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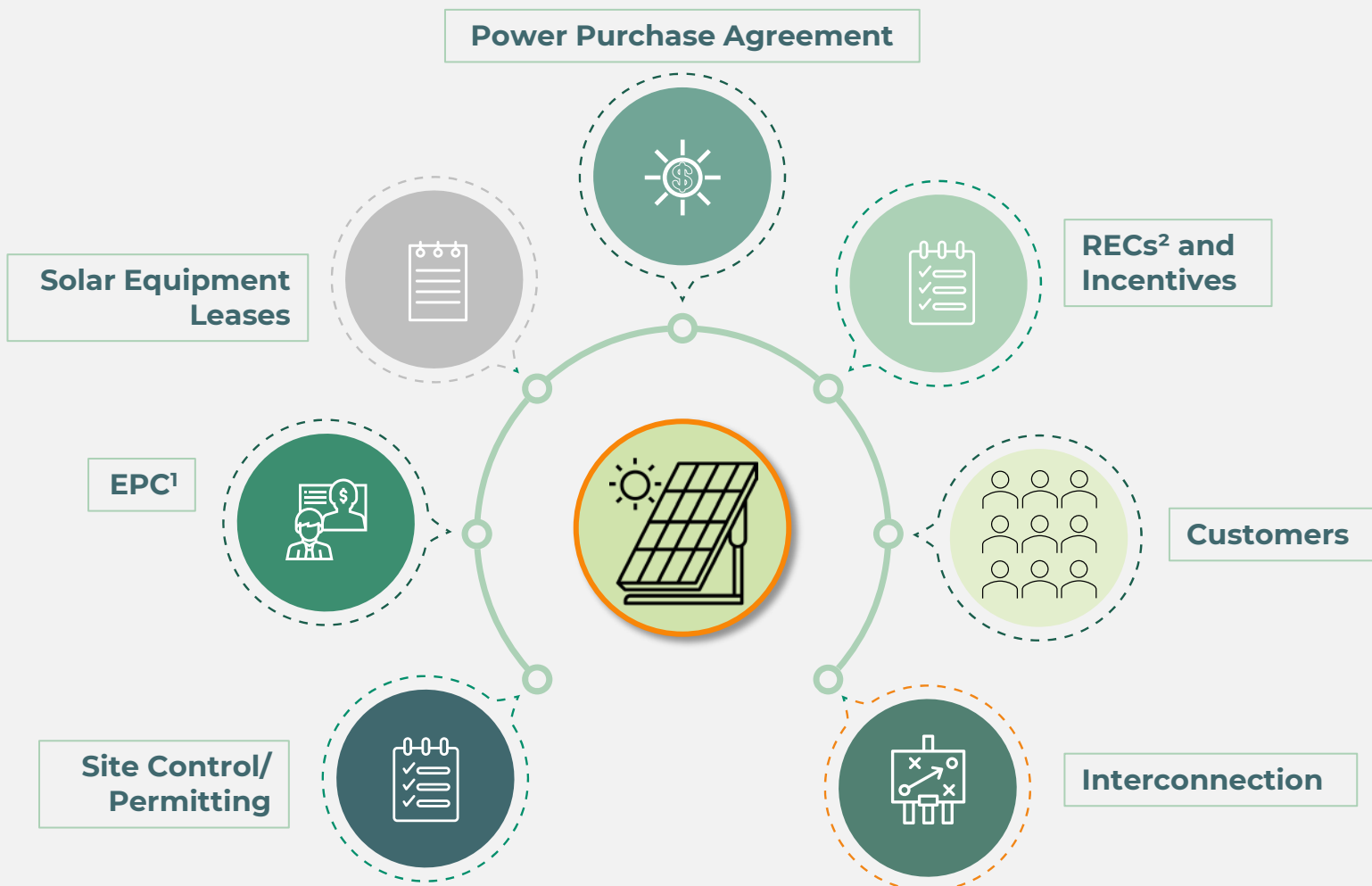
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# By understanding the **solar** ecosystem we add value to the power plants

