

# Alternative Energy Market Update – Q1'23

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*February 2023*

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## Macro Environment | Short-Term Developments

Activity	Market Impact	Commentary
<b><i>Inflation Reduction Act</i></b>		<ul style="list-style-type: none"> <li>On August 16, President Biden signed the \$739 billion Inflation Reduction Act into law, which carves out \$369 billion for “Energy Security and Climate Change”</li> <li>Investors are beginning to transact on new tax credits for RNG (GIP/Amber) and stand-alone battery storage (Eolian/Churchill Stateside Group)</li> <li>The Treasury and IRS continues rolling out guidance, most recently detailing the Low-Income Communities Bonus Credit Program</li> </ul>
<b><i>Investment Activity</i></b>		<ul style="list-style-type: none"> <li>Global investment in the low-carbon energy transition totaled \$1.1 trillion in 2022 – a new record and a huge acceleration from the previous year               <ul style="list-style-type: none"> <li>Notably, China remains on track to dominate clean energy manufacturing capacity (batteries, components, solar modules, etc), accounting for 91% of \$79 billion total investments in 2022<sup>1</sup></li> </ul> </li> <li>1,000 venture and growth-stage climate tech deals closed in 2022, totaling \$40bn in transaction value, with most activity concentrated in early-stage companies<sup>2</sup></li> </ul>
<b><i>Public Markets</i></b>		<ul style="list-style-type: none"> <li>Public equity performance remains mixed, with Alternative Energy and Renewable Fuels/RNG being the outperformers over the last 12-months</li> <li>Floating rate debt remains problematic for some borrowers/acquirers in higher rate environment</li> </ul>
<b><i>Solar Module Supply</i></b>		<ul style="list-style-type: none"> <li>The DOC made preliminary determinations to impose anti-circumvention duties on certain panels &amp; cells, while sparing others. While results were mixed, it removed the most negative outcomes for most manufacturers and provided the market some certainty on tariff risk</li> <li>U.S. Customs officials have seized \$806 million worth of imports since UFLPA went into effect last June, though the pace of seizures is expected to slow as developers learn to navigate UFLPA restrictions<sup>3</sup></li> </ul>
<b><i>Manchin’s Failed Permitting Bill</i></b>		<ul style="list-style-type: none"> <li>In exchange for supporting the IRA, Senator Manchin struck a deal with Majority Leader Schumer to include a permitting reform package for clean energy and fossil fuel projects</li> <li>After failing to rally broader support, the energy permitting proposals were removed from the bill</li> </ul>

Source: <sup>1</sup> BNEF, <sup>2</sup> CTVC, <sup>3</sup> Axios

# Alternative Energy | U.S. Landscape

Developers,  
Utilities & IPP's

## **Premium valuations for development platforms and portfolios persist**

- Supply of new generation capacity cannot keep up with demand due to interconnection reform and supply chain disruptions – 5GW of 2022 capacity pushed to 2023 and beyond
- Market imbalance puts upward pressure on PPA prices, near-term project valuations, and development platform valuations



Engineering,  
Procurement &  
Construction

## **Despite legislative tailwinds, critical challenges remain to meet demand**

- Persistent craft labor shortages exacerbated in the short-term by IRA requirements, driving up margins for those with captive labor pools and down for everyone else
- Pending loosening of anti-circumvention and UFLPA-related module shortages make EPC the new bottleneck



Infrastructure  
& Private  
Capital

## **Strong start to 2023**

- Energy Transition deal flow and capital deployment has been robust thus far in 1Q'23
- Increasing interest in Renewable Fuels
- Increasing comfort and familiarity with value derived from IRA-enabled tax credits



Battery  
Storage

## **U.S. installed base of battery storage expected to double during 2023, according to the EIA**

- Capacity adds highly concentrated in Texas, California, and the southwest U.S.
- Growth expectations supported by expanded ITC, which serves as a mitigant to cost inflation
  - Eolian and Churchill Stateside group announced first ITC deal for stand-alone battery storage, financing two facilities with 200MW combined capacity in ERCOT



RNG, CCS, and  
Renewable  
Fuels

## **Market excitement boosted by Inflation Reduction Act tax credits**

- Investors and operators are sharpening pencils on how to incorporate new 45Q, 45Z, RNG ITC, and Clean Hydrogen tax credits
- Continuation of significant deal announcements into 1Q'23
- Carbon Capture Sequestration (CCS) FID's remain elusive



