

**“** Whatever you can do, or dream you can, begin it. Boldness has genius and power and magic in it.”

**JOHANN WOLFGANG VON GOETHE**  
**LITERARY FIGURE, SCIENTIST AND STATESMAN (1800s)**

**“** We can pioneer the industries of the future, we can create millions of good-paying jobs and build the clean energy economy of the future. Climate change is not more important than the economy; it is the economy.”

**JAY INSLEE**  
**WASHINGTON GOVERNOR AND 2020 DEMOCRATIC PRESIDENTIAL CANDIDATE (2019)**

**“** Climate change is about inventing, not just adapting.”

**EDMUND GERALD BROWN**  
**SERVED AS THE 34TH AND 39TH GOVERNOR OF CALIFORNIA FROM 1975 TO 1983 AND FROM 2011 TO 2019, AND SIGNED THE 100% CLEAN ENERGY BILL IN CALIFORNIA (2018)**

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# A Letter from the Managing Partner

Jeff McDermott



Greentech Capital Advisors began 10 years ago in 2009. We believed that there would be a coming disruption in our energy, transportation, food, water and waste industries as the world transitioned to lower-carbon, more efficient and more intelligent infrastructure systems. Our mission has been to create value for clients amidst this disruption by being the best specialist global advisory firm focused on M&A and capital raising. We thought that by uniquely understanding the disruptive impact of technology on these sectors, we could add tremendous value to our clients by marrying innovators with incumbents and investors. We have worked on \$19bn of M&A transactions, 21+ GW of renewable energy asset transactions, raised \$4bn in private placements, and completed over 20 Board advisory assignments.

We probably started our business five years too early. But today, the market for sustainable technologies and infrastructure is commercially profitable. Renewable energy, energy efficiency, electric vehicles, smart transportation solutions, precision agriculture, water efficiency, waste-to-value, and the circular economy – these are among the great growth markets of the coming decades. Outmoded, highly wasteful 20th century systems are being replaced.

We are convinced of the merits of our unique business model as we see the tremendous future growth potential created by this inevitable industrial disruption.

**Looking forward 10 years to 2029, what has the last decade taught us that informs the future? We have six observations:**

## OBSERVATION 1

This disruption will be faster and even more profound than currently anticipated. Bill Gates said, "People always overestimate change that will occur in the next two years and underestimate the change that will occur in the next 10." Figure 1, which takes a look at solar and wind industry projections made in 2006, clearly illustrates this.

Due to the twin impacts of the median tenure of large U.S. company CEOs being only five years, and the pressure from activist hedge funds on near-term earnings, it is easy for U.S. CEOs (in particular) to pretend that this disruption won't impact their performance. Long-term investments into new arenas, especially when the core business is being disrupted, take courage. Many are lulled into inaction. But if these CEOs dislike change, they will dislike irrelevancy even more.

**Figure 1: Solar and Wind Industry Projections (2006)**



Source: IEA World Energy Outlook, Lazard 2018 LCOE Analysis, IEA Website.  
Note: 2017 forecast uses straight-line assumptions for IEA 2015 – 2030 projections.

## OBSERVATION 2

The early movers are winning. Those companies that look out a decade and make investments and acquisitions that complement their strengths will prosper. First-movers like Tesla, Vestas, Cree, Brookfield Renewable Partners, REC Silicon, Xylem, First Solar, and others began their business, or their business transformation, a decade ago and today have leadership positions and valuable growth platforms. Companies that wait on the sidelines will find it increasingly challenging to enter these markets. Figure 2 sets out how investors who were prescient enough to pick the early-mover winners would have done over the past five years.

**Figure 2: L5Y Performance of Select Industry Participants vs. Index**



Source: FactSet, data through 1/1/2019.  
Note: Index composed of Tesla, Vestas, Cree, Brookfield, REC Silicon, Xylem, First Solar, EDPR, Renewable Energy Group.

## OBSERVATION 3

At this point, sustainable technology and infrastructure offers certain market growth. And we mean 100% certain. Rather than cite the hundreds of studies and analyses that support this growth certainty, we have asked ourselves, “how could we be wrong?”

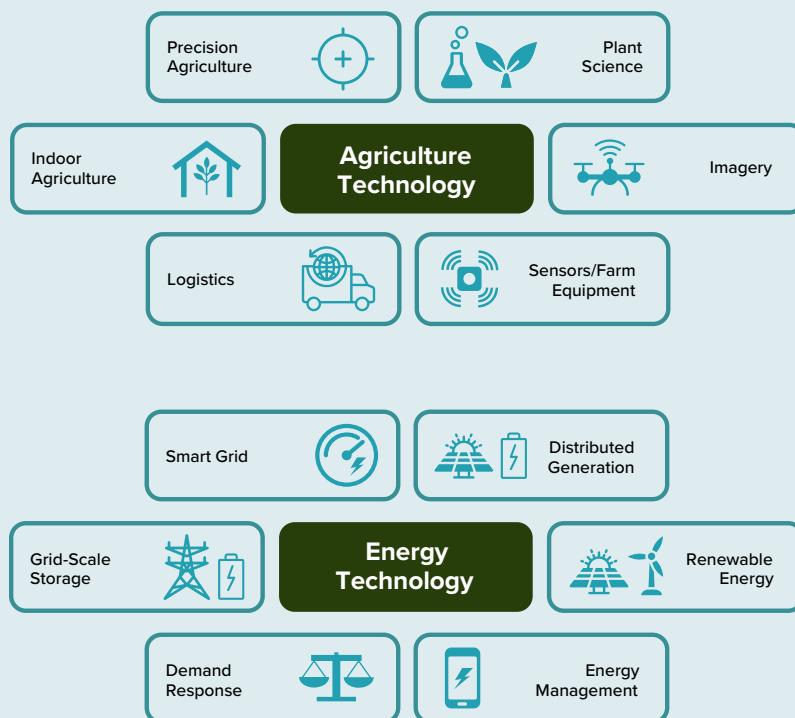
What must one believe to posit that these markets won't grow rapidly? That climate change isn't real and will be debunked; humanity will destroy the planet and impoverish itself; higher efficiency and higher profits cannot be financed; using sensors and software to improve physical asset efficiency will be too difficult; new sources of potable water will be discovered; investors will continue to direct capital into dying industries...We believe all of these have extremely low probabilities. In a world where investors seek growth, our sectors guarantee it. Figure 3 offers some third-party validation of this belief.

**Figure 3: Sector Growth**

SECTOR	GROWTH
 Renewables	+1 TW Capacity Additions 2018-2023
 Electric Vehicles	24% 2018-2024 CAGR
 Energy Storage	42% 2018-2024 CAGR
 Water Technology	10% 2017-2026 CAGR
 Agriculture Technology	13% 2018-2023 CAGR
 Smart Waste Management	17% 2016-2023 CAGR

Source: IEA, Energias Market Research, BNEF, Research and Markets, Markets and Markets, Research Nester.

**Figure 4: Technology Integration**



## OBSERVATION 4

The greatest growth in value will be driven by companies that are integrating technologies, customer access and capital to offer solutions to customers. The companies scaling are benefiting from falling prices in cloud-based computing, software development, sensors, specialized semis, GPS, storage technologies, satellite imaging, solar, wind, filtration, bioscience, and other technologies. It is the increasing integration of these capabilities into cheaper customer solutions that is scaling rapidly. Figure 4 provides some specific examples of where integrating technologies are driving massive customer value.

## OBSERVATION 5

Large public equity investors are increasingly demanding change. The large pensions and sovereign wealth funds, which collectively own over 40% of the \$30tn of public equity securities in the U.S.,<sup>1</sup> are increasingly pushing for clear and cross-industry comparable disclosure in environmental metrics as part of ESG reporting. Board Directors, whose tenure typically outlasts CEOs, will increasingly be asked by investors to push management for real ESG reporting. We are what we measure. Once companies adopt industry-centric and consistent and comparable environmental metrics, the Boards of the laggards will task management to go after the low-hanging fruit in their business practices and become lower-carbon, more efficient and more sustainable. The end markets for sustainable technologies and services will then accelerate. Figure 5 depicts the wide range of players currently participating in the corporate ESG reporting ecosystem.

<sup>1</sup> <https://www.nytimes.com/2018/02/08/business/economy/stocks-economy.html>; <https://www.barrons.com/articles/the-u-s-stock-market-is-now-worth-30-trillion-1516285704>

Figure 5: ESG Reporting Landscape



Source: WEF ESG Ecosystem Map.

## OBSERVATION 6

Many incumbents have recognized the certainty of growth and profitability and have entered into these sectors in a concerted and determined manner. We believe there is no solution to climate change without the large incumbents' active involvement. In the last two years, International Oil Companies (IOCs) have made investments with an aggregate value of \$3.4bn in the sectors we cover; Global Utilities have made investments worth \$4.6bn; Auto OEMs/Tier 1 Suppliers have made investments worth \$9bn; and Food & Ag companies have invested \$10.9bn. Yet, as Figure 6 shows, the relative size of investment pales by comparison with what is possible. The incumbents are global, have well-known brand names and access to customers, execute well, and have abundant capital resources. Increasingly, equity investors will reward those incumbents that make significant capital allocation decisions into the sustainable technology and infrastructure sectors. Over the coming decade, R&D investment and acquisition activity of incumbents will accelerate sharply.