## Optimizing the Opportunity to Invest Across the Solar Power Project Ecosystem Value Chain



## True Green Capital Fund IV, L.P. (“Fund IV”) Closed in May 2022

### Now Mostly Committed to Projects Spanning the Solar Power Project Ecosystem

- **Community Solar 1.0:** Building on the success of Fund III, Fund IV is expanding its NY Community Solar portfolio, currently representing ~65 MWs out of a total controlled portfolio of 90MWs, with an expected total of 250MWs.
- **Community Solar 2.0:** Acquisition of CleanChoice Energy (“CCE”) and creation of a vertically integrated solar utility.
- **Strategic Acquisitions:** Fund IV capitalized on a time-sensitive opportunity, acquiring a 210MW DC operating portfolio from a developer that has good assets but a “broken” capital structure.
- **Portfolio Development Companies:** Fund IV has invested in three start-up Developers that develop projects for the Firm, bolstering the project pipeline and increasing margins.
- **Strategic relationship with Hanwha-QCells:** Partnership agreement with Qcells Enable, a leading solar EPC provider of complete energy solutions, to install 450MW with Made in America equipment. The solar modules will be supplied by Qcells’ ingot-to-module factory in Cartersville, Georgia, which is a part of Qcells’ \$2.5 billion U.S. investment. PV cells utilize polysilicon from REC Silicon in Moses Lake, WA, owned by Qcells’ parent company, Hanwha Solutions, as of April of 2022.

1. Engineering, Procurement, and Construction  
2. Renewable Energy Credits



# True Green Capital Management (“TGC”) Sees Retail Energy Expansion via Community Solar

## Interview with PE Hub – Michael Schoeck

*TGC intends to build 200 MW of community solar projects, and by the end of 2024 we expect to have more than 100 MW of that portfolio constructed.*

TGC could participate in a couple of community solar add-on acquisitions for project portfolios or development companies seeking to scale up on a national platform, Panos Ninios, managing partner and founder of True Green, told *PE Hub*. Westport, Connecticut-based True Green Capital Management (“TGC”), a \$1.2 billion private equity investor focused on the energy transition, sees about three-quarters of M&A opportunities from origination or private deal referrals. That leaves about one-quarter of deal referrals from investment bank-marketed processes such as CleanChoice Energy, a retail energy and community solar integrator, Ninios said. The firm’s preference is towards private opportunities. After acquiring CleanChoice Energy in April from its founding members, TGC could seek another such company in the community solar market, he said.

CleanChoice could also participate in an acquisition for a customer portfolio that brings the operator of 215,000 customers in 16 states into a new state or regional market. The portfolio company could look to acquire a project development portfolio of community solar and energy storage projects of 0.5 MW to 100 MW, while a 100 MW portfolio represents a “sweet spot” for add-on deals, Ninios said.

TGC intends to build 200 MW of community solar projects, and by the end of 2024 it expects to have more than 100 MW of that portfolio constructed. As part of the acquisition, CleanChoice is targeting over 1 gigawatt of solar plus storage projects over the next four years.

TGC acquired CleanChoice with a \$100 million equity commitment into its multi-year development pipeline. It made the acquisition from its \$660 million fourth fund, with allocated capital designated to build solar plus storage projects. “With community solar, you can truly make and have a local impact,” he said. “For CleanChoice, what we realized doing community solar is it is all about the retail customers. Ultimately, we expect to have a true vertically integrated utility.”

Guggenheim Securities advised CleanChoice Energy in its early 2023 sale, while CIBC Capital Markets advised TGC.

Currently 29 U.S. state markets have deregulated power markets that allow retail energy providers to sell clean energy in addition to the local utility company. Community solar, or the siting of small sub-5 MW solar projects in fields in or next to cities or towns, or on commercial rooftops, are allowed in about 23 states, with Maryland and New Mexico being two of the most recent to adopt community solar legislation. Community solar subscribers remain with their utility company while seeing an average savings of 10-30% typically on their monthly electricity bill. The arrangement provides direct savings to consumers amid rising energy prices in recent years while adding a distributed power source to improve grid resiliency as the impact of climate change worsens in recent years.

According to Wood Mackenzie, the community solar market is expected to see 5 GW to 6 GW of total installations over the next five years. Assuming a capital cost of \$2,000 per kilowatt, that projection translates to a \$10 billion-\$12 billion investment opportunity for capital investors such as TGC, Alex Kania, head of research at investment bank Marathon Capital, told *PE Hub*.