Source: S&P Market Intelligence, Sparkspread, Infralogic, WoodMac, CARB, EPA

# Alternative Energy | Public Market Overview

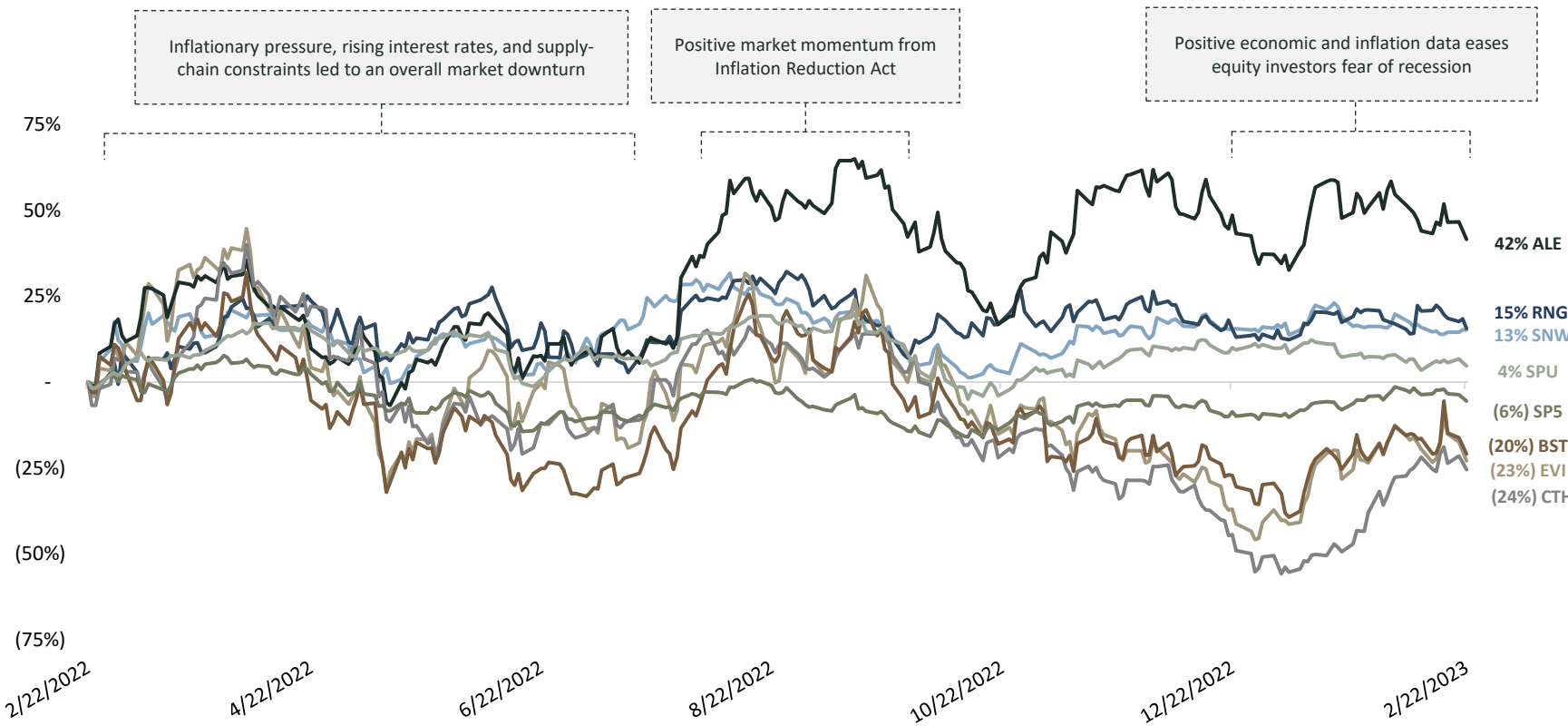
Ticker	Price 2/22/2023	Market Cap (\$mm)	Enterprise Value (\$mm)	YTD Total Returns (%)	Valuation		Debt / Total Cap (%)	Credit		
					2023E EV / EBITDA (x)	2024E EV / EBITDA (x)		2022E Net Debt / EBITDA (x)	S&P Credit Rating	
<b>Alternative Energy</b>										
Array Technologies	ARRY	\$19.69	\$2,963	\$3,975	1.9%	14.7x	11.4x	69.3%	5.9x	B
Brookfield Renewable Corporation	BEPC	29.15	10,548	34,672	6.0%	15.0x	13.9x	45.1%	6.2x	BBB+
First Solar	FSLR	163.61	17,442	15,828	9.2%	20.0x	11.6x	5.1%	NA	NA
Hannon Armstrong	HASI	31.01	2,817	5,673	7.0%	41.6x	34.7x	64.1%	23.4x	BB+
Ormat Technologies	ORA	89.03	4,993	7,113	2.9%	13.7x	12.2x	50.3%	4.5x	NA
Sunnova Energy International	NOVA	16.89	1,941	7,605	(6.2%)	32.4x	22.9x	74.1%	39.8x	NA
SunPower Corporation	SPWR	15.33	2,670	2,710	(15.0%)	19.6x	13.2x	48.8%	0.4x	NA
Sunrun	RUN	24.08	5,132	14,595	0.2%	NA	104.8x	51.6%	NA	NA
<b>Cleantech</b>										
Bloom Energy Corporation	BE	\$22.42	\$4,621	\$5,339	17.3%	66.6x	23.0x	73.1%	NA	NA
Enphase Energy	ENPH	203.57	27,787	27,489	(23.2%)	28.1x	20.6x	61.4%	NA	NA
FuelCell Energy	FCEL	3.37	1,367	1,084	21.2%	NA	NA	12.1%	NA	NA
Plug Power	PLUG	14.54	8,475	6,674	17.5%	NA	27.5x	17.5%	5.0x	NA
SolarEdge Technologies	SEDG	295.71	16,599	16,291	4.4%	21.1x	16.4x	24.8%	NA	NA
Tesla	TSLA	200.86	635,542	620,299	63.1%	29.9x	21.1x	11.1%	NA	BBB
<b>Solar / Wind IPP</b>										
Clearway Energy	CWEN.A	\$30.31	\$3,540	\$11,884	1.3%	10.0x	10.0x	64.6%	5.4x	BB
EDF	EDF	12.61	49,029	100,704	(1.1%)	6.1x	4.4x	67.3%	NA	BBB
EDP Renováveis	EDPR	20.42	19,613	27,679	(6.7%)	12.1x	11.0x	42.7%	2.9x	BBB
NextEra Energy Partners	NEP	69.03	5,974	22,505	(0.4%)	11.4x	10.0x	26.4%	2.9x	BB
Ørsted	ORSTED	89.50	37,609	42,629	(0.7%)	12.9x	11.2x	42.8%	1.1x	BBB+
<b>Alternative Fuels / RNG</b>										
Ameresco	AMRC	\$51.48	\$2,673	\$4,177	(9.9%)	19.6x	15.4x	64.4%	6.9x	NA
Clean Energy Fuels Corp.	CLNE	5.54	1,232	1,183	6.5%	10.1x	6.1x	9.6%	NA	NA
Darling Ingredients	DAR	66.66	10,684	14,108	6.5%	7.4x	6.9x	48.5%	2.1x	BB+
Montauk Renewables	MNTK	9.88	1,386	1,364	(10.4%)	15.7x	11.1x	25.2%	NA	NA
Neste	NESTE	47.04	36,134	37,576	2.9%	10.0x	9.8x	23.9%	0.4x	NA
OPAL Fuels	OPAL	7.99	1,359	2,793	9.8%	27.9x	16.4x	41.0%	0.8x	NA
<b>Electric Vehicle Infrastructure</b>										
ChargePoint Holdings	CHPT	\$11.33	\$3,871	\$3,717	18.9%	NA	NA	48.3%	0.8x	NA
Evgo, Inc	EVGO	6.29	436	1,727	40.7%	NA	NA	7.7%	3.1x	NA
Volta	VLTA	0.85	149	255	140.2%	NA	NA	42.3%	NA	NA
<b>Battery Storage</b>										
Enovix Corporation	ENVX	\$8.28	\$1,301	\$986	(33.4%)	NA	NA	2.3%	4.0x	NA
Eos Energy Enterprises	EOSE	2.00	167	298	35.1%	NA	13.3x	209.3%	NA	NA
Fluence	FLNC	19.16	2,226	2,031	11.7%	NA	71.3x	3.8%	1.9x	NA
Li-Cycle	LICY	5.68	1,001	763	19.3%	NA	16.6x	40.8%	2.7x	NA
QuantumScape Corporation	QS	9.89	4,312	3,357	74.4%	NA	NA	7.4%	3.4x	NA
Stem Inc.	STEM	8.14	1,258	1,551	(8.9%)	NA	33.3x	49.6%	NA	NA

Source: S&P CapIQ Pro. Note: Prices as of 2/22/2023

# Alternative Energy | Stock Market Performance

Alternative Energy (ALE)		Cleantech (CTH)		Solar/Wind (SNW)		Renewable Fuels/RNG (RNG)		EV Infrastructure (EVI)		Battery Storage (BST)		S&P Utilities Index (SPU)	S&P 500 (SP5)
ARRY	ORA	BE	PLUG	CWEN.A	NEP	AMRC	MNTK	CHPT	VLTA	ENVX	LICY		
BEPG	NOVA	ENPH	SEDG	EDF	ORSTED	CLNE	NEST	EVGO		EOSE	QS		
FSLR	SPWR	FCEL	TSLA	EDPR		DAR	OPAL			FLNC	STEM		
HASI	RUN												

## Indices Total Return (LTM)



Source: S&P CapIQ Pro. Note: Prices as of 2/22/2023

## Alternative Energy | Solar Market Overview

*Long-term prospects for solar remain strong, supported by heavy demand and legislative incentives*

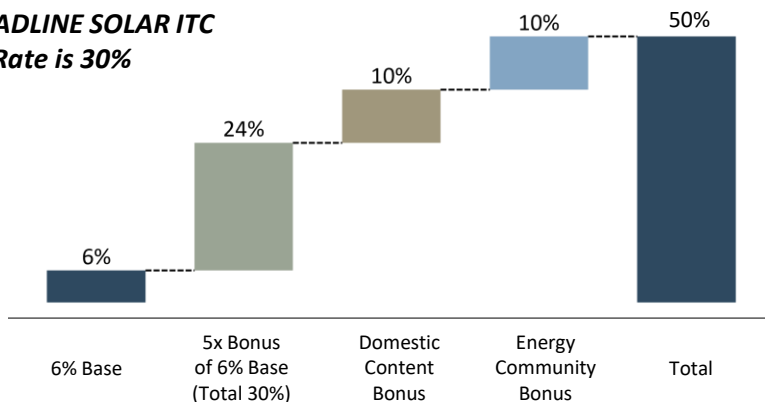
### Market Commentary

- **Supply chain** issues and **tariffs** create binary risk around near-term development and valuation – you either have panels, or you don't...
- **Transmission** permitting reform is on the table, but prospects of resolution in 2023 are uncertain
  - Manchin's latest deal was rejected by the Democrats, and with a divided Congress, progress seems unlikely
  - That leaves decision making authority to **FERC** and the states. With Richard Glick gone, the commission is split 50/50 suggesting further gridlock
  - In the meantime, the **IJA** does provide transmission funding and gives FERC *some* authority regarding transmission project development
- Broader worries over the economy haven't had a major impact on the demand for renewable projects
  - Rising **interest rates** are the exception for construction-ready projects
  - Utilities and IPPs are competing with institutional capital to fulfill large regulatory and investor-driven **procurement goals**
  - With wholesale **power prices up**, offtakers and investors can underwrite more aggressive decks that support higher project values

### Inflation Reduction Act (IRA)

- The IRA has generated tailwinds across the renewables landscape, partially mitigating some of the financing constraints facing developers
- Many market participants are in a holding pattern as they await updated guidance to key provisions before making major decisions

#### The HEADLINE SOLAR ITC Rate is 30%



- 1 Tight labor market increases likelihood current contracts meet prevailing wages in many cases
- 2 Domestic content expected to be a value pass through to EPCs and OEMs
- 3 Energy communities are found money for developers with existing land positions

## Alternative Energy | Legislative Update

*The solar industry continues to evaluate the impact of major legislative wins in light of ambiguous guidance and future tariff uncertainty*