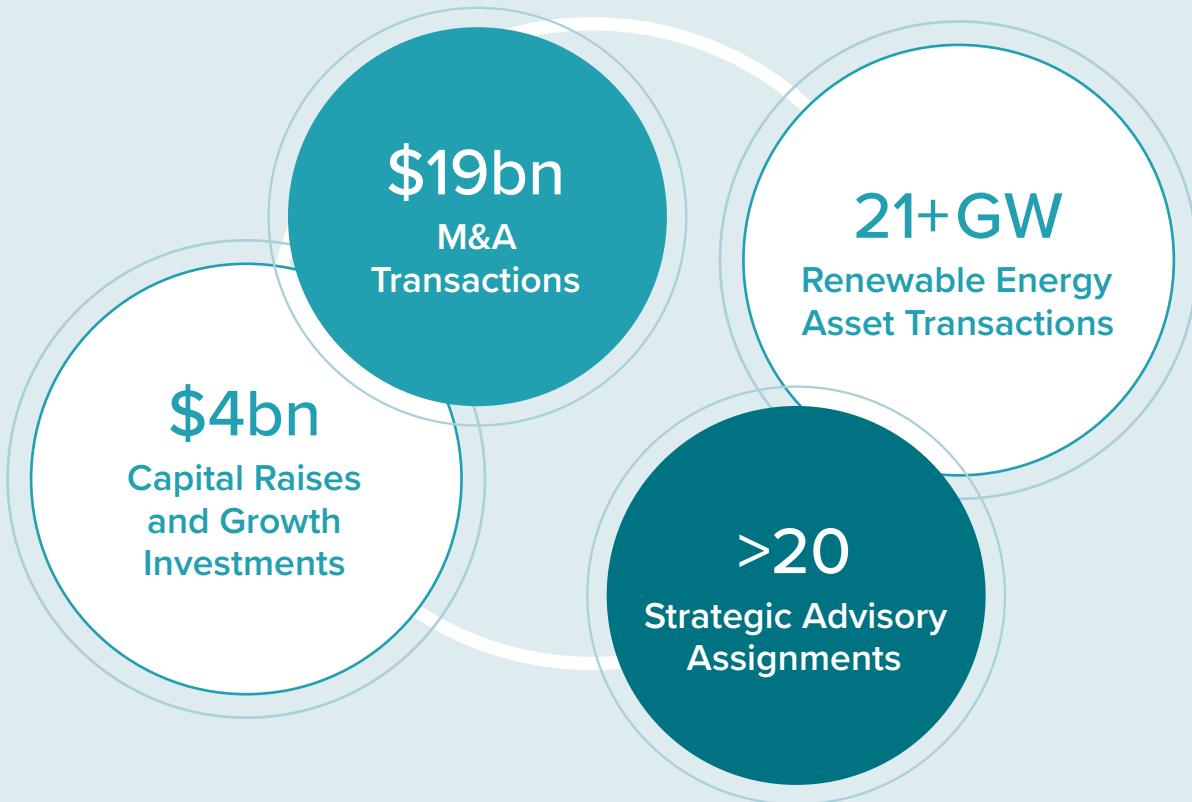
Figure 6: Incumbents' Investments

INCUMBENT INDUSTRY	NUMBER OF PARTICIPANTS	TOTAL EQUITY MARKET CAP (\$bn)	LAST 2 YEAR INVESTMENTS (\$bn)	INVESTMENT AS A % OF MARKET CAP
IOCs	6	\$1,063	\$3.4	0.3%
Global Utilities	16	\$214	\$4.6	2.2%
Auto OEMs / Tier 1 Suppliers	40	\$1,028	\$9.0	0.9%
Food & Ag	16	\$400	\$10.9	2.7%

Note: Accounts for investments in sustainable technology and infrastructure only.

Source: Pitchbook.

# Over 100 Successful Transactions



In summary, we have never been more positive about our clients' growth prospects. Technology advances continue. Costs are coming down. The volume of private capital available to scale businesses continues to increase. The steady returns of contracted renewables has created immense interest as a long-duration asset for pensions and other investors. Since there is no variable fuel cost, this lowers renewable energy costs. The quality and depth of entrepreneurial management teams leading high-growth innovators is impressive. Consumers are becoming increasingly aware of the "better ways" to create energy or mobility, produce food, conserve and consume water, and minimize and create value from waste. And it can be done – more economically, more cleanly, more sustainably.

We believe in human nature and evolution, in democracy and the wisdom of crowds, in investor capitalism and free markets, and in the S-curve of technology. We

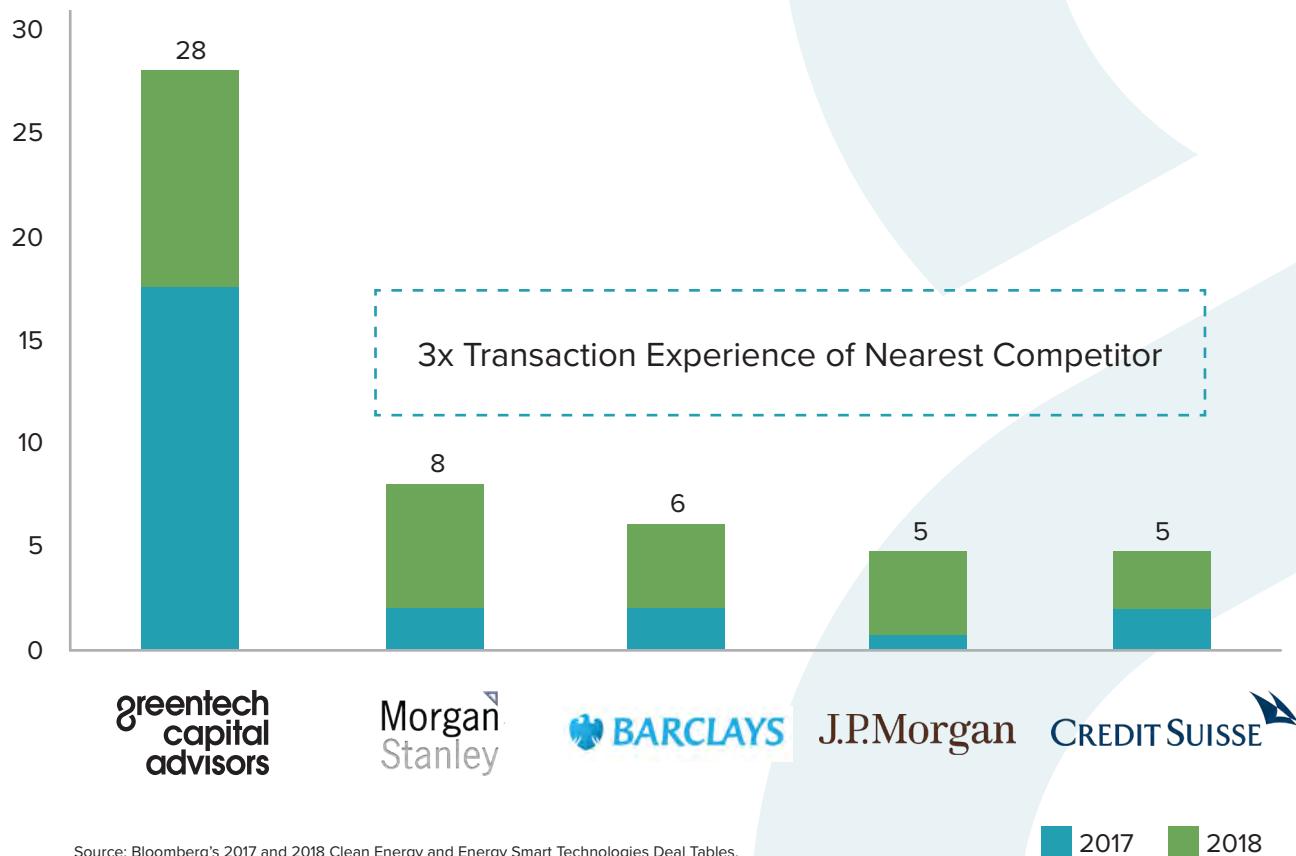
believe we can have sustainable economic growth and decarbonize, decentralize and digitize our energy systems. We believe we won't impoverish humanity by destroying our climate. But we must work together: incumbents and innovators; public equity investors and Boards; private capital investors and regulators. Greentech was founded on the belief that we must be an expert in this disruption, and a global connector, if we are to deliver value to our clients and our planet.

We thank the over 100 clients for whom we have closed transactions in our history, including those involved in the 23 transactions in 2018. We are here to help you, one successful M&A transaction, one successful private capital raise, and one successful investment at a time. Thank you all for the privilege of working with you.

All best wishes,

# Bloomberg #1 Clean Energy Energy Smart Technologies M&A Advisor 2 Years in a Row

Transactions (#)



Greentech has been ranked #1 in 2018 and 2017 by Bloomberg for number of transactions for Clean Energy and Energy Smart Technologies M&A

Only includes Clean Energy and Energy Smart Technologies M&A and VC/PE transactions closed and publicly disclosed in 2017 and 2018. Refer to page 32 for all deals closed and signed in 2018.

# Hear From Our New European Partners One Year In



## One Year at Greentech

DIEGO PIGNATELLI | ZURICH PARTNER

**When I met Jeff McDermott's wife Ashley mid last year in Aspen, the first thing she said was, "How did you fall under Jeff's clutches for the second time?" In my 37-year career in finance, I've been hired three times and Jeff hired me twice. This is definitely unusual, and it has been a privilege.**

As I approach the first anniversary of joining Greentech, I can share a few thoughts on our positioning after having spent several decades in a global investment bank. Of course, it's very different, and not only because at Greentech we are 65-plus people between partners and employees, while at UBS we were in the tens of thousands.

The more important differences are:

- Every big bank is global, but most big banks don't act globally. At Greentech, the Partners are knitted together closely, which makes a huge difference in the dynamics of the firm and in the way we build relationships and work with clients. We work closely across our three offices, and we rely on each other more, given the breadth of the business and our sector focus.

