the next 10 years. The U.S. is now on the verge of a major shift in hydropower but the red tape becomes hurdles with average waiting time up to 8 years due to the constraint under the Federal Power Act 1920. But if succeeds, these relicensed hydropower plants could supply the booming demand for electricity.

Google's move is a critical step in revitalizing U.S. hydropower for data centre

There have been some positive signs for the hydropower sector in recent months, with the signing of a USD3b hydropower deal between Google and Brookfield Asset Management in July aiming at providing up to 3GW of hydropower for its data centres under a 20-year PPAs for two hydropower plants in Pennsylvania. The two sites are expected to be upgraded and relicensed and Google aims to eventually expand the deal beyond the two initial sites to other parts of the Mid-Atlantic and Midwest.

Thailand's power play picks: BGRIM, EGCO, RATCH, GULF

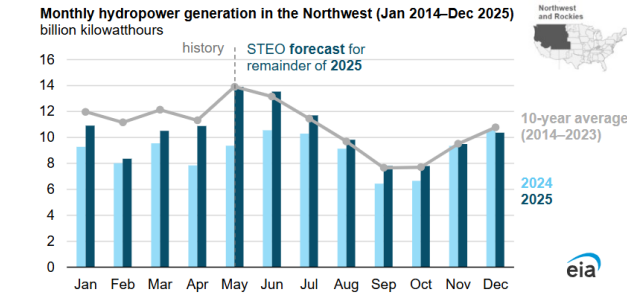
Our top picks for Thai power plays who could see potential growths in the U.S. power industry are BGRIM (a 30MW hydropower Malacha in California), RATCH, EGCO, and GULF (leverage on their existing operations in hydropower plants in Laos). The smaller plays could include BCPG (Namsan 3A&3B hydropower plants in Laos) and CKP but we think these two may lack financial capabilities to fund the growths in the capital-intensive investments for hydropower projects.

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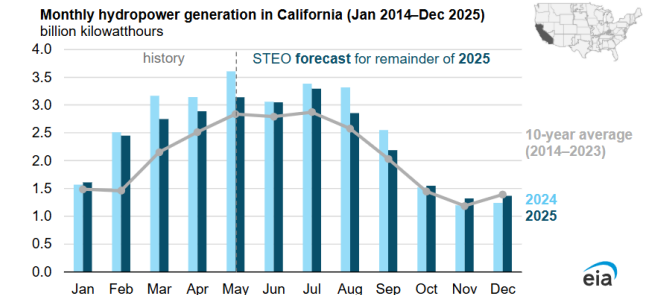
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Exhibit 1: U.S. monthly hydropower generation in Northwest



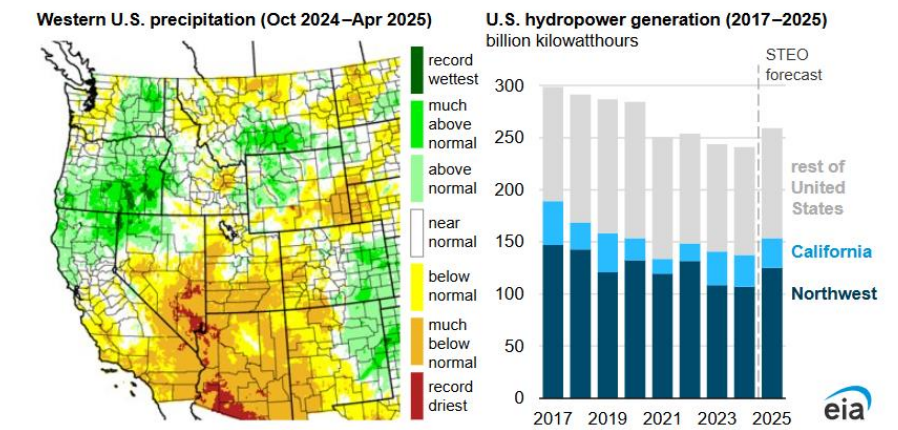
Sources: EIA

Exhibit 2: U.S. monthly hydropower generation in California



Sources: EPPO

Exhibit 3: U.S. hydropower generation expected to rise 7.5% y-y in 2025 after a drought year in 2024



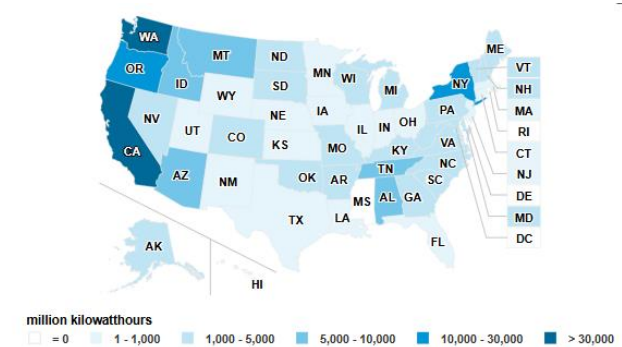
Sources: EIA

Exhibit 4: U.S. hydroelectricity – five largest states

State	% of U.S. total hydroelectricity		
	Hydropower (Summer)	Hydropower (year-round)	Reservoir (year-round)
Washington	27	25	
California	13	13	17
Oregon	10	10	
New York	6	12	
Alabama	4	4	
Virginia			14
South Carolina			13
Michigan			9
Georgia			8
	Capacity (GW)	Production (b kWh)	Capacity (GW)
Total	80	240	23

Sources: EIA

Exhibit 5: U.S. hydroelectricity generation by state



Sources: EIA

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Analyst Certification

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RECOMMENDATION STRUCTURE

Stock Recommendations

Stock ratings are based on absolute upside or downside, which we define as $(\text{target price}^* - \text{current price}) / \text{current price}$.

- BUY:** Expected return of 10% or more over the next 12 months.
HOLD: Expected return between -10% and 10% over the next 12 months.
REDUCE: Expected return of -10% or worse over the next 12 months.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Sector Recommendations

- Overweight:** The industry is expected to outperform the relevant primary market index over the next 12 months.
Neutral: The industry is expected to perform in line with the relevant primary market index over the next 12 months.
Underweight: The industry is expected to underperform the relevant primary market index over the next 12 months.

Country (Strategy) Recommendations

Overweight: Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral: Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight: Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.