### Prevailing Wage and Apprenticeship Requirements

*On Nov 30, 2022, the IRS and Treasury issued initial guidance on prevailing wage and apprenticeship requirements necessary to qualify for the higher amount of certain clean energy tax credits*

Guidance	Takeaways
Guidance released Nov 29, 2022, on Labor Requirements that impact eligibility for full value (30%) ITC	Jan 29, 2023, deadline to begin construction before being subject to new and more stringent labor requirements
Prevailing wage determinations published by the GSA. <i>For unlisted positions, taxpayers must request determination by email</i>	With no detail on turnaround time, appeals, etc., proposed process likely to result in major delays for new positions
“Good Faith Exception” to apprenticeship requirements available if requested using <i>usual and customary business practices</i>	Considering novelty of these programs in most markets, taxpayers are wary of compliance and potential for penalties
“Sufficient Records” must be maintained for work performed by contractors and subcontractors	Administrative burden will be significant, and profile of current workforce will challenge documentation

### Anti-Circumvention Duties

*On Dec 2, 2022, the Commerce Department made preliminary determinations to impose anti-circumvention duties on certain solar panels & cells*

- SE Asian countries in question account for ~80% of U.S. solar-panel imports
  - Four suppliers accounting for 50%+ of solar cell imports deemed to be circumventing US duties - BYD, Canadian Solar, Trina, and Vina
  - Four suppliers are not circumventing duties - New East Solar, Hanwha, Jinko, and Boviet
- Final determinations expected by May of 2023
- Tariff moratorium applies to solar panels imported through June 5, 2024, and installed by December 3, 2024
- Findings reinvigorate supply-chain concerns as its clear disruption won't be resolved by the time the tariff suspension ends















## Alternative Energy | Utility-Scale Solar Transactions

Date	Investor(s)	Target	Commentary
Feb'23	  		American Electric Power (AEP) agreed to the sale of its 1.4 GW unregulated renewable portfolio for approximately \$1.5bn to IRG Acquisition Holdings, a partnership owned by Invenergy, CDPQ and funds managed by Blackstone Infrastructure
Feb'23			Spain's Greenergy has acquired full ownership of Sofos Harbert Renewable Energy, a developer of utility-scale solar and battery projects in Alabama. Greenergy already owned a 40% stake and has succeeded in taking over Sofos' entire shareholding by acquiring the remaining 60% for an undetermined amount
Jan'23	  		Nashville-based solar and battery storage company Silicon Ranch has closed a \$600mm equity raise, with an initial funding of \$375mm led by Manulife, TD Greystone, and Mountain Group Partners. Silicon Ranch, which boasts 5 GW of contracted solar and battery storage across the US and Canada, plans to add more personnel, support EPC of its contracted pipeline and accelerate growth of new project development
Dec'22	 		Macquarie's Green Investment Group has acquired Treaty Oak Clean Energy, an Austin-based utility-scale solar plus storage developer. The firms did not disclose the purchase price. Treaty Oak's management team has collectively developed 2GW+ of utility-scale solar projects
Nov'22			Strata Clean Energy, a provider of utility-scale clean energy projects, announced its acquisition of Phoenix-based Crossover Energy Partners, a clean energy solutions company experienced in developing end-to-end energy transition products for utilities and large energy users
Oct'22	 		Doral Renewables announced that it has entered an agreement to sell up to \$500mm of convertible notes to funds managed by Apollo and Migdal Insurance. The notes are convertible to common equity interests at a pre-money valuation of \$1.5bn. Doral is developing a 10 GW wind, solar, and storage portfolio across 20 states and eight electricity markets
Sep'22			Brookfield Renewable agreed to acquire Scout Clean Energy for \$1bn with the potential to invest an additional \$350mm to support the business' development activities. Scout has a development pipeline of over 22 GW of wind, solar, and storage projects across 24 states
Sep'22			RWE announced it will acquire ConEd's Clean Energy Business (CEB) at a purchase price based on a \$6.8bn enterprise value. The deal amounts to an 11.3x acquisition multiple based on \$600mm in year one EBITDA. CEB has a portfolio of 3GW of operational contracted solar and a 7.3 GW development pipeline
Sep'22			Enbridge has acquired solar and onshore wind developer Tri Global Energy (TGE) for \$270mm in cash and assumed debt, as well as up to, \$50mm in additional payments contingent on TGE project portfolio completions. TGE has a development portfolio of 3.9 GW previously sold to operators and an additional 3 GW of late-stage wholly owned projects

Source: Company Press Releases

## Alternative Energy | Distributed Generation Solar Transactions

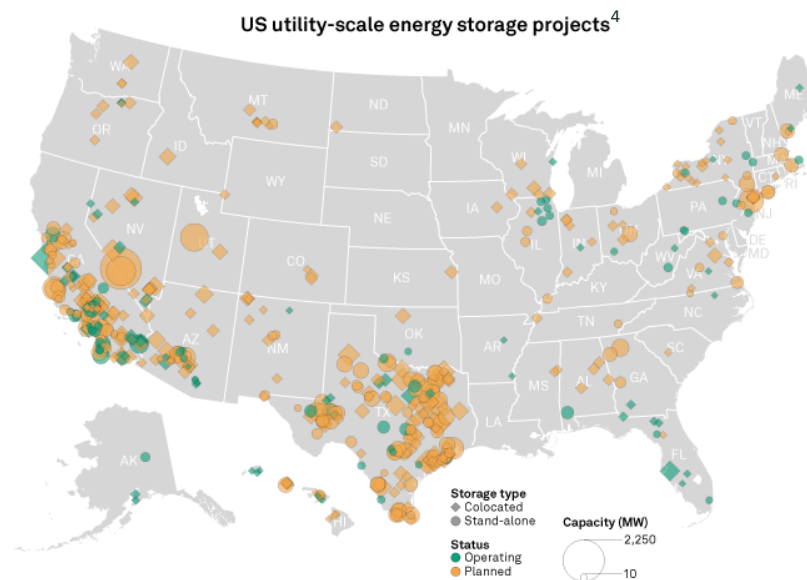
Date	Investor	Target	Commentary
Feb'23			Denham Capital announced it has acquired Solops, a developer, financier and owner/operator of PV solar projects in the commercial and industrial (C&I) sector. Under the agreement Denham will support the execution of Solops 800 MW+ pipeline of project investments with an initial commitment of \$200mm
Dec'22			EQT has reached an agreement to acquire Madison Energy Investments (MEI), a developer and operator of DG solar and energy storage projects in the US, from affiliates of Stonepeak Partners. MEI's projects are for commercial, industrial, and community customers. Since its founding in 2019, the company has built a portfolio of more than 386 MW across the county
Nov'22			Bravo Infrastructure Group announced it acquired Radiance Solar, a C&I solar engineering, procurement and construction contractor in the southeastern United States, through a capital partnership with Orion Infrastructure Capital (OIC)
Oct'22			Carlyle announced a \$350mm investment in distributed generation platform Aspen Power Partners. The investment will support Aspen's organic and acquisition-driven growth strategy targeting community, multi-family, and C&I solar markets
Sep'22			PPL Corporation has reached an agreement to sell Safari Energy, a platform that acquires, develops, and manages C&I solar, to a subsidiary of Aspen Power Partners. PPL's decision to sell Safari reflects the company's strategic repositioning to focus on its core business - regulated utilities in the U.S.
Sep'22			Brookfield Renewable announced the closing of its \$540mm acquisition of Standard Solar, which includes the potential to invest an additional \$160mm to support growth initiatives. The Rockville, Maryland-based company has approximately 500 MW of operating and under construction assets and a development pipeline of 2,000 MW
Aug'22			Pivot Energy acquired Maryland-based community solar developer SGC Power. Founded in 2008, SGC has been involved in over 285 solar projects, totaling over 2,845 MW of solar energy capacity in over 31 states and territories
Jul'22			Apollo announced a \$175mm strategic investment in Summit Ridge, a leading owner-operator of community solar assets, but did not disclose the size of Apollo's stake in the Arlington, Virginia-based company