- We focus on the value chain in sustainability, which is at the heart of how the world can continue to prosper in a more decarbonized and resource-efficient economy and society. Our interactions with clients, especially large corporates, differ greatly from the ones a big bank has.
- Our knowledge of the sustainability space, and our understanding of which scenarios are most likely to evolve in the future of energy utilization, put us in a special dialogue with clients. Furthermore, our ability to connect large corporate incumbents to innovators is noticeable and appreciated by clients, and it's where the global connectivity of the firm is key.
- Most importantly, Greentech is an independent firm: We give advice; we don't provide products in any form. This type of independence has driven investment banking boutiques up the M&A ranks in both the U.S. and Europe. It's one of the reasons I got excited when Jeff asked me to join Greentech, and a year in, I'm pleasantly surprised to see the difference we make for our clients. We're just at the beginning of a massive industry transformation, and I'm excited to see the impact a firm like Greentech can have on the world.



## My Take on The European Energy Transformation

LAURENT DALLET | ZURICH PARTNER

**What insights can you share on the sustainable infrastructure transformation in Europe?**

The European sustainable infrastructure market is undergoing rapid transformation, driven by the growing concern of nations and citizens over global warming and its direct impacts on the planet. The COP21 agreement in Paris in 2015 was a wake-up call for Europe, and raised the awareness of public and private

stakeholders. Renewable energy capacity is now growing at a rapid pace, and most European countries are pressing the public transportation and power production industries to transition even faster from fossil energy to renewable energy.

Nordic countries are at the forefront of this transformation, pushing for the build-out of infrastructure needed to support electrification of vehicles, the circular economy and more

decentralized renewable energy production. France, Spain and Italy are also catching up with ambitious targets. Most of the EU countries and large corporations are now calling for zero net carbon emissions by 2050 at the European level, to keep global warming below +1.5°C. This places Europe among the world's front-runners in the energy transition journey.

#### **What trends have you seen emerge over the past 10 years?**

Thanks to the liberalization of the energy market and the emergence of new technologies, we have observed the sudden weakening of the traditionally “centralized” and vertically integrated business model of incumbent energy utilities, and the emergence of alternative producers and suppliers. Incumbent utilities are suffering and have been forced to adapt. In 2018, we saw a massive shift in German utilities, with E.ON, Innogy and RWE all trading assets to adapt to the market landscape. In Denmark, Ørsted (formerly Dong Energy) exited all fossil activities and became a pure renewable player. SSE is following the same strategy in the U.K. In France, ENGIE has sold its upstream oil & gas and LNG activities, and is gradually selling all its coal-fired plants.

The rapid decrease of the LCOE (levelized cost of energy) of wind and solar has also completely disrupted the energy mix. Gas, coal and nuclear have been replaced by renewable assets as the most economically viable fuel for newly built power plants in Europe. The emergence of storage technologies “behind” and “in front of the design” is also challenging historical market design. Despite the privatization of the sector, public stakeholders are weighing more than ever on these markets. Germany, Switzerland and Belgium will shut down all nuclear fleets by 2025. France and the U.K. are now facing difficult strategic decisions regarding the future of their nuclear fleets. Spain just announced its intent to move to 100% renewable electricity by 2050. Cities and local communities have launched similar initiatives to promote the energy transition, announcing strict pollution limits and banning the highest-polluting vehicles from their centers.

We saw heightened focus on energy efficiency among citizens and industrials, presenting a new business opportunity with the emergence of the Energy Service Company (ESCO) and more energy services globally. This market is growing rapidly and has attracted a range of newcomers, including real estate, construction, utilities, international oil companies (IOCs), hardware OEMs, and IT players.

Mostly under the pressure of institutional shareholders, large oil companies and transportation players are being forced to invest in renewables and demonstrate a strategic plan to

gradually shift away from fossil fuels. Shell, Total and Equinor (formerly Statoil) are likely the most advanced European IOCs in this transition. European OEMs will have brought to market more than 25 electric vehicle models by the end of 2019. Trains, buses and boats are becoming electric or fueled by hydrogen.

#### **What do we need for accelerated industry transformation? What trends do you expect we'll see emerging in the next 5-10 years?**

The reinforcement of ESG criteria for listed and private companies would clearly accelerate the transition to a more sustainable world. This would allow sustainability KPIs (key performance indicators) to serve as a key parameter driving companies' valuation.

A G20 coordinated approach to push for the implementation of a CO2 tax at a global level would heavily accelerate this transition in the transportation and energy sectors, as would tighter regulations from the EU states to reduce CO2, NOx and SOx emissions.

With the recent focus on green bond initiatives, I expect that financing will become even more accessible for mid-cap and small-cap companies willing to invest in distributed renewable energy, energy efficiency and recycling solutions. With the emergence of storage, Distributed Energy Resource Management Systems (DERMS) and Vehicle-to-Grid solutions, new technologies and services will balance the grid and further disrupt the way we produce, store and use energy. Finally, we will also see an accelerated change in citizen behaviors around mobility, energy conservation and recycling.

#### **Which sustainable technology do you think has the biggest potential to disrupt our infrastructure systems?**

Green Hydrogen is one of the most promising solutions to accelerate the energy transition and significantly reduce CO2 emissions of the transportation, energy and heavy industries sectors. Large-scale electrolyzer technologies are quickly evolving as Proton Exchange Membrane (PEM), alkaline and now Solid Oxide Electrolyzer cells (SOEC) technologies become cheaper and more robust. Hydrogen can be used to carry energy, store energy and fuel transportation. As global renewable energy capacity continues to expand, hydrogen can help manage the intermittency and eliminate the need for new power transmission lines. While the technologies required to build the Green Hydrogen global ecosystem (including electrolyzers and fuel cells) are still at the early stages, they have strong potential and under certain conditions can already be competitive.



# The Journey of a Package: The Logistics and Freight Industry is Ripe for Disruption

DUNCAN WILLIAMS

**With the rise of Amazon Prime, many of us have grown accustomed to ordering packages and expecting them to arrive in as little as two hours. However, we are largely unaware of the effort, steps and intricacies that go into moving packages from the shipper to our door.**

Amazon, among others, has already automated much of the effort required to get its goods from shelf to truck – but where the true cost-optimization opportunity lies is once that package is loaded onto the truck. This stems from the fact that from 2015 to 2040, U.S. ton-miles of freight is expected to grow 27% from 6.56tn ton-miles to 8.39tn ton-miles.<sup>1</sup> The three segments of a package's journey – Collection & Sorting (shipper), Freight and Last-mile Delivery – are undergoing significant disruption to keep up with the proliferation of e-commerce.

The initial leg of a package's journey, the shipper side, has been slow to adopt new technologies. The key opportunity for cost savings and efficiency improvements is in getting the loaded trucks to the highway or staging area. The process of loading trucks at distribution centers and manufacturing facilities has already begun transitioning to become autonomous.

However, improvement of this stage will rely on the availability of autonomous or partially autonomous trucks to enable “truck platooning”, a process whereby a number of trucks equipped with driving support systems closely follow one another. While this stage of the journey will become more important with the expansion of autonomous trucks, it is also the one garnering the least amount of attention today.

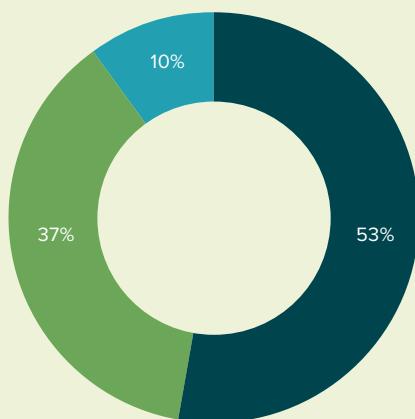
After being moved to the staging area, packages must be transported between ports, factories and distribution centers through long-haul freight transport. This process has also remained largely unchanged, and solutions currently under development focus more on improving the existing system than replacing it with a new one. Two aspects are targeted for improvement: logistics and technology.

On the logistics side, routing and load optimization services from startups like Convoy and Uber Freight focus on improving the routing and optimization of the existing fleet of trucks already servicing the shipping industry. In parallel, companies like Peloton and Embark are working to improve the efficiency of shipments while decreasing operating costs by developing autonomous L4 technologies. The trucking industry spends \$60bn on crashes, \$100bn on fuel, and \$300bn on labor every year, while generating \$700bn+ of revenue – together this represents a massive opportunity for both top-line growth and cost savings.<sup>2</sup>

**Ongoing significant disruption to keep up with the proliferation of e-commerce**

- Last-mile Delivery
- Freight
- Collection & Sorting

Source: Honeywell.



<sup>1</sup> Dossier, Logistics Industry in the U.S., Statista.

<sup>2</sup> Congressional Budget Office – Pricing Freight Transport to Account for External Costs: Working Paper 2015-03; American Trucking Association (ATA); Equity Research.

These three segments – shipper, freight and last-mile delivery – are undergoing significant disruption to keep up with the proliferation of e-commerce.



Although the mail delivery system has been around for 150 years, recent macro trends are causing new problems for last-mile delivery. Even at the beginning of e-commerce, package delivery was a fairly limited occurrence, generally reserved for nonperishable items. Thus, time and placement of packages has never been a consideration. Now, with consumers receiving daily packages of everything from steaks to clothing, there is both an opportunity and a need for alternative solutions.

Individualized solutions are trying to replace an antiquated system, ranging from Walmart's utilization of store associates to deliver packages on their way home, to Nuro's autonomous delivery vehicle, to Amazon's PrimeAir delivery drones. E-commerce logistics costs rose to \$117bn in the U.S. in 2017, and e-commerce sales are expected to grow at approximately 15% per year over the near term, putting even more pressure on an already outdated system.<sup>3</sup> The complication and

opportunity in this space also stems from the fact that there will be no single solution. The needs of a suburban community for last-mile delivery differ greatly from that of a dense urban environment. Ensuring that each package is paired with the appropriate final delivery solution will become an important piece of the logistics puzzle.