# Community Solar 2.0: CleanChoice Energy value proposition

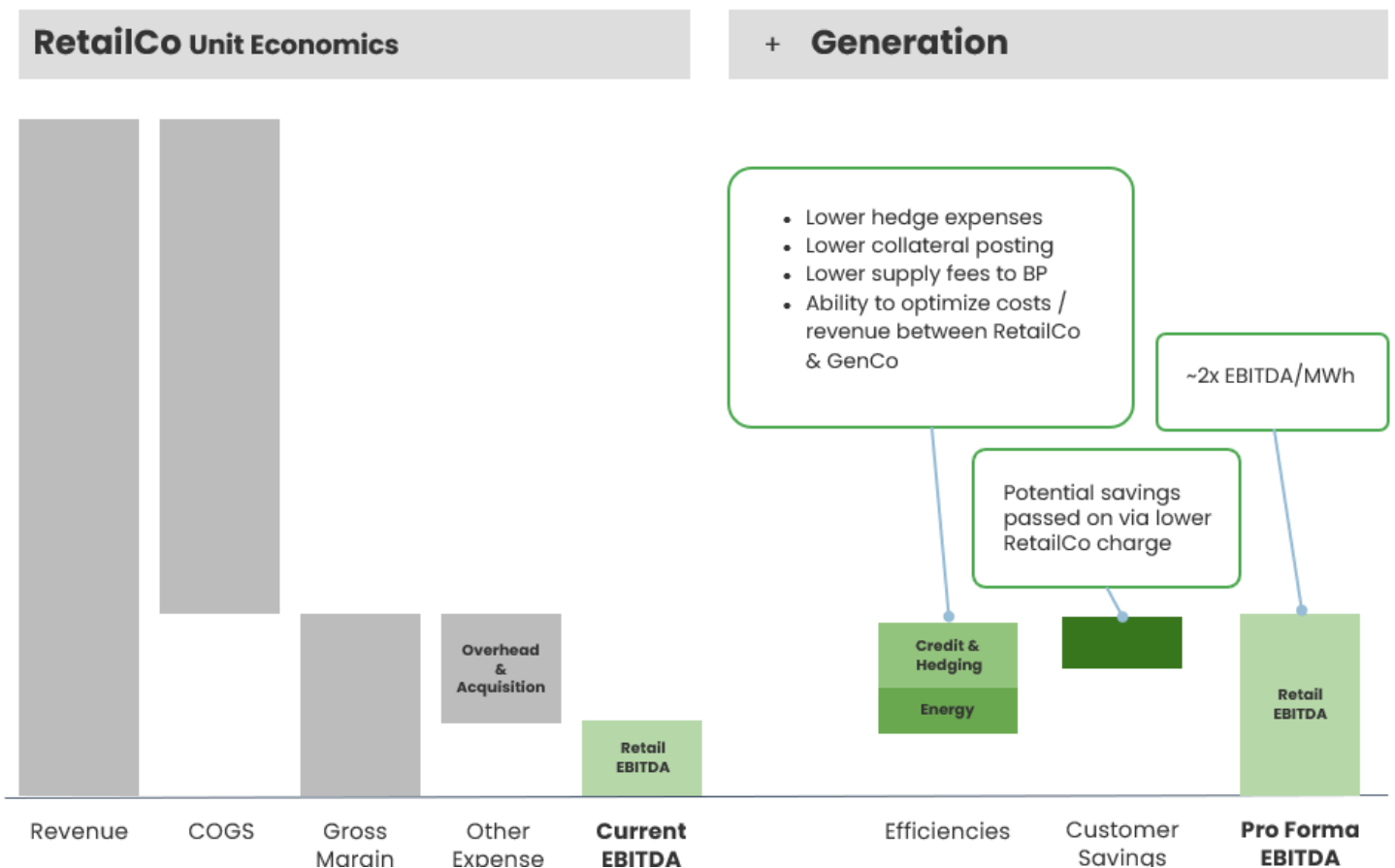


## CCE: A path to a fully integrated renewable energy utility

- Access to high quality customers is becoming an increasingly critical aspect of profitable solar asset ownership
- CCE combines a profitable green retail business with >200k customers\*, and a mid-stage development business
- The result is meaningful margin expansion as seen in the chart below