Source: Company Press Releases

# Alternative Energy | Battery Storage Market Overview

## Market Commentary

- Q3'2022 was a record quarter for deployment with 5GWh of new energy storage installations in the U.S.<sup>1</sup>
- Nearly 57GW of grid-scale storage is planned to interconnect 2022-2025, mostly concentrated in TX, CA, and the southwestern U.S.<sup>2</sup>
- Supply chain problems and cost inflation are delaying projects
  - Raw material availability is constrained – upstream mining capacity is limiting supply of lithium and nickel, and manganese faces challenges from underinvestment in downstream refining capacity<sup>2</sup>
  - After a decade of cost declines, lithium-ion battery pack prices increased in 2022, to \$151/kWh<sup>3</sup>
- Projects that can source equipment are significantly more expensive than before – signed revenue contracts no longer paper
- Tax credit for stand-alone storage adds to financing capacity but doesn't solve all issues facing the industry
- Alternative battery chemistries and technologies are gaining more traction, but no front-runners have emerged



## Bulk Purchasing

- Integrators must make massive orders to compete with demand from EV manufacturers who purchase 10x more volume
- Equipment shortage creates haves and have-nots – effectively all supply through 2024 is spoken for

 <b>28GWh from Freyr</b>	 <b>900MWh from CATL</b>
 <b>10GWh from CATL</b>	 <b>50MWh from Element</b>

## Commercialization

- Commercial case for battery storage in new markets remains unclear – asset owners are taking smaller bets
- Cost increases challenge the economics of corporate and utility PPAs for energy and/or capacity – BTM installations still paper in select markets
- Ancillaries represent up to 50% of revenue opportunities today
- Many developers rely on utility RFPs for commercialization
- More owners entering the market with complementary assets that enable merchant trading strategy

Sources: <sup>1</sup>Wood Mackenzie U.S. Energy Storage Monitor, <sup>2</sup>S&P, <sup>3</sup>BNEF, <sup>4</sup>S&P Cap IQ, Company Press Releases

## Alternative Energy | Battery Storage Activity by Market

*Storage development activity is highly concentrated in a few major markets*

### ERCOT

- 2GW of operating capacity, 5GW expected installations in 2023
- Battery storage fleet more than doubled in 2022, from about 833MW at the end of 2021 to almost 1,999MW as of the end of October. ERCOT approved more than 175MW of battery storage in October 2022 alone<sup>1</sup>
- Texas PUC is encouraging investment in dispatchable generation for ERCOT's energy and ancillary service markets. New Contingency Reserve Service (ECRS) targeting mid-year 2023 for implementation
- Pricing for ancillary services forecasted to fall by up to 65% from 2021 levels as storage assets become the marginal bidder<sup>2</sup>

### CAISO

- 4.5GW of operating capacity, 1GW expected installations in 2023
- Set 15GW target for new capacity by 2032 to help meet supply needs of more than 48GW by 2045<sup>3</sup>. Nearly all projects over the past year have been four-hour systems to qualify for Resource Adequacy
- Enacted market rule changes in December to make it easier to provide ancillary services and help grid reliability. CAISO is refining its policies to make sure energy storage projects are accurately priced in the real-time market and fully charged to provide energy when needed

### New York

- 125MW of operating capacity, 230MW expected installations in 2023
- Operating capacity consists primarily of distributed systems and a few grid-scale projects, mostly in rural Upstate areas
- Announced plan to procure 4.7GW of storage in addition to 1.3GW that has already been contracted and committed to, bring NY to the full 6GW target by 2030
- New York PUC and NYSERDA roadmap proposes requiring utilities to study the potential of high-value storage projects towards providing cost-effective transmission and distribution services not currently available through existing markets<sup>4</sup>

### Other

- As of Sep'22, storage will be able to participate in the MISO Energy and Operating Reserves Market as supply and demand resources, facilitating the development of the 150 energy storage projects (13GW) currently in the queue
- In PJM, Virginia and Illinois are forecasted to lead annual utility-scale energy storage additions over the next 5 years with the help of key legislation (Virginia Clean Economy Act and Illinois Climate and Equitable Jobs Act). PJM is forecasted to add 500MW of utility scale storage in 2023<sup>5</sup>
- To meet its 2GW storage mandate by 2030, New Jersey is proposing energy storage programs that create incentives for FTM and BTM energy storage projects – 30% of the incentive will be in the form of a fixed annual incentive and the remainder will be a pay-for-performance mechanism based on the amount of carbon emissions abated<sup>6</sup>

Sources: <sup>1</sup>S&P Commodity Insights, <sup>2</sup>Enverus ERCOT Report, <sup>3</sup>California Energy Commission, <sup>4</sup>NYSERDA <sup>5</sup>IHS Markit, <sup>6</sup>NJ Board of Public Utilities, S&P Power Plant Data

## Alternative Energy | Battery Noteworthy Activity

Date	Category	Involved Parties	Commentary
Jan'23	Platform Launch		Castlelake and Peregrine Energy Management have partnered to form a new renewables development platform called Peregrine Energy Solutions LLC. The new platform will seek to source, develop, build, and manage standalone utility-scale standalone battery energy storage and renewable assets across North America
2022	Investment		Leyline announced it provided a flexible debt facility to fund Capacity Power Group's project development of 570 MW of standalone Front-of-the-Meter (FTM) energy storage solutions across western U.S. markets
Dec'22	Corporate Collaboration		JERA Americas has entered into an agreement with UK-based Zenobē to develop battery storage projects. The companies will work together to develop utility-scale, grid-connected, standalone and hybrid battery storage projects in both New York and New England
Dec'22	JV Formation		GreenGo Energy and global renewable energy investment manager Glenmont Partners announced a JV to develop, build and operate over 1 GW of solar and storage projects in the U.S. with first projects expected online in 2025
Nov'22	Corporate M&A		BlackRock has agreed to acquire Jupiter Power from EnCap for an undisclosed amount. Jupiter focuses on developing large-scale, stand-alone energy storage projects. Jupiter has 655 MWh of operating assets and 340 MWh of new projects under construction or about to be built
Oct'22	Investment		SYSO Technologies, a market operator for renewable energy and battery storage developers and asset owners, announced it closed a \$10 million Series A round led by Lacuna Sustainable Investments. SYSO plans to use the funding to expand into new markets and grow its team
Oct'22	Project M&A		Engie announced it has acquired a 6 GW portfolio of solar and battery storage projects from Belltown Power. The transaction includes 33 projects comprising 2.7 GW of solar with 0.7 GW of paired storage and 2.6 GW of stand-alone battery storage. The portfolio is located across ERCOT, PJM, MISO, and WECC
Oct '22	Project M&A		Goldman Sachs-backed GridStor has acquired a portfolio of in-development battery storage projects in Los Angeles, CA, from Upstream Energy, totaling 500 MW / 2,000 MWh. The Portland-based grid-scale developer expects the projects to COD between 2024-2026
Oct'22	Platform Launch		Nightpeak, a new company, has been launched with an equity funding of up to \$200mm from Dallas-based Energy Spectrum Capital. The capital will allow Nightpeak to execute on its strategy of developing, owning, and operating utility-scale battery storage across the US
Oct'22	Investment		Leyline Renewable Capital announced a growth capital investment to accelerate Navitas Energy's development of 500 MW to 1,000 MW of stand-alone storage in the ERCOT market

Source: Company Press Releases

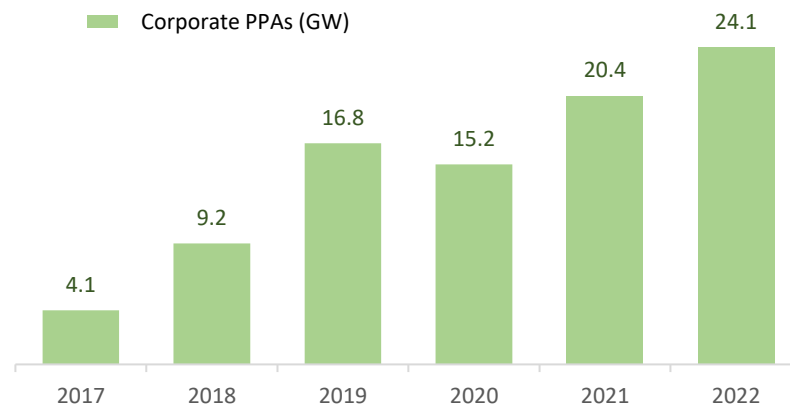
## Alternative Energy | Corporate PPA Market Overview

*PPA signings hit a new record, even while PPA prices rise due to input costs, development challenges, and buyer demand inelasticity*