Much of the media's focus and Silicon Valley's effort has been around disrupting the passenger mobility ecosystem, as companies like GM Cruise, Zoox and Waymo race to launch a commercial self-driving service in the next 12 to 18 months. Over 35 companies are pursuing autonomous vehicles for passenger transport, with fewer than 10 (but growing) focused primarily on the freight ecosystem. However, with freight tonnage expected to increase 36% by 2029, coupled with the lack of interconnectedness between the three major participants in the life cycle of a package, the logistics and freight industry is ripe for disruption and presents a tangible near-term opportunity.<sup>4</sup>

<sup>3</sup> [https://www.joc.com/international-logistics/us-3pls-expect-e-commerce-compliance-trucking-drive-strong-2018\\_20180606.html](https://www.joc.com/international-logistics/us-3pls-expect-e-commerce-compliance-trucking-drive-strong-2018_20180606.html)  
<sup>4</sup> <https://www.trucking.org/article/ATA-U.S.-Freight-Transportation-Forecast-to-2029>



# The Hidden Value of the Battery in Your Next Car

DAMIEN SAUER

We're on the verge of the acceleration phase of Electric Vehicle (EV) penetration. This not only promises a leap forward in the decarbonization of personal transportation, but also allows utilities to provide modernized grid management and deliver lower-cost energy to consumers.

Smart charging from the grid (V1G) is in widespread operation today. The benefits are well-known – it lowers the cost of charging consumer vehicles and helps energy suppliers better respond to energy demand by spreading peak loads. Without demand response management, McKinsey estimates that an EV adoption of 25% at the neighborhood level in Germany would increase peak load by up to 30%, far beyond the capacity built into current substation design.<sup>1</sup>

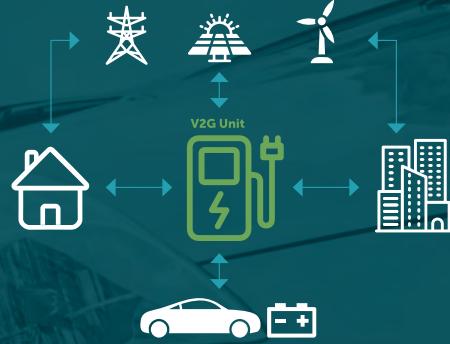
The next stage in Vehicle-to-Grid integration (V2G) holds even greater promise. Bidirectional flow of electrons and communication between the grid and vehicle offers a solution to the very problem EVs create – it helps balance the load curve of the intermittent generation of renewables, on the supply side, with peak demand from increasingly electrified households.

This mobile fleet of unused battery capacity is waiting to be unlocked and monetized – a 21st century rebirth of the Duracell and Energizer bunnies that can keep the grid going and going...and going.

## Why hasn't it scaled already?

Connecting EVs to the grid is not a new idea. It has walked a slow path of pilot projects and limited commercial rollout, varying with geography and dependent on support from the carmakers. Nissan has led the rollout in Europe, partnering with utilities in Germany (E.ON) and the U.K. (OVO Energy and Enel), to name a few.

There are clear technological gaps to fill, none small but none insurmountable – from standardization of communication protocols and charging inverters to



managing battery degradation. With the latter, trials have shown that smart algorithms can optimize battery charging if given clear signals about user demand and battery design. Such systems have not yet been commercialized and will require robust infrastructure and detailed data from households. Without these, grid-connected vehicles will remain less intelligent and likely uneconomic.

As for “range anxiety”, this bias against EVs can only be overcome with continued leaps forward in battery capacity. It’s understandable – if your smartphone dies, the chances are that your next Instagram post can wait. But being stranded on the highway is a different story.

Today's EVs already have excess capacity for most trips. The battery in a Nissan Leaf stores 30 kilowatt-hours (kWh), which is enough to drive the Leaf 107 miles (172 km). A Tesla Model S 90D with 90 kWh extends this to 294 miles (473 km). Contrast these ranges with U.S. Department of Transportation data for 2017 that shows that 75% of single trips were less than 10 miles, and 95% were less than 30 miles.

<sup>1</sup> McKinsey & Company: The Potential Impact of Electric Vehicles on Global Energy Systems, July 2018. Note: This article was published on the World Economic Forum's website on January 9, 2018.

## What's the winning business model?

Commercializing V2G will deepen the convergence of the transport and utility sectors. In its purest form, grid operators will be rewarded with a more reliable system and a reduced operational cost. The value of this could be huge, particularly when capturing frequency regulation, essential to keeping the grid reliable – Imperial College London estimated that V2G could generate savings of up to £3.9bn a year for the U.K. grid in a scenario of mature EV penetration and renewable generation.

Fair distribution of this value is key to developing the market and aligning stakeholder incentives. Consumers can become prosumers with a new revenue stream to offset their energy bills, while automakers benefit either directly or by sales growth from accelerating fleet modernization.

Given some of the technical challenges, we expect owner-operators of large vehicle fleets to be the leaders in shaping and designing the V2G market. This includes companies engaged in logistics, taxi and ride-sharing, and car rental.

First, their fleets are often centrally managed by experienced technicians and are used according to consistent schedules, which simplifies the infrastructure footprint and guarantees minimum availability to the grid operator.

Second, such commercial operators may be more willing to share usage data required for charging-cycle optimization and battery health management.

Last but not least, a large enough fleet assumes the role of a virtual power plant. That is more appealing to energy suppliers and grid operators, and opens up the potential for direct connection versus an indirect trading hub mechanism.

In this scenario, it is not hard to imagine a grid operator offering the likes of UPS or FedEx a rebate to partially

fund compatible EV purchases – this initial outlay could still be far below capex for alternative grid-level storage solutions.

Residential V2G will follow suit, because once a platform exists to easily trade excess battery capacity on the grid, it becomes easier to tackle localized demand response for a household.

## Macro catalysts – How the stars can align

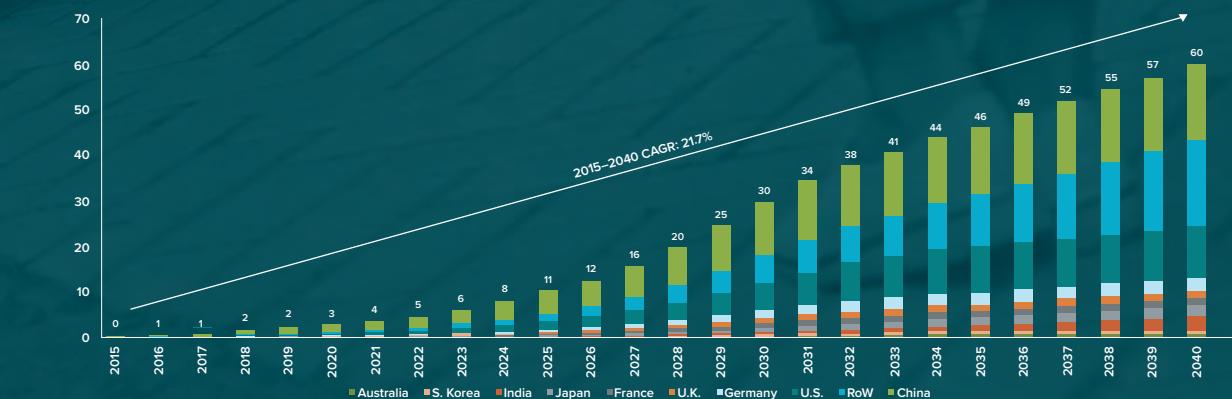
Macro trends in the transport and energy industries will provide the environment for V2G, and other cross-sector initiatives, to flourish. We expect Europe to emerge as the leading region for V2G innovations, born of necessity due to its forward-thinking attitudes toward resource management and decarbonization. As renewables increase as a proportion of electricity generation, the pressing need for a backbone of demand response and storage solutions will only increase.

EV penetration growth will serve as a multiplier. By 2050, BNEF estimates that 55% of new car sales and 33% of the overall global fleet will be electric. In certain jurisdictions, this will come far sooner – in San Jose, California, for example, the installed base of cars is already 13% electric. China and the U.S. will lead the race in terms of EV sales.

Automakers may find it difficult to retool their manufacturing operations away from internal combustion vehicles, but they must ultimately fall in line with electrification. Pursuing leadership in the development of bidirectional charging offers opportunities to monetize EV storage capacity and accelerate EV adoption.

Regulation will be the final piece in the puzzle of supporting a decentralized grid system. For the economics of V2G to work, supply aggregators need equal access to wholesale trading and grid balancing systems.

**Annual Global EV Sales Outlook**  
(mm of vehicles)



Source: BNEF, December 2018 outlook.



# A Year in the U.S. Offshore Wind Revolution

PJ DESCENES

## Boston: Opening Shot

I moved to Boston in 2002 and immediately witnessed a mega-scale renewable energy controversy playing out in the front page and op-ed section of *The Boston Globe*. A successful energy project developer had proposed the first major offshore wind farm in the U.S. – Cape Wind – to deliver 468 MW from a 24-square mile tract off the coast of Massachusetts. Although the state was adopting one of the most ambitious renewable energy targets at the time, public opinion backlashed against the ambitious project, which ultimately failed after over a decade of development effort.