## CCE: Development and Power Generation

- CCE has acquired its first NTP-ready project, Blair's Valley, a ~25 MWdc project in Franklin, PA
- Robust pipeline (460 MW) of other M&A and Greenfield development-stage opportunities
- Launched a strategic modeling initiative to optimize the vertical integration Plan



\*Year end '23 estimate

# The Inflation Reduction Act (“IRA”) How TGC finds value in the legislation



## The Investment Tax Credit (“ITC”) adds to TGC’s economics

- › Depending on project characteristics, the "base" ITC equals 30% of the eligible basis of the solar facility, anticipated to equal its fair market value.
- › With the 2022 passage of the Inflation Reduction Act, projects may qualify for incremental tax credits, known as Adders, include those meeting criteria such as 1. minimum domestic content (10%), 2. serving low-income communities (up to 20%), or 3. being located in historically fossil fuel-benefited regions (10%).
- › Additionally, project owners can now sell ITCs and Adders to third-party buyers, increasing market flexibility and liquidity. This enhanced flexibility has already expanded the market for tax credits, with potential to improve availability and terms for monetizing tax benefits.



## TGC’s Partnership with Qcells and our Buy America Strategy

- › On April 23rd, our Firm announced that True Green Capital Fund IV, L.P. has signed a partnership agreement with Qcells, a global leader in complete clean energy solutions, to install up to 450 megawatts (MW) across commercial, community and industrial solar and grid projects throughout the U.S.
- › Qcells will supply modules from its fully integrated solar factory in Georgia as part of a \$2.5 billion U.S. investment, utilizing PV cells from REC Silicon in Washington.
- › This partnership marks a significant commitment from both entities to building a complete and sustainable solar supply chain in the U.S. Furthermore, it enhances the Firm's ability to invest in U.S. solar projects using domestically-made equipment, qualifying for an additional 10% ITC under the IRA, estimated to improve project-level returns.



# Our perspective on Europe – French & UK examples



## Regulatory Outlook

### Regulatory support for solar is strong across the United Kingdom and Europe

- Legally binding targets for net-zero by 2050 in UK and EU are driving the renewable and solar market opportunity in the transition to market-based regimes
- REPowerEU plan accelerates rollout of renewables. The EU Solar Strategy and Solar Rooftop Initiative relate specifically to solar
- The UK targets to build out 70GW of solar by 2035, despite the entire power system today totaling 75GW



## Growth

### Solar growth projections in Europe over the next half-decade are substantial

- The French solar energy market size is estimated at 22.96 gigawatt as of 2024, and is expected to reach 44.68 gigawatt by 2029, growing at a compound annual growth rate (CAGR) of 14.24% during the forecast period (2024-2029).<sup>1</sup>
- The UK's solar power market has also been growing at a remarkable pace. As of 2024, the installed base of solar power in the UK is estimated to be 15 gigawatts (GW), and this is projected to nearly triple to 43 GW by 2029, marking a CAGR of 23.53%.<sup>2</sup>
- French legislation to install distributed solar on new or heavily renovated non-residential buildings, with minimum roof coverage increasing from 30% to 50% by 2027



## Case studies: True Green Capital Fund IV Portfolio Companies

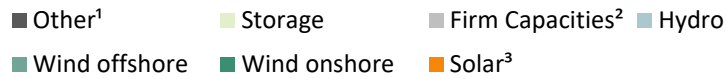
- **Business Model:** Faradae finances and operates self-consumption photovoltaic power plants, under 20-year fixed price leases.
- **Regulatory Framework:** Faradae ensures compliance, including the Tertiary Decree, with the French self-consumption regulation that requires building owners to cover their energy consumption with renewables sources.
- **Investment Thesis:** Capture market share within the C&I building space in France exploiting recent regulatory requirements for self-consumption.



- **Business Model:** Two Blues Solar provides fully-funded solar solutions through Power Purchase Agreements (PPAs), managing procurement, installation, and maintenance.
- **Regulatory Framework:** Operating within the UK “behind the meter” rules on top of buildings, in the context of existing net zero UK government targets
- **Investment Thesis:** Capture the positive arbitrage market delivered power and self-produced solar power behind the meter.