### PPA Market Dynamics

- 2022 was a challenging year related to supply chain bottlenecks and regulatory changes that created uncertainty in the market. Despite these challenges, corporates continued to pursue the procurement of renewable energy at a record pace. Signings were dominated by solar, as wind (until the recent passage of the IRA) was disadvantaged from a tax credit perspective. Signings were also very top-heavy, with Amazon, Meta, Google, and Microsoft accounting for 2/3 of capacity signed.
- Solar EPC costs continued to balloon in 2022, as the supply of skilled electrical labor remains constrained, and companies rush to meet prevailing wage and apprenticeship requirements (GFEP views apprenticeship requirements as more costly and administratively burdensome in most parts of the country)
- Struggling with higher input costs, the top two wind turbine manufacturers, Vestas and Siemens Gamesa, have pushed through price increases of 22% and 41% YOY, respectively
- The market continues to wait for permitting and interconnection reform efforts to bear fruit and act as the implementation complement the attractive financial incentives created by the Inflation Reduction Act
- During the first half of 2022, module supply was constrained by the pending anti-circumvention investigation by the Department of Commerce; now, developers are navigating U.S. Customs seizures of imported modules due to the Uyghur Forced Labor Prevention Act (UFLPA). Many developers are sincerely committed to responsible supply chains, but documentation by international supply chain partners has proven insufficient in many cases to-date.
- The development challenges of 2022 each seem to be drawing to semi-favorable resolution in 2023, leading GreenFront to see a more balanced PPA market between buyers and sellers

### Americas Corporate PPA Volume (2017 – 2022)



### Noteworthy Recent PPA Announcements

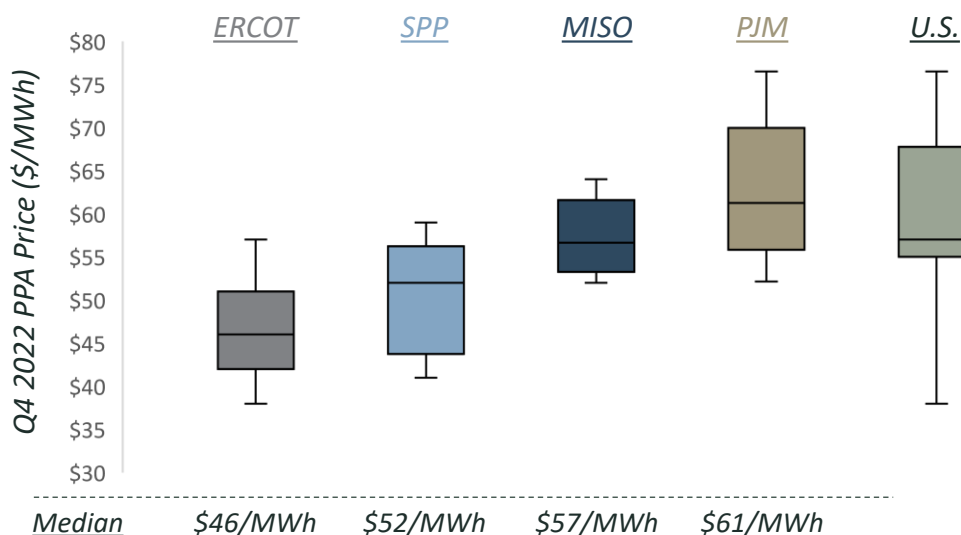
Corporate	Seller	Size (MW)	Fuel Source	Location
Meta	APEX CLEAN ENERGY	195	Solar	ERCOT
PNC	DORAL LLC	78	Solar	PJM
McDonald's	lightsourcebp	145	Solar	MISO
Altria	NEXTera ENERGY	115	Wind	ERCOT
amazon	aes	450	Solar	CAISO
ThermoFisher SCIENTIFIC	enel Green Power	90	Wind	SPP

Source: American Clean Power, Infralogic, S&P Market Intelligence, BNEF, Altria 115 MW is GFEP estimate based on 400,000 MWh annual offtake announcement

# Alternative Energy | Corporate PPA Market Overview

PPA prices were up significantly in 2022 across all major RTO markets

## U.S. Corporate Solar PPA Pricing Trends



### ERCOT Commentary

ERCOT PPA prices have historically been some of the lowest in the country due to ease of interconnection and inexpensive land and permitting. A prolific build-out of wind has saturated West Texas power markets, but robust energy prices in the Northern and Eastern parts of the state support rising PPA prices, especially for under-penetrated solar resources. GreenFront has a bias toward shorter contracts in ERCOT, as a robust renewables pipeline may lead to weak pricing during correlated zero-marginal cost generation scenarios.

### SPP Commentary

SPP geographically has the best wind resource in the U.S. and has historically been a major hub for new wind development. With wind projects saturating the market, solar development is beginning to increase, and we've seen surprisingly robust solar PPA price offers.

### MISO Commentary

MISO is rapidly transitioning to a fleet of decarbonized energy and expects that by 2041, at least 60% of its annual load will be served by solar and wind.<sup>1</sup> Interconnection study delays and high network upgrade charges have historically plagued MISO and restrained renewable development to a moderate pace, though there are signs that these bottlenecks are loosening a bit. GreenFront has observed a 57% PPA offer price increase in MISO over the past two years, largely in-line with other wholesale markets

### PJM Commentary

PJM is seeing the largest PPA price increase in the country, with an observed 76% price increase in the past 2 years. This is mainly driven by the limited supply of near-term contractable projects resulting from interconnection queue reform. Additionally, more corporates are seeking to contract closer to their load centers, creating a mid-Atlantic bias for PPA demand, especially from data center technology companies

*Despite the rise in PPA prices in 2022, GreenFront has observed market behavior in early 2023 that leads us to believe the inflationary supply/demand dynamics may be finding an equilibrium, leading to a leveling-off of PPA prices and, eventually, more buyer-friendly PPA terms*

Sources: GreenFront data based on offers received for corporate procurements, <sup>1</sup>MISO 2022 Regional Resource Assessment

## Alternative Energy | RNG Fundamental Backdrop

### M&A and Capital Markets

#### ***Deal flow is strong, despite broader market headwinds***

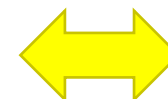
- The demand case for clean natural gas is bolstered by public opinion, RPS requirements, Corporate ESG Initiatives, SEC reporting requirements
- Headline transactions in 2022 for Archaea and Vanguard speak to rich multiples being paid
- Smart money has been deployed widely in the RNG universe – blue chip PE sponsors



### Revenue Drivers

#### ***Underwriting to the future value of environmental attributes is hard***

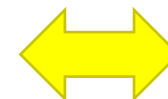
- Lack of robust forward markets to lock in environmental attribute pricing
- Proposed changes for LCFS and RIN's causes significant uncertainty – 2/22/23 CARB announcement helped to dispel some uncertainty
- Investors increasingly conservative in their pricing assumptions
- New revenue drivers are promising (State RPS, eRIN's, VCC's)



### Project Development Risk

#### ***Inflation and supply chain delays have taken a toll, but appear to be improving***

- Project costs increased ~20% in 2022
- Getting parts and equipment has been a challenge to construction
- Single project economics had contracted prior to IRA



### Corporate Finance

#### ***Inflation Reduction Act is a game-changer***

- IRA ITC likely to absorb 30%+ of project capex; potential for incremental PTC revenue as well
- Developers are still digesting the bill and awaiting Treasury clarification
- Transferability provisions for tax credits provide welcome simplicity



### Cost Structure

#### ***Tech innovation and asset optimization efforts are bearing fruit***


















- Within dairy RNG, smaller farm headcounts are beginning to pencil
- Complementing RNG production with solar power and/or CCUS can unlock meaningful value





## Alternative Energy | Renewable Fuels – Recent Announcements & Transactions

*Renewable Fuels sector has seen high velocity of deals and corporate collaborations*