## The \$1bn Year of Deals

Nearly 15 years later, in late 2016, Deepwater Wind brought the 30 MW Block Island project into commercial operation as the first offshore wind project in the U.S., portending a whirlwind of deals over the course of 2018 that saw over \$1bn investment into development of new offshore wind farms in the Northeast U.S. In October 2018, Ørsted agreed to acquire Deepwater Wind for \$510mm in cash, growing Ørsted's offshore wind development pipeline in the U.S. to 3.3 GW. In November 2018, three bidding groups representing five major European energy and infrastructure companies collectively spent \$405mm in an auction for three parcels off the coast of Massachusetts designated for offshore wind development. Then, near the close of the year, U.S. Wind, a developer backed by the Italian construction firm Toto Holdings, sold its New Jersey offshore wind lease to a consortium of Shell and EDF Renewable Energy for an upfront purchase price of \$215mm.

## What Changed?

Three main factors drove the change of positioning of U.S. offshore wind. First, states in the Northeastern U.S. created a market by signaling their clear intention to procure offshore wind energy under long-term contracts. Massachusetts passed legislation in 2016

requiring procurement of 1.6 GW of offshore wind. That was followed by targets of 2.4 GW and 3.5 GW from New York and New Jersey, respectively, and solicitations of nearly 1 GW collectively from Connecticut, Maryland and Rhode Island.

Second, European energy companies proved over the previous five years that investment in supply chain, logistics, project design, and execution could lower costs of offshore wind to near parity with grid prices in Europe. For example, at the end of 2016, a consortium including Shell announced a subsidy-free wind project to be delivered by 2022 in the North Sea.

Third, technology evolved to lower the cost of energy further. In 2017, MHI Vestas released its 9.5 MW wind turbine and received billions of dollars of orders in 2018, while GE announced its Haliade X platform capable of 10 MW per turbine, followed by a 12 MW prototype of the same platform released in early 2019.

## Why the Rush?

Even given the evolution of state policy, industry experience and technology, the rush of deals and pace of industry consolidation in U.S. offshore wind during 2018 was exceptional. What pushed the pace in 2018? Competitiveness of offshore wind is a critical mix of scale of sales, scale of development and accessing the



best sites. State-level policy translated into a wave of procurement with over 1.3 GW of awards granted in 2018, and two companies winning all of this volume. Large forward energy sales allowed offshore developers to commit to large upfront investments for areas such as permitting, cabling and port infrastructure that are supported by initial projects, and amortized over subsequent neighboring projects – a significant first-mover advantage. Finally, unlike most onshore renewable energy in the U.S., offshore wind is a site-constrained market. Developers must locate turbines on designated lease areas while allowing for the needs of the fishing industry and shipping navigation, as well as sea floor conditions (and in some cases, legacy unexploded military ordinances). Factoring in the best wind resources, and increasing costs of cabling and construction depth for going further offshore, we estimate that the last entrants to the market in 2018 likely paid over \$100,000 per MW just for site access.

### Offshore (Head and Tail) Winds

In spite of the boom in activity, challenges to growth still loom over the U.S. offshore wind industry. It will face constraints from a young supply chain, such as a shortage of skilled labor, installation vessels and equipment. Some of this will be addressed by investment, specifically in existing, underutilized port infrastructure. Further, the region is home to a robust fishing industry, and construction and operation of offshore wind must advance without impairing commercial fisheries. Finding right-of-way for landfall of export cables will have to thread highly valuable public and

private beachfront real estate. Also, installation of foundations will have to accommodate seasonal marine mammal populations, especially if developers elect to drive large monopiles.

Project sponsors will navigate these challenges, and also see opportunities in several areas. Long-term power purchase contracts backed by investment-grade counterparties available to U.S. offshore wind developers are increasingly rare in the U.S. renewable power industry. As a result, low-cost, long-term investment capital will flock to the scale and risk profile of offshore wind, creating additional margin to developers from cap rate compression. Development of turbine technology, supply chains and project design will open additional development opportunities further south along the U.S. Atlantic coast. In addition, as the first floating offshore wind farms are being constructed in Europe, floating technology will bring opportunity for development on the U.S. Pacific coast and may take up a role in the build-out of projects in the Northeast U.S.

### The New Outlook

The outlook for offshore wind in the U.S. shifted in the course of the last few years from being the object of public vitriol and the province of upstart project developers, to a high-stakes leg of the U.S. energy future. It is now led by major international energy companies committed to bringing forward over 9 GW, representing over \$30bn of investment, by the end of the next decade. We expect the revolution experienced in U.S. offshore wind in 2018 to set up substantial opportunities for investment and M&A in the years to come.



# The Battle for Supremacy in Car Batteries: China vs. Europe and the West

DIEGO PIGNATELLI

With Electrical Vehicles (EVs) drawing a great deal of attention worldwide, industry projections indicate an exponential increase in the number sold over the next decade.

The 2014 Volkswagen diesel emissions scandal brought a backlash against diesel cars, which will increasingly face bans in urban areas. This is accelerating the electrification transition, which will transform the entire transportation industry.

EVs offer an improved ownership experience and convenience at an increasingly lower relative cost. Over 50% of light-duty vehicles sold globally are expected to be electric by 2040, showcasing the revolution that the individual transport market is starting to undergo.<sup>1</sup>

All major manufacturers are evaluating their electric car offerings. For example, Volkswagen has announced that all of its car models will be electrified by 2030, and has pledged to spend €30bn on EV-related technologies over the next five years. Toyota is targeting 50% of its sales to come from EVs by 2030 (representing 5.5mm vehicles), while GM's target is to sell 1mm EVs annually by 2026.<sup>2</sup>

The battery is the key component of an EV. With batteries accounting for approximately 40% of an EV's value today, we can expect a battle for supremacy in the underlying technology. As the cost of batteries continues to

decrease, the take up of EVs should increase and the question then becomes, will the powering technology be the anchor behind the choice of a vehicle?

Government officials and regulators have taken note that the most important and expensive component in an EV is the battery, and that this item is currently totally dependent on Asian manufacturers. This raises the question of whether it is appropriate to delegate all supply to Asia. What impact could this have in the long term?

Car manufacturers are not in agreement on which path to follow. Daimler, for example, has taken an intermediate route by building a €500mm factory to assemble batteries using cells provided by LG Chem.<sup>3</sup> Delegating this knowhow ought not to be the right answer, for several reasons:

- The value of the market for batteries is estimated to be worth \$240bn in the next 20 years;<sup>4</sup>
- Car batteries will be a cornerstone in the deployment of Vehicle-to-Grid (V2G) technology, which will play an instrumental role in grid management and the electrification of cities; and
- The automotive industry is one of the largest industrial platforms in Europe, and the future supremacy of this industry is at stake.

Even though the battery industry is effectively controlled by Asian manufacturers, in time the competitions in car showrooms will shift in favor of those with the most advanced technology. This opens up an opportunity for western competitors to establish their footprint, while giving Asian OEMs the opportunity to further strengthen their presence in European markets, as they did with solar PV manufacturing.

Figure 1: Projected Battery Costs as a Share of Large Battery EV Costs



Source: Statista.

By 2010, China had already identified “new energy vehicles” as one of seven strategic sectors for the future of the country.<sup>5</sup> Dominating the market for the power source may provide China with a powerful competitive advantage in developing a leading vehicles business. We saw a similar situation in the 1970s, when Japan was the first to respond to the 1972 oil crisis with high-mileage cars, and successfully penetrated the U.S. market, achieving 23% market share by 1982.<sup>6</sup> Such a competitive advantage significantly impacts entire economies.

The most important opportunity that EVs offer may be in supporting the grid. EV batteries are typically only used at between 80-90% of their capacity, so when a consumer comes back from work, the battery still holds significant capacity to support a household and relieve the grid in evening peak times. Why install dedicated storage in your home when you can get more stable connected storage via grid-tied car batteries? (See Damien Sauer’s article on “The Hidden Value of the Battery in Your Next Car,” pages 12-13)

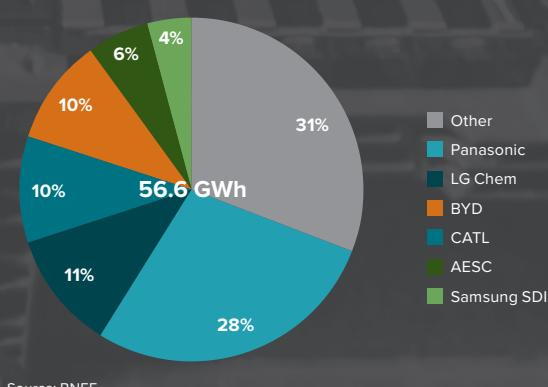
### Where are we now in the battery space?

Currently, all of the six largest EV battery manufacturers are based in Asia, with the market leaders being Panasonic, LG Chem and BYD.

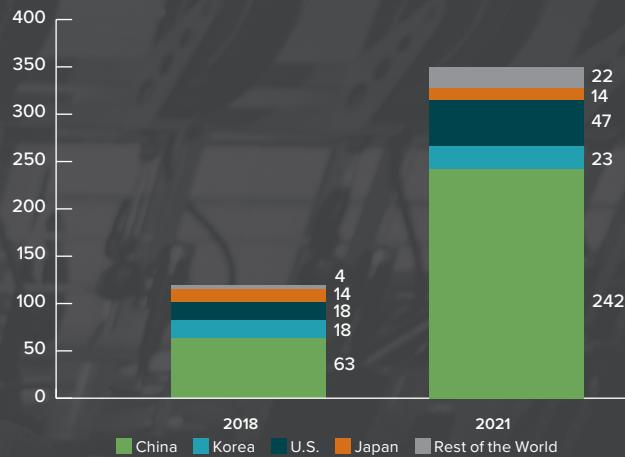
China is adding the most production capacity, which is expected to quadruple by 2021 with many new entrants that will vault China into global leadership. The challenge is also represented by the EV Li-ion capacity under development, expected to grow from 117 GWh/year to 348 GWh/year in the next three years, by when China is projected to harbor approximately 70% of the enlarged manufacturing capability.