# Solar is the best option to meet forecasted energy demand growth

Global installed capacity, Current Trajectory scenario, TW<sup>3</sup>



Share of intermittent RES, %	2022	2030	2050	FM (2050) <sup>4</sup>	FA (2050) <sup>4</sup>	AC (2050) <sup>4</sup>
	25	46	69	63	74	77

1. Includes biomass (with and without CCS), oil, and geothermal; 2. Includes CCS, gas, nuclear, coal, and hydrogen turbines; 3. Solar capacities including distributed solar; 4. FM = Fading Momentum; FA = Further Acceleration; AC = Achieved Commitments

## Data Centers and Electric Vehicles Drive Demand

The global increase in energy demand, driven by various factors including the exponential growth of data centers and the accelerating adoption of electric vehicles (EVs), presents a critical challenge for sustainability and resource management. Data centers, indispensable for processing and storing vast volumes of digital data, are projected to witness remarkable expansion. The global data center market is expected to reach \$592 billion by 2028, with a Compound Annual Growth Rate (CAGR) of 11.8% from 2023 to 2028<sup>4</sup>.

The proliferation of data centers is accompanied by a significant rise in power consumption, with data centers estimated to consume 3%-8% of global electricity by 2030. In the United States alone, data center power consumption is expected to reach 35 GW by the end of the decade, almost double its 2022 level<sup>5</sup>. As data centers increasingly turn to renewable energy sources to meet their electricity needs, such as solar power, the integration of clean energy becomes imperative.

The expanding electric vehicle market adds further strain to energy resources while offering a promising solution for reducing carbon emissions in the transportation sector. Despite challenges, the outlook for EV adoption in the U.S. remains promising, with carmakers set to introduce 24 all-new, all-battery-powered models this year, marking a nearly 50% increase from current offerings<sup>6</sup>. Additionally, mass-market entries from Chevrolet, Mini, Fiat, and the introduction of electric trucks from Chevy, GMC, and Ram signal a broader shift towards electrification in the automotive industry.

## Solar Growth to meet Demand

As the graphic above indicates, a vast majority of the energy that will need to be produced to meet this burgeoning demand is forecasted to be solar. Owing to its dual benefits of economic viability and environmental sustainability, solar power is emerging as the predominant form of energy in the coming decades.

Sources: (3) McKinsey; (4) MarketsandMarkets; (5) Data Center Dynamics; (6) Bloomberg

# About True Green Capital Management LLC

True Green Capital Management LLC (“TGC”) is a specialized renewable energy infrastructure private equity firm focused on the U.S. and Europe. TGC is headquartered in Westport, Connecticut in the USA, and maintains an office in London in the United Kingdom as well.

The firm was founded in July 2011 and is led by a team of professionals with a proven track record and a demonstrated capacity to originate, finance, construct, and operate distributed renewable power generation projects.

TGC believes the continued increase of power prices, decreasing entry costs of distributed power generation technology and favorable regulatory environments in both the U.S. and Europe will continue to lead to compelling investment opportunities which provide a stable cash flow stream with low correlation to the broader markets.

TGC is currently focused on the approximately \$1+ trillion distributed power generation market in the U.S. and the approximately \$1+ trillion distributed market in Europe with an emphasis on the sub-utility scale solar power segment. Thanks to rapid advancements in technology, the cost of distributed power generation, including solar, is now on par with traditional electricity generation sources. In many U.S. states and key European jurisdictions, it represents one of the few sources of new power generation infrastructure that can be added to the power network quickly, reliably, and cost efficiently.

To date, TGC has invested into a distributed solar power generation portfolio across 16 U.S. states, the United Kingdom, and France delivering clean, renewable energy. U.S. states include Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, South Carolina, Tennessee, Idaho, California, Maryland, Colorado, Illinois, North Carolina, and Pennsylvania.



**For further information, contact:**

**Panos Ninios**

Co-Founder & Managing Partner

Direct: +1 (203) 557 6224

[pninios@truegreencapital.com](mailto:pninios@truegreencapital.com)

[info@truegreencapital.com](mailto:info@truegreencapital.com)



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