Date	Category	Involved Parties	Commentary
Feb '23	Noteworthy Announcement	 	Green Impact Partners announced it has selected Amber Infrastructure as a strategic partner on its GreenGas Colorado, Iowa RNG, and Future Energy Park projects, representing up to \$545mm in total investment for a 50% project-level equity interest in each facility
Feb '23	M&A	 	BP announced it is buying travel center operator TravelCenters of America for \$1.3bn to increase its offering of EV charging stations. BP said the acquisition offers growth opportunities for four of its five growth drivers: convenience, EV charging, biofuels/RNG, and hydrogen
Feb '23	Joint Venture	 	UGI Energy Services and Archaea Energy announced a JV, Aurum Renewables, to develop a RNG project at the Commonwealth Environmental Systems landfill in Hegins, PA. The project is expected to have the capacity to produce 5,000 MMBtu per day of pipeline-quality RNG. In the JV, Archaea will hold a 60% ownership stake and UGI will have a 40% ownership stake
Feb '23	M&A	 	HIG Capital announced its portfolio company, Northern Biogas, has acquired three dairy RNG projects. The acquired dairy RNG facilities are in close proximity to Northern Biogas' existing footprint and are expected to begin commercial service by 1Q24. Since partnering with HIG in September 2022, Northern Biogas has more than doubled the number of RNG projects under construction and rapidly expanded its development pipeline
Feb '23	Noteworthy Announcement	 	Diamond Green Diesel Holdings, a 50/50 JV between Valero and Darling Ingredients, has made the FID on a SAF project at the Diamond Green Diesel Port Arthur plant. Once complete, the plant will have the capacity to upgrade approximately 50% of its current annual production of 470mm gallons to SAF. The project is estimated to cost \$315mm and reach COD in 2025
Feb '23	M&A	 	IFM Investors has agreed to acquire a majority of GreenGasUSA, a Charleston, South Carolina-based RNG developer. GreenGas has a near-term pipeline of about 7,000 MMBtu/day and a CNG transportation opportunity of ~14,500 MMBtu/day by 2025
Jan '23	Noteworthy Investment	 	Brookfield Renewable is investing up to \$500mm in biofuel producer California Bioenergy, a developer, owner, and operator of waste-to-energy projects. CalBio is currently capturing fugitive dairy methane and converting it into renewable natural gas from over fifty operational manure digesters
Jan '23	Noteworthy Announcement	  	MBL Bioenergy, a JV between UGI, Sevana Bioenergy, and a subsidiary of California Bioenergy, announced the development of two dairy RNG projects in SD. The projects are estimated to be an \$150mm investment, collectively generate approximately 525mm cubic feet of RNG annually, and COD in 2024

Source: Company Press Releases

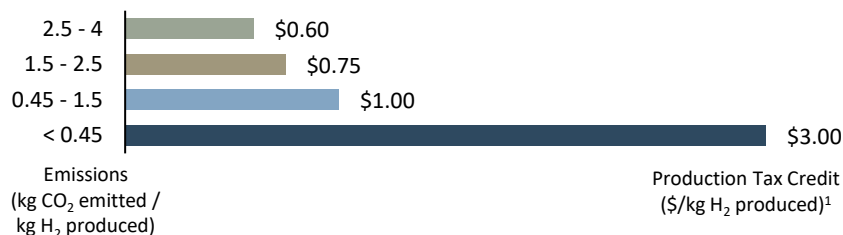
# Alternative Energy | Clean Hydrogen Market Summary

## Market Commentary

- The general sense of growing momentum for Clean H<sub>2</sub> is undeniable
  - Opportunities enabled by the DOE’s Regional Clean Hydrogen Hub program are receiving a great deal of attention
  - Green H<sub>2</sub> production + storage projects of significant scale are under construction and moving forward
- Thinking of H<sub>2</sub> as a storage solution, rather than just a fuel, highlights the strategic value. Long term geologic storage is an attractive option to consider at scale
- The IRA’s hydrogen PTC is essentially a \$3.00/kg PPA from the U.S. Treasury
- There is still a “build it and they will come” feel. There are about 5 developers looking to produce clean H<sub>2</sub> for every 1 customer looking to consume clean H<sub>2</sub>. The biggest market obstacle will be figuring out how the commercial ecosystem will evolve – what will contracts look like?
- Green H<sub>2</sub> projects are complex. Trying to develop projects that incorporate in-front-of- and/or behind-the-meter power gen, complementary battery storage, and hydrogen production assets introduces many variables that are challenging to optimize

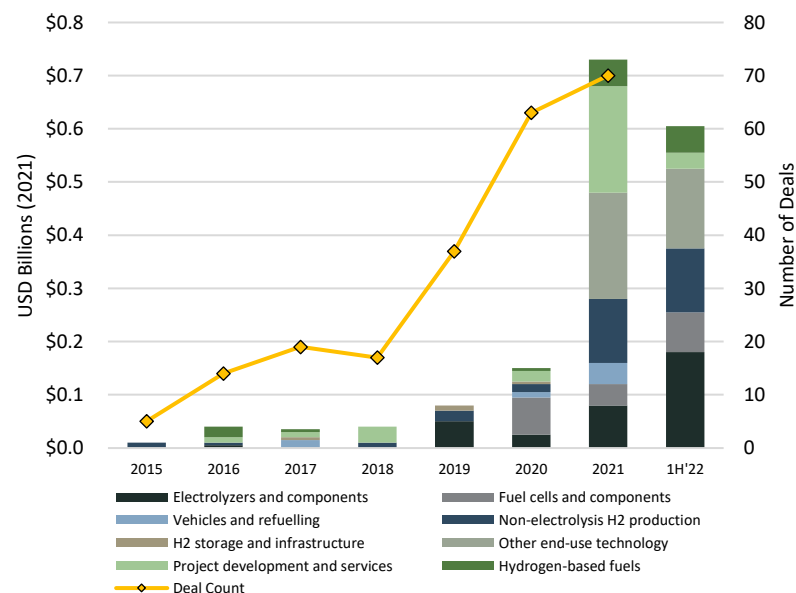
## Hydrogen Tax Credits

### Section 45V introduces a PTC for qualified clean hydrogen production



- The Clean Hydrogen PTC is not available for qualified facilities that also include carbon capture equipment and for which the Section 45Q carbon capture tax credit is allowed to the taxpayer
- As an alternative, taxpayers may elect the Section 48 ITC with respect to clean hydrogen production facilities, receiving up to a 30% ITC depending on the carbon intensity of the production process

## Early-stage VC Investment in Hydrogen, 2015-2022<sup>2</sup>



Sources: <sup>1</sup>Assumes facility receives 5x bonus from meeting prevailing wage and apprenticeship requirements, <sup>2</sup> IEA Global Hydrogen Review. 2022 figures through 6/30/2022.

# Alternative Energy | Green H<sub>2</sub> Competitive Landscape

*Developers of all sizes are facilitating the Green H<sub>2</sub> industry's evolution*

## Traditional Renewables Developers

Company	Commentary
 Orsted	LOI with Maersk to develop a 675 MW facility that will produce 300,000 MTpa of e-methanol in the U.S. Gulf region. The project includes the construction of 1.2 GW of new onshore wind and solar
 BayWa r.e.	Collaboration with Octopus Hydrogen in the U.K for a project with an initial production of 6,500 kg per day of H <sub>2</sub> and developing a 40 MW solar facility in France that will be used for by Lhfye for H <sub>2</sub> production
 Nextera Energy	Plans to convert 16 GW of existing natural gas generation to run on green hydrogen created from water electrolyzed by solar generation by 2045
 EDF	Launched an industrial plan that aims to develop 3 GW of electrolytic hydrogen projects worldwide by 2030, which is anticipated to require an investment between \$2-3bn
 edp Renewables	Goal to deploy 1.5 GW of green hydrogen by 2030. Created a new business unit dedicated to the development of renewable H <sub>2</sub> projects
 Invenergy	Developing the company's first green hydrogen project in collaboration with electrolyzer specialist, Ohmium International. Located in IL, the facility will generate 52 MTpa and have the capacity to store 400 kg of H <sub>2</sub> on-site
 APEX Clean Energy	Included in consortium that entered a non-binding MOU to explore the development of a green hydrogen production, storage, transportation, and export operation in the Port of Corpus Christi
 aes	Plans to build, own, and operate a green H <sub>2</sub> facility in TX with Air Products. The project will include 1.4 GW of wind and solar generation, along with electrolyzer capacity to produce 200 TPD of H <sub>2</sub>
 lightsourcebp	Partnership with Portuguese gas utility Dourogás to explore the development of eight green H <sub>2</sub> sites. Lightsource bp will develop as much as 200 MW of solar projects that will power 130 MW of electrolyzers, developed by Dourogás
 RWE	Involved in AquaVentus consortium, a group of 70 companies aiming to develop 10 GW of offshore wind in the North Sea, which could produce as much as 1,000,000 tonnes of H <sub>2</sub> production capacity