This corresponds to the average price of Li-ion batteries, which has decreased by 79% to \$209/KWh since 2010,

**Figure 2: 2018 Lithium-ion Battery Global Market Shares**



**Figure 3: Global Battery Manufacturing Capacity (GWh/year)**



and is expected to drop below \$100/kWh by 2025.<sup>7</sup> These two dynamics create a significant challenge for a newcomer seeking to scale up.

The EU has been slow to respond, despite key industry participants stating that the automotive industry cannot continue to prosper unless it builds its own capacity. In 2018, the EU established a research fund that included €200mm to fund battery projects and €800mm to build demonstration facilities. Regions looking to promote the industry can apply for funding from a further €22bn.<sup>8</sup> In addition, the European Investment Bank has made its European Fund for Strategic Investment available to co-fund the creation of a large battery production facility to compete with Tesla’s giga-factory in Nevada.

A select number of European competitors are lining up for the task. To name a few, a consortium of Saft, Siemens, Solvay, and Manz is looking to develop competitively priced solid-state batteries, but production is not expected to begin before 2025. German manufacturer Varta is teaming up with Ford to produce EV batteries, while Swiss company Lechanché appears to want to go it alone for the time being. In addition, Northvolt is developing a new manufacturing facility that will begin producing 8 GWh/year of battery capacity by 2020, a figure expected to rise to 32 GWh/year.<sup>9</sup>

### How important is having a large market share in the car battery market?

In 2017, the EU produced 19.6mm vehicles, 23% of global motor vehicle production. More importantly, car manufacturing employed 6.1% of the European workforce, amounting to 13.3mm people.<sup>10</sup> The value

of this market is estimated at over €500bn per annum (estimated average car price x 19.6mm cars sold). If we assume the battery is 25-30% of the value of the overall vehicle, we can estimate the market at approximately \$130-150bn. A market of this size, and with technological implications expanding beyond just EVs, cannot be ignored.

### What scenario may develop and who will be the players?

Multiple scenarios are possible. The most likely is that as demand for batteries grows, it will be satisfied by imports from Chinese manufacturers. Such a scenario might play out despite the Korean competitors' best efforts to catch up by opening new manufacturing

facilities, for example in Eastern Europe. The European lineup as of today remains very tentative, with only a few consortia or new start-ups. Europe's efforts may come through R&D in a new technology that is cost-effective or operationally efficient enough to compete with the Asian manufacturers. History shows that competing on price with a Chinese volume producer is hardly a successful financial model, however other industries have succumbed, and most recently the PV panel and wind turbine manufacturers have been severely challenged by Chinese competitive pressures. The outcome may be different this time if the R&D efforts these consortia are conducting with the EU's financial backing can develop a more effective energy storage technology at a lower cost than what is on the market today. This is still a blue-sky scenario.

<sup>1,2,7</sup> BNEF.

<sup>3</sup> IFRI, 2017.

<sup>4</sup> Forbes, August 2017.

<sup>5</sup> IFRI, 2017.

<sup>6</sup> NY Times, February 1983.

<sup>8</sup> Financial Times, October 2018.

<sup>9</sup> EU Battery Alliance, October 2018.

<sup>10</sup> ACEA.



## Energy-as-a-Service – An Opportunity for Both Customers and Suppliers

MICHAEL HORWITZ

Better energy outcomes can be achieved as point solutions become integrated into systems. The deployment of connected, intelligent energy technologies by progressive service providers will give end-users greater visibility and control over how they meet their energy resource requirements, but it will also deliver beneficial network effects as the entire energy system becomes smarter.

Many of the legacy infrastructure systems that serve as the foundations of the industries we are a part of are being transformed. The transformation is happening fast and is most noticeable in the energy sector. The penetration of low carbon, distributed and intermittent generation has required not only new technologies, but also business model innovation. For traditional energy suppliers, it is no longer sufficient to "sell electrons": they are now expected to provide ancillary products

and services to customers, including managing electricity price risk and cross-selling cutting-edge energy management solutions.

The competitive landscape is shifting across the energy value chain. Utilities will have different, perhaps less powerful roles in the new energy economy. The interplay of a shifting generation mix, the need for a more resilient and responsive grid, a deregulating energy supply landscape, and a more energy-aware end-user

have created an energy system that would have been unimaginably complex a decade ago. This complexity creates opportunities for service providers that are able to deliver solutions that optimize end-user energy consumption by delivering Energy-as-a-Service (EaaS).

### **Customers – The Driving Force in the Growth of EaaS**

EaaS is a demand-side-driven phenomenon. Commercial and industrial (C&I), institutional and public customers are seeking clean, reliable, flexible, and low-cost energy solutions that enable them to meet sustainability goals while reducing operating costs. End-users are increasingly benefiting from the convergence of available solutions, advantaged by the technologies and financial support of third parties, to become more efficient and productive managers of their energy use.

### **Suppliers – Positioned to Monetize EaaS**

EaaS creates an opportunity for energy providers flexible enough to adapt their business model. The market for some EaaS solutions has already been developed, including contracted energy procurement services, energy efficiency and building optimization solutions, and load management solutions.

As the market for EaaS continues to mature, we expect to see increased adoption of an integrated suite of energy management services, including energy strategy support, sustainability advisory, and DER (distributed energy resources) operations support, providing an additional revenue opportunity for energy providers and utility service companies.

The market opportunity is significant. Navigant Research expects the annual global market for the deployment of C&I EaaS to reach \$221.1bn by 2026.

Historically, the category of Municipalities, Universities, Schools and Hospitals has represented the majority of spending on energy services. This is expected to change as C&I customers are becoming increasingly

aware of the benefit of EaaS and cost-savings opportunities.

### **EaaS Creates New Infrastructure Opportunities and Innovative Structures**

EaaS creates new infrastructure opportunities through energy storage projects, microgrids, district heat systems, and energy performance contracts. We have recently observed various global utilities, industrial companies and integrated oil companies identifying similar approaches to customer engagement and economically viable customer relationships, as well as services from these new infrastructure opportunities.

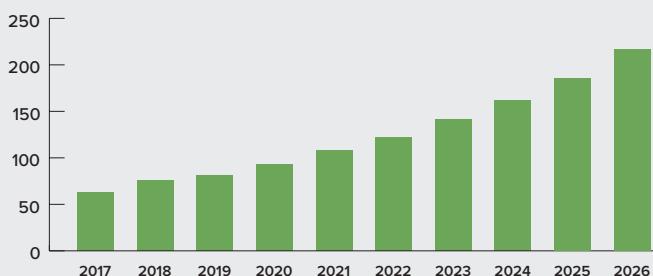
The energy suppliers at the forefront are largely from Europe, including Centrica, Enel, ENGIE, and National Grid. In the U.S., competitive energy suppliers such as Duke, NextEra and Southern Company are leading the charge on innovation. Major technology providers and ESCOs such as Johnson Controls, Schneider Electric and Honeywell are also well positioned to partake in the growing EaaS market.

EaaS also allows the customer to own, maintain and invest in the assets, taking ownership away from the command economy or businesses that don't have core competency to run these assets. A variety of new service providers are experimenting with how they enable their customers to benefit from asset-light exposure to the most advanced and efficient energy systems.

The Ohio State University public-private partnership is a good example of an innovative EaaS project, with a total value of \$1.2bn. ENGIE North America and Axium Infrastructure formed a consortium to combine their expertise in sustainability and energy efficiency. The consortium has taken over operation of the systems that power, heat and cool the campus, and will install a range of energy conservation measures with the goal of reducing the university's carbon footprint by 25% in 10 years. Another example is the strategic alliance of Dynamic Energy Networks, an owner and operator of microgrid and distributed energy resources, with Schneider Electric and The Carlyle Group in 2017 to form a holistic EaaS platform to take advantage of the growing market.

With the increased interest from institutional capital to provide flexible financing solutions, the rapid adoption of new technologies, and the increased interest and openness of customers to pursue sustainability strategies and set energy efficiency targets, we expect to see even more innovative project structures announced in the near future.

**Global Annual EaaS Revenue Forecast**



Source: Navigant Research's Energy as a Service, 2017.