## Independent Hydrogen Developers

Company	Commentary
 NOVO HYDROGEN	Colorado-based independent green H <sub>2</sub> developer providing both on and off-site hydrogen solutions. Recently announced partnership with NYSEDA for the Northeast Hydrogen Hub
 CLEAN ENERGY HOLDINGS	Developing the Clean Fork Green Hydrogen Project in TX. Secured LOI for the offtake of up to 30,000 kg per day green H <sub>2</sub> . Working with Chart for technology needed to liquify, store, and transport H <sub>2</sub> to customers
 ELEMENT A RESOURCEFUL COMPANY	Developing Lancaster Clean Energy Center in CA, which will produce 20,000 MTpa of H <sub>2</sub> and be marketed to the transportation sector. Element will build a large solar array to feed renewable electricity to electrolyzers for splitting water into pure hydrogen
 octopushydrogen	Strategic partnership with Innova Renewables and Novus to build green hydrogen production facilities alongside their 4 GW of solar, wind, and battery projects currently under development in the U.K.
 MONARCH ENERGY	California-based developer that secures land rights, permitting approvals, and puts in place long-term hydrogen sales agreements that are needed to build large-scale electrolyzers. Received investment from Lancium in March 2022
 HYSTOR ENERGY	Developer of the Mississippi Hydrogen Hub, which is under active development and has multiple sites permitted for H <sub>2</sub> storage. The hub is expected to produce 110 million kg of green H <sub>2</sub> annually and store 70 million kg in underground salt caverns
 MAGNUM Development	Developing the ACES Hydrogen Hub alongside Mitsubishi Power. The project has the potential to be the world's largest single storage site for any type of hydrogen
 Ambient Fuels	New York-based green hydrogen developer targeting customers in hard-to-abate industries that specializes in overseeing execution from project development and design to financing and construction

Sources: Company Press Releases

# Alternative Energy | DOE Regional Clean Hydrogen Hubs

## Program Overview

- In September 2022, the DOE issued a funding opportunity announcement soliciting proposals for the development of clean hydrogen hubs across America
- The funding includes up to \$7bn to establish 6 – 10 regional clean hydrogen hubs, with an additional \$1 – 2bn reserved for future clean hydrogen hub launches or other supporting activities
- To the “maximum extent practicable,” at least two projects must be sited in prevalent natural gas-producing regions
- The final selected project list must include at least one hub producing hydrogen from fossil fuels, one from renewable energy, and one from nuclear energy

## Development Phases

- I** Initial planning and analysis to ensure technical and financial viability, with input from relevant local stakeholders
- II** Finalize engineering designs and business development, site access, labor agreements, permitting, offtake agreements, and community engagement activities
- III** Begin installation, integration, and construction activities
- IV** Ramp up operations, including data collection to analyze the hub’s operations, performance, and financial viability



## Proposals under Development<sup>1</sup>

Partnership	State Partners	Hub Name	Targeted Feedstock			Targeted End-Uses				Development Phase			
			Renewables	FF + CCS	Nuclear	Industry	Transpiration	Power	R&C Heating	I	II	III	IV
Public-	AR, LA, OK	HALO Hydrogen Hub	●	●	●	●	●	●	—	Initial Stages			
Private	AZ	Arizona Hydrogen Hub	●	—	●	●	●	●	—	Final Stages			
	CA	California Hydrogen Hub	●	—	—	●	●	●	—	Final Stages			
	CA, UT	HyDeal LA <sup>2</sup>	●	—	—	●	●	●	●	Final Stages			
	CT, MA, ME, NJ, NY, RI	Northeast Hydrogen Hub	●	—	—	●	●	●	●	Final Stages			
	GA	Georgia Hydrogen Hub	?	?	?	?	?	?	?	Initial Stages			
	IL, KY, IN, MI, MN, OH, WI	Midwestern Hydrogen Coalition	●	●	●	●	●	●	—	Initial Stages			
	KY, OH, PA, WV	Appalachian Regional Clean Hydrogen Hub	—	●	—	●	●	●	—	Final Stages			
	MS	Mississippi Clean Hydrogen Hub	—	●	—	●	—	—	—	Final Stages			
	ND	Great Plains Hydrogen Hub	—	●	—	●	●	—	—	Final Stages			
	NE	Nebraska Hydrogen Hub	—	●	—	●	—	—	—	Final Stages			
	OH	Great Lakes Hydrogen Hub	●	—	●	●	●	—	—	Final Stages			
	OR, WA	Northwest Hydrogen Hub	●	—	—	?	?	?	?	Initial Stages			
	PA	Pennsylvania Hub	—	●	—	●	—	—	—	Final Stages			
	TX	Houston Hydrogen Hub	●	●	—	●	●	●	—	Final Stages			
	TX	Port of Corpus Christi Hydrogen Hub	●	—	—	●	●	—	—	Final Stages			
Private	FL	Cavendish NextGen Hydrogen Hub	●	—	—	—	—	●	—	Final Stages			
	ID, OR, WA	Obsidian Pacific Northwest Hydrogen Hub	●	—	—	●	—	●	—	Final Stages			
	OH, PA, WV	Ohio River Valley Hydrogen Hub	—	●	—	●	—	—	—	Final Stages			
	TX	Hydrogen City	●	—	—	●	●	●	—	Final Stages			
Public	CO, NM, UT, WY	Western Inter-States Hydrogen Hub	●	●	—	?	?	?	?	Initial Stages			

Sources: <sup>1</sup> Center for Strategic & International Studies; Proposals as of October 2022. <sup>2</sup> Includes Intermountain Power Project

## Alternative Energy | Hydrogen – Clean H<sub>2</sub> Pathways Are Taking Shape

*Clean H<sub>2</sub> investment and partnership announcements have accelerated*

H <sub>2</sub> Profile	Date	Company	Noteworthy Activity
Blue	Dec '22		H <sub>2</sub> -based products distributor OCI has begun construction on its \$450mm blue ammonia facility in Texas. The project, scheduled to COD in 2025, received its air permit in December. The facility will have an initial production capacity of 1.1 MMTpa, while capturing and sequestering 1.7 MMTpa of CO <sub>2</sub>
	Dec '22		California Resources Corporation announced a CO <sub>2</sub> management agreement between Carbon TerraVault JV and Lone Cypress Energy Services to sequester 100,000 MTpa of CO <sub>2</sub> from an expected 2025 COD blue H <sub>2</sub> plant in Kern County, CA. Called the Lone Cypress Hydrogen Project, the project aims to produce 30 TPD of H <sub>2</sub> and has the potential to expand to 60 TPD of H <sub>2</sub>
	Nov '22		Inpex Corporation has taken an FID on drilling and constructing a blue hydrogen and ammonia production facility in Japan. Natural gas will be transported from an Inpex-operated gas field via an existing pipeline and produce 700 tonnes of blue H <sub>2</sub> per year at a to be constructed facility. The CO <sub>2</sub> generated during production will be separated, pressurized, and injected in a subsurface reservoir
Green	Feb '23		Constellation Energy Corp. announced that it plans to build a \$900mm H <sub>2</sub> production facility in the Midwest that would combine new nuclear and green hydrogen generation tax credits to create material long-term cash flow. The facility will use 250 MW of nuclear power to produce 33,450 tonnes of H <sub>2</sub> annually
	Dec '22		Green hydrogen producer Element Resources has secured a long-term site lease agreement in the City of Lancaster, California, to build, own, and operate a 100% zero-carbon, renewable energy center. Element will build a solar array to feed renewable electricity to electrolyzers to produce approximately 20,000 tons of hydrogen annually that will be marketed to the transportation sector
	Dec '22		AES and Air Products have agreed to invest \$4bn to build, own, and operate a green hydrogen production facility in Wilbarger County, Texas. The project, which will convert renewable energy to hydrogen, includes approximately 1.4 GW of wind and solar generation. The facility will be able to produce more than 200 MT per day of green hydrogen
Turquoise	Oct '22		Etch, a Chevy Chase, Maryland-based methane pyrolysis company employing a new chemical cycle involving metal salt intermediates, has raised \$6.5mm from undisclosed investors. The funding will assist the design and construction of a demonstration unit and the build-out of the engineering team
	Oct '22		Molten Industries, an Oakland, California-based company developing a technology that eliminates reactor clogging involved in methane pyrolysis production, has raised \$2mm from a consortium of venture capital funds. Molten was also recently selected by Breakthrough Energy as part of their 2022 cohort