# Focus on Disruptive Change in

## Sectors of Focus:



### ADVANCED MOBILITY

AI / Analytics software  
AV / EV infrastructure  
Emerging OEMs / System providers  
Mobility as a service  
Traffic / Transit management



### AGRICULTURE & CONSUMER

Green chemicals  
Green consumer products  
Sustainable agriculture  
Sustainable forestry



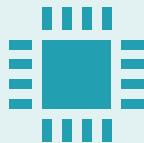
### AIR & ENVIRONMENT

Credits trading  
Environmental remediation  
Pollution control  
Recycling  
Waste management  
Waste to energy



### ENERGY EFFICIENCY

Building management  
Demand management  
E&C / Energy services  
LED lighting  
Power electronics  
Storage technology  
Sustainable materials



### INDUSTRIAL IOT & SOFTWARE

Analytics  
Data management  
Software  
Vertical applications



### POWER INFRA / SMART GRID

Advanced metering  
Distribution automation  
Energy storage  
Grid communications  
O&M services  
Sensors / Controls  
T&D equipment



### RENEWABLE ENERGY

Biofuel / Biochemicals  
Biomass  
Efficient natural gas  
Geothermal  
Hydro  
Solar  
Wind



### WATER

Distribution  
Efficiency  
Monitoring and compliance  
Smart water software  
Treatment

# Essential Infrastructure Systems

## Delivering Client Success:

CONNECTING INNOVATORS AND INCUMBENTS IN ENERGY, INDUSTRY AND TECHNOLOGY



Acquisition Enhancing  
Engie's Building Services  
Offerings

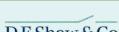


Sale of Publicly Listed  
Global Water Management  
and Infrastructure Services  
Company



Sale of Leading Energy  
Efficiency Technology  
Platform

## ACCELERATING GROWTH OF THE RENEWABLE ENERGY SECTORS



Sale of Largest U.S.  
Offshore Wind Developer,  
Accelerating Growth of the  
Offshore Wind Sector



Sale of Largest New York  
State Wind Portfolio



Sale of High-quality Portfolio  
of Operating Utility-scale  
Solar Projects

## PROVIDING GROWTH CAPITAL TO INNOVATIVE INDUSTRY LEADERS



Initial Public Offering of  
Leading International Solar  
PV Developer



Growth Capital Raise for  
Leading North American  
Energy Storage Provider



O&G Player Diversifying into  
Renewables



GreenTech Client

# Case Study



## ENGIE's Acquisition of OTTO

### TRANSACTION OVERVIEW

- On December 19, 2018, ENGIE Deutschland GmbH, part of the ENGIE Group (EPA:ENGI), announced the acquisition of OTTO Luft- und Klimatechnik GmbH & Co. KG ("OTTO") for an undisclosed amount
- The acquisition fits with ENGIE's strategy to strengthen its position in its Building Services segment and reinforces its design, planning and execution capabilities

### ENGIE OVERVIEW

- ENGIE is a global energy and services group, focused on three core activities: low-carbon power generation, mainly based on natural gas and renewable energy; global networks and customer solutions
- ENGIE has operations in 70+ countries, employing 150,000+ people and generating a turnover of €65bn in 2017
- In Germany, ENGIE has 4,000 employees and a turnover of €3bn in 2017. ENGIE Germany is active along the entire energy value chain, providing engineering and consulting services for complex infrastructure projects in the areas of energy, water, hydropower, construction, and transportation

### OTTO OVERVIEW

- Based in Bad Berleburg, OTTO is one of the most renowned specialist companies for ventilation and air-conditioning system contracting and services
- OTTO services clients from industry, trade, commerce, and the public sector, furnishing shopping centers, hospitals, office buildings, industrial production lines, and pharmaceutical laboratories with ventilation and air-conditioning systems and technical solutions
- OTTO has an annual turnover of approximately €120mm and employs 700+ people throughout Germany

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to ENGIE and was closely involved in all aspects of the transaction, including assessment of strategic fit, valuation, due diligence, and negotiations
- Greentech's expert industry knowledge and familiarity with both ENGIE and OTTO supported ENGIE in its assessment of the strategic rationale for an acquisition and in the identification of potential areas of synergy
- Greentech's extensive experience in providing buy-side advice to corporate clients in private equity sales processes was instrumental in allowing ENGIE to navigate an accelerated process timeline and be successful in a highly competitive process

### WHAT THE TRANSACTION MEANS FOR THE ENERGY SERVICES SECTOR

- As building systems become more digital and building performance regulations become more complex, the importance of technical design and installation expertise will increase, providing opportunities for companies like OTTO
- This acquisition is an example of how utilities continue to reorient themselves around the customer, including by looking for opportunities to deliver customer-facing efficiency services and digital solutions for the built environment

# Case Study



## Sale of Layne Christensen to Granite Construction

### TRANSACTION OVERVIEW

- On June 14, 2018, Layne Christensen (NASDAQ:LAYN) was acquired by Granite Construction (NYSE:GVA) in an all-stock transaction valued at approximately \$536mm, including the assumption of net debt

### LAYNE CHRISTENSEN OVERVIEW

- Layne is a global water management, infrastructure services and drilling company, providing responsible solutions to the world of essential natural resources: water, minerals and energy
- Layne offers innovative, sustainable products and services with an enduring commitment to safety, excellence and integrity

### GRANITE CONSTRUCTION OVERVIEW

- Granite is one of the nation's largest infrastructure contractors and construction materials producers
- Granite specializes in complex infrastructure projects, including transportation, industrial and federal contracting, and is a proven leader in alternative procurement project delivery

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to Layne and was closely involved in all aspects of the transaction
- Greentech evaluated a variety of potential strategic alternatives, including standalone scenarios, transformational growth acquisitions, divestitures of non-core business segments, capital structure considerations, and a whole company sale
- Alongside accounting and legal advisors, Greentech conducted an extensive reverse due diligence process on Granite and its equity offer, including analyzing historical and projected financials, Wall Street analyst messaging and guidance, accounting treatments, contracts, and other items

### WHAT THE TRANSACTION MEANS FOR THE WATER INFRASTRUCTURE SECTOR

- As a leading water management, construction and drilling company with the #1 position in water well drilling and a #2 position in cured-in-place pipe (CIPP) rehabilitation, Layne significantly enhances Granite's presence in the large and growing water infrastructure market
- A combination with Layne represents the next logical step in the evolution of Granite's strategy to diversify its service offerings by expanding in the water and wastewater market. Since acquiring Kenny Construction Company in December 2012, which marked Granite's entrance into the water markets, Granite has made a number of investments in the water sector to strengthen its capabilities, expand its footprint and grow its presence. Now, with the addition of Layne's leading portfolio of services, Granite will be better positioned in the water infrastructure and wastewater rehabilitation space

# Case Study



## Sale of Lime Energy to Willdan Group

### TRANSACTION OVERVIEW

- On November 9, 2018, Lime Energy (OTC:LIME) was acquired by Willdan Group, Inc. (NASDAQ:WLDN) in an all-cash transaction valued at \$120mm, including the assumption of net debt

### LIME ENERGY OVERVIEW

- With over 125,000 projects installed and \$145mm in 2018E projected revenue, Lime Energy ("Lime") is the standout, fully integrated building energy efficiency (EE) platform for small- and medium-sized U.S. businesses
- Lime pioneered the Commercial Direct Install program, a utility-funded EE program that provides small- and medium-sized C&I customers with cost-effective energy efficiency retrofits
- At its core, Lime provides turnkey solutions for utilities, including program design and administration, data-driven market intelligence, retrofit sales to end-customers, project implementation, and measurement and verification
- Through its innovative technology-enabled sales platform, Lime has successfully driven down customer acquisition costs and improved service for its customers and clients

### WILLDAN OVERVIEW

- Willdan is a nationwide provider of professional, technical and consulting services for utilities, government agencies and private industry
- With \$273mm of revenue in 2017 and 22 offices across the country, Willdan is considered a leader in the electric grid solutions market
- Willdan's service offerings span a broad set of complementary disciplines that include electric grid solutions, energy efficiency and sustainability, engineering and planning, and municipal financial consulting
- Willdan also does Demand Side Management and Commercial Direct Install program design and administration to utilities, similar to Lime

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to Lime and was closely involved in all aspects of the transaction
- Greentech's deep industry relationships, energy efficiency expertise and extensive transaction experience allowed Lime and its shareholders to maximize value by creating competitive tension and properly positioning the opportunity to appeal to a wide range of potential acquirers

### WHAT THE TRANSACTION MEANS FOR THE ENERGY EFFICIENCY AND DEMAND-SIDE MANAGEMENT SECTORS

- The acquisition of Lime is highly synergistic to Willdan, diversifying Willdan's geographical presence, and adding a strong technology and sales platform to complement Willdan's existing customer- and utility-focused offerings
- Traditionally underserved by utilities and ESCOs, small- and medium-sized businesses such as gas stations, laundromats and car dealerships present a significant and underserved opportunity for utilities seeking energy efficiency resources
- Lime's long-standing focus on this market positions Willdan to capture future demand by improving its offerings to both C&I customers and utility clients
- The combination of Lime and Willdan positions the company for upcoming Northeast and California program expansions

# Case Study



## Sale of Deepwater Wind to Ørsted

### TRANSACTION OVERVIEW

- On October 7, 2018, Ørsted (CSE:ORSTED) A/S acquired 100% equity interest in Rhode Island-based Deepwater Wind from the D.E. Shaw Group at an equity purchase price of \$510mm

### DEEPWATER WIND OVERVIEW

- Founded in 2007 and headquartered in Providence, RI, Deepwater Wind is a leading U.S. offshore wind developer, which has built an attractive and geographically diverse portfolio of projects along the U.S. East Coast
- Deepwater Wind's portfolio has a total potential capacity of approximately 3.3 GW, composed of:
  - Block Island (30 MW), the only operational offshore wind farm in the U.S.;
  - Three offshore wind development projects in Rhode Island, Connecticut, Maryland, and New York totaling 810 MW of capacity with long-term revenue contracts in place or pending finalization; and
  - Approximately 2.5 GW of offshore wind development potential across three well-sited BOEM (Bureau of Ocean Energy Management) lease areas in Massachusetts and Delaware. Of these 2.5 GW, 1.2 GW is developed through an equal joint venture with PSEG, a leading New Jersey utility

### ØRSTED OVERVIEW

- Ørsted A/S (formerly Dong Energy) is the world's leading developer of offshore wind farms, headquartered in Denmark
- Ørsted has installed 5.1 GW of offshore wind capacity in Europe and has an additional 3.8 GW under construction

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to the Board of Deepwater Wind
- Greentech assisted the Board in its evaluation of strategic alternatives, which resulted in the sale of 100% equity interest

### WHAT THE TRANSACTION MEANS FOR THE RENEWABLE ENERGY SECTOR

- The two companies' offshore wind assets and organizations will be merged into a leading U.S. offshore wind platform with the most comprehensive geographic coverage and the largest pipeline of development capacity
- This transaction demonstrates the viability and attractiveness of offshore wind farms in the U.S., and it is likely to serve as a catalyst for further investments into the sector
- With the combined organization and asset portfolio, Ørsted will be able to deliver clean energy to the seven states on the U.S. East Coast that have already committed to build more than 10 GW of offshore wind capacity by 2030