Source: Company Press Releases, S&P Market Intelligence

# GreenFront Energy Partners - Overview

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# GreenFront Energy Partners | Founding Partners and Service Offering

*Track record of execution for developers, investors, and corporate clients*

## GreenFront Founding Partners



**Robert Birdsey** – Managing Director

- Head of GFEP renewable fuels
- Head of BB&T Energy IB 2013-2020
- J.P. Morgan Energy IB 2007-2013
- MBA, University of Virginia; BA, Sewanee
- Board Member, Virginia Solar Energy Development & Battery Storage Authority



**Adam Hahn** – Managing Director

- Head of corporate renewable advisory
- Led BB&T's Utility Investment Banking coverage 2015-2020
- Prior to BB&T, worked in the CFO's group at Dominion Energy
- MBA, University of Richmond; BBA, James Madison University



**Whit Wall** – Managing Director

- Head of GFEP traditional renewables
- Led BB&T's Infrastructure Investment Banking coverage 2015-2020
- Environmental consultant for JJ Blake & Associates prior to BB&T
- MBA, University of Virginia; BS, James Madison University

## Service Offering – Exclusively Focused on Renewable Energy



### Capital Formation

Raising capital for projects and platform growth initiatives



### M&A Advisory

Advising on purchase/sale of alternative energy assets + equity



### Corporate Renewable Advisory

Representing corporates in renewable energy procurement efforts

# GreenFront Energy Partners | Coverage Universe

*GreenFront's go-to market strategy enables significant synergies*

## Closely-Linked Coverage Universe



### Traditional Renewables

Solar, Wind, Storage



### Renewable Fuels

Renewable Natural Gas, Carbon Capture, Hydrogen



### Corporate Renewable Advisory

Corporate procurement of renewable energy & products

### GreenFront Differentiation

- **Regional Market Intelligence:** Our experience negotiating PPAs gives us on-the-ground information specific to different RTO/ISOs across the country
- **Corporate Finance:** As solar/wind/storage move from alternatives to incumbent resources, financing structures are evolving. GreenFront's deep experience in traditional corporate finance helps our clients evolve beyond project financing strategies

### GreenFront Differentiation

- **Experience:** Prior O&G background has enabled GreenFront to already transact in very early-stage markets (RNG, CCUS, H<sub>2</sub>, LFG, GTL)
- **Environmental Attributes:** Deep knowledge around revenue pathways for LCFS, 45Q, voluntary CO<sub>2</sub> credits
- **Corporate Network:** PPA advisory assignments keep us in regular dialogue with corporate sustainability decision-makers

### GreenFront Differentiation

- **Risk Management:** GreenFront provides clients with proprietary analytics around correlation/covariance between weather, resource production, and market pricing
- **Negotiating Edge:** GreenFront builds project models to understand seller economics, identifying leverage points that benefit our corporate clients. We know where developers can bend on certain terms and where they can't



# GreenFront Energy Partners | Credentials

*Prolific deal execution in the last 18 months*



*Has closed on a private placement to advance its biogas monitoring technology*

**Undisclosed**

Financial Advisor  
**2022**



*Has closed an equity investment to support its low-carbon hydrogen production technology*

**Undisclosed**

Financial Advisor  
**2022**



*Has closed on a JV and funding commitment from*



Placement Agent  
**2022**



ENERGY ASSURANCE

*Has been acquired by*



Sell-side M&A Advisor  
**2022**



*Has secured a structured equity private placement from*



Placement Agent  
**2021**



*Has secured a \$50 million equity commitment from*

**Hartz Capital**

Placement Agent  
**2021**



*Has signed a wind PPA totaling 100 MW of procurement with*



PPA Advisor  
**2021**



*Has secured a private placement for development capital with*



Placement Agent  
**2021**

**Fortune 500 Corporate**

*Has signed an exclusive solar PPA totaling 250 MW of procurement with*



PPA Advisor  
**2021**



*Has signed an exclusive solar PPA totaling 250 MW of procurement with*



PPA Advisor  
**2020**



*Was advised on the market entry of SaaS Application into the utility end market*

Strategic Advisor  
**2020**

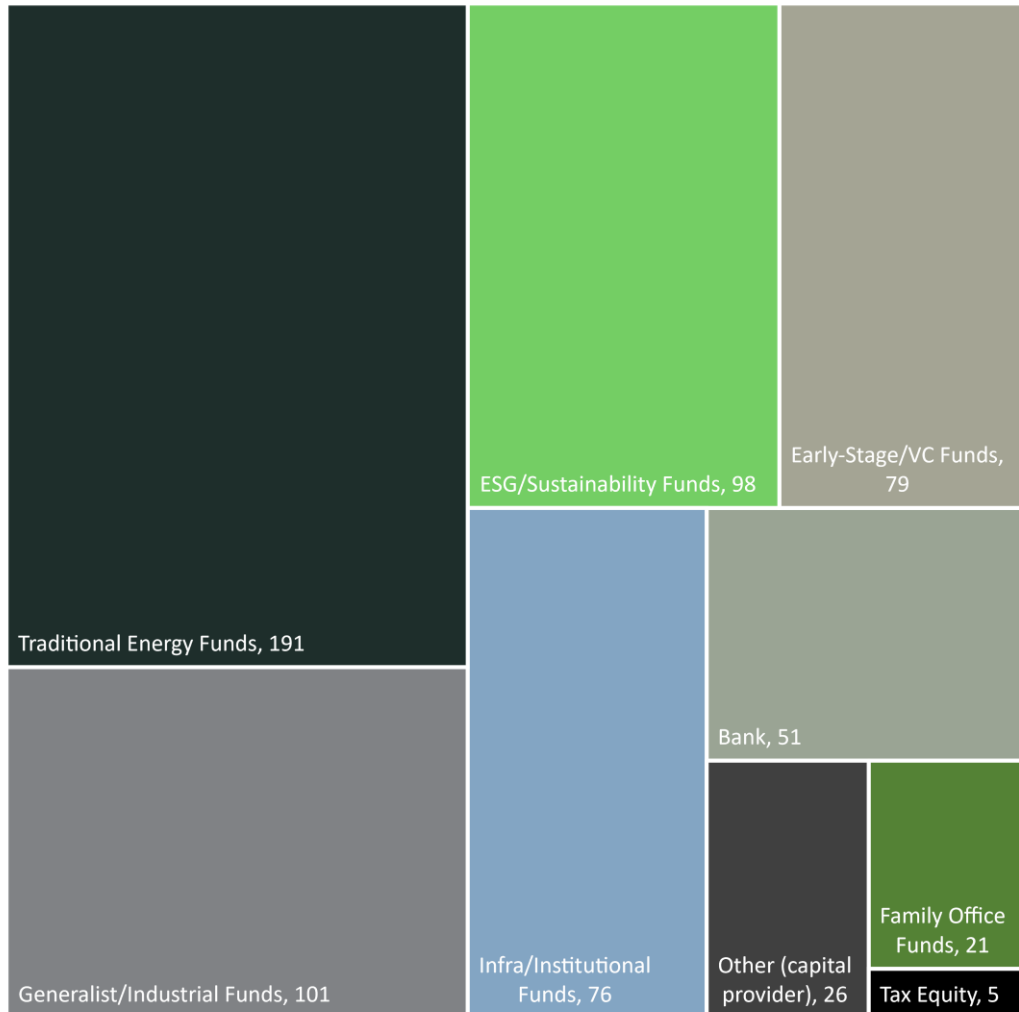
*Advisor to large corporate on a 200 MW PJM Procurement*



PPA Advisor  
**Pending**

## GreenFront Energy Partners | Investor Network

*GreenFront covers a broad network of contacts with unmatched efficiency, while also having the requisite market knowledge to narrow down the list in a solicitation and quickly identify the most highly motivated parties*



GreenFront tracks over **2,000** corporate relationships through its Salesforce CRM software, including...

**648 Capital Providers**, segmented by capital type & strategy (see left), and appetite within the Alternative Energy Universe

**474 Developers**, segmented by focus area (i.e. Solar/Wind, Storage, RNG, Carbon Capture, Hydrogen, etc.)

**579 Corporates** pursuing different ESG strategies

**150 Traditional Energy Firms** from the Oil & Gas, Power/Utility, and LDC space