# Case Study

THE CARLYLE GROUP



## Sale of Noble Environmental Power's NY Wind Portfolio to The Carlyle Group

### TRANSACTION OVERVIEW

- On September 5, 2018, The Carlyle Group ("Carlyle") announced the acquisition of a 612 MW merchant wind portfolio in New York and a dedicated operations platform from Noble Environmental Power ("Noble")
- The portfolio currently produces 29% of New York State's wind power and represents the largest wind portfolio in the state
- The transaction represents Carlyle's first investment in wind power generation

### NOBLE ENVIRONMENTAL POWER OVERVIEW

- Founded in 2004, Noble Environmental Power is a leading wind energy company with a 726 MW generation portfolio composed of 484 GE 1.5 wind turbines
- Headquartered in Centerbrook, CT, Noble has been the exclusive operator of all of its wind assets since inception

### THE CARLYLE GROUP OVERVIEW

- The Carlyle Group (NASDAQ: CG) is a global alternative asset manager with \$210bn of assets under management across 335 investment vehicles
- Carlyle invests across four segments – Corporate Private Equity, Real Assets, Global Credit, and Investment Solutions – in Africa, Asia, Australia, Europe, the Middle East, North America, and South America

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to Noble and was closely involved in all aspects of the transaction, including preparation of process materials, buyer outreach, due diligence, transaction structuring, and negotiation of definitive documentation
- Greentech's deep industry relationships, renewable energy expertise and extensive transaction experience led to a robust process with significant competitive tension, allowing Noble to maximize value and execution certainty

### WHAT THE TRANSACTION MEANS FOR THE WIND SECTOR

- Carlyle's investment demonstrates the growing interest in renewables from investors historically focused on conventional power
- Recently, low returns for fully-contracted assets have driven an increase in investor appetite for merchant exposure
- This transaction demonstrates the significant demand for wind projects in liquid power markets with high barriers to entry for new-build renewables

# Case Study



## KKR's Sale of Two Solar Portfolios to Goldman Sachs Asset Management

### TRANSACTION OVERVIEW

- On September 28, 2018, KKR completed the sale of the 193 MW SunTap I and SunTap II operating solar portfolios to Goldman Sachs Asset Management
- The portfolios comprise 10 fully contracted solar photovoltaic projects that began commercial operations from 2011-2014 and are located in California and Arizona

### KKR OVERVIEW

- KKR is a leading global investment firm that manages multiple alternative asset classes with \$195bn in assets under management as of December 31, 2018
- KKR's infrastructure business has approximately \$13bn in assets under management and has completed 25 infrastructure transactions across several subsectors and geographies since 2011
- Renewable energy is among the top sectors invested across KKR's global infrastructure strategy, representing 39% and 21% respectively, of KKR's total investments out of its first and second infrastructure funds

### GOLDMAN SACHS ASSET MANAGEMENT OVERVIEW

- Goldman Sachs Asset Management ("GSAM"), a wholly-owned subsidiary of The Goldman Sachs Group, is a leading, highly diversified global investment management firm with over \$1.0tn of assets under supervision as of December 31, 2018
- Goldman Sachs Renewable Power LLC ("GSRP"), GSAM's renewables investment arm, has raised ~\$1.8bn to date and is focused on owning and operating commercial and industrial (C&I) and small utility-scale solar projects
- Since inception, GSRP has completed acquisitions of over 450 MW of solar energy projects

### GREENTECH'S ROLE

- Greentech served as exclusive financial advisor to KKR and was closely involved in all aspects of the transaction, including preparation of process materials, buyer outreach, due diligence, transaction structuring, and negotiation of definitive documentation
- Greentech's deep industry relationships, renewable energy expertise and extensive transaction experience led to a robust process with significant competitive tension, allowing KKR to maximize value and execution certainty

### WHAT THE TRANSACTION MEANS FOR THE RENEWABLE ENERGY SECTOR

- This transaction illustrates the breadth and depth of demand for contracted renewable energy assets among financial investors
- The process demonstrated bidders' willingness to ascribe significant scarcity value to operating projects of scale with long-term, bus bar power purchase agreements with utility counterparties

# Case Study



## Initial Public Offering of Solarpack

### TRANSACTION OVERVIEW

- On December 5, 2018, Solarpack Corporación Tecnológica, S.A. ("SOLARPAC") (BME: SPK) began trading on the Spanish Continuous Market at a price of €8.30 per share (representing an initial market capitalization of €266mm)
- As part of the IPO, Solarpack issued approximately 12mm new shares representing 37.6% of the issued share capital for a total capital raise of €100mm
- The offering comprised a fully primary offering of new ordinary shares by the company and a primary over-allotment option of up to 10% of the offer size
- Notwithstanding challenging market conditions, particularly for IPOs that have seen a high number of equity transactions postponed or withdrawn from the market, Solarpack has been able to generate strong interest among investors, in particular from Spain, to be able to complete the transaction

### SOLARPAC OVERVIEW

- SOLARPAC is an international pure solar PV independent power producer, active in fast-growing energy markets with a project development pipeline across Europe, Latin America, Asia, and Africa
- Since its inception in 2005, the company has developed solar PV power plants representing a total capacity of 529 MW, of which 190 MW have been built by SOLARPAC on a turnkey EPC (Engineering, Procurement and Construction) basis
- The company currently generates energy through 11 projects totaling 252 MW across Spain, Chile, Peru, and India. In addition, SOLARPAC operates and maintains 13 plants totaling 160 MW, and provides asset management services for a total of 330 MW of own and third-party projects
- Consistent with SOLARPAC's strategy, the gross proceeds obtained in the IPO will be primarily invested in the execution of its 510 MW contracted project backlog, in the acquisition of 13 MW of operating assets in Spain, and used to further develop its 2.9 GW pipeline of future projects worldwide

### GREENTECH'S ROLE

- Greentech acted as the exclusive financial advisor to SOLARPAC and was closely involved in all aspects of the transaction, during the early preparation of the transaction assisting with syndicate selection and appointment, coordination with advisors and counsel on PDIE (pension and disability insurance of the employees), roadshow, bookbuilding, investor outreach, and pricing
- Greentech's deep industry relationships, solar energy expertise and extensive transaction experience allowed SOLARPAC and its shareholders to correctly position the business among investors and syndicated counterparties
- Greentech challenged the distribution banks' marketing plans and investor feedback, and ensured competitive tension throughout the process to maximize value creation for SOLARPAC and its shareholders

### WHAT THE TRANSACTION MEANS FOR THE SOLAR SECTOR

- This flagship transaction represents the predominance of solar PV as a mature and price-competitive power generation technology that continues to outpace all other sources in terms of annual capacity additions
- The transaction provides validation of a fully integrated business model crystallizing value along the solar value chain, and demonstrates significant appetite from the equity capital markets for pure-play vertically integrated independent renewable power producers

# Case Study



ACTIVATE  
capital



TEMASEK  
HOLDINGS



## Stem's Growth Equity Financing

### TRANSACTION OVERVIEW

- On January 23, 2018, Stem, Inc. ("Stem") announced it closed on \$80mm for its Series D growth equity financing, led by Activate Capital
- On July 24, 2018, Stem announced it closed on an additional \$26mm for its Series D growth equity financing, led by BNP Paribas and Magnesium Capital
- As the leader in advanced intelligence powered energy storage, Stem will use the funding to expand into new markets and invest in its team

### STEM OVERVIEW

- Stem utilizes predictive software, underpinned by approximately 130mm device operating hours, to simultaneously provide businesses with energy savings and utilities with infrastructure reliability
- Stem now has hundreds of systems under management across three countries (U.S., Japan and Canada), which form networks for capacity and grid services with multiple utilities across North America and Tokyo Electric Power in Japan
- Athena by Stem is the first platform to use artificial intelligence for customer-sited energy storage and virtual power plants

### INVESTORS OVERVIEW

- Activate Capital is a growth equity firm exclusively focused on companies providing innovative products and solutions across the sustainable energy and industrial technology markets
- Ontario Teachers' Pension Plan is Canada's largest single-profession pension plan
- Temasek Holdings is an investment company headquartered in Singapore, with \$235bn of assets under management
- BNP Paribas is a leading European provider of banking and financial services
- Magnesium Capital is a London-based private equity firm focused on mid-market buy-outs and growth equity investments in technology and tech-enabled services for the energy sector

### GREENTECH'S ROLE

- Greentech served as the exclusive financial advisor to Stem on the financing and was closely involved in all aspects of the transaction, including preparation of all process materials, leading outreach, due diligence, negotiation, and closing
- Greentech's deep industry relationships and knowledge of the dynamic energy technology landscape and current market trends provided a unique perspective to the Stem team throughout the capital raise process

### WHAT THE TRANSACTION MEANS FOR THE ENERGY TECHNOLOGY SECTOR

- This transaction demonstrates financial investors' interest in advanced energy storage companies, which benefit from the multiple value streams provided by behind-the-meter energy storage systems, including reductions in peak energy consumption and providing grid stability
- Interest in long-term investments in the energy storage space validates the fact that as the unit economics for energy storage continue to improve and power markets begin to deregulate, the energy storage market will benefit from strong growth globally in the coming years

# Case Study



## Equinor's Acquisition of a Minority Stake in Scatec Solar

### TRANSACTION OVERVIEW

- On November 15, 2018, Equinor (NYSE:EQNR), formerly Statoil, acquired 9.7% of Scatec Solar (OSE:SSO) for approximately \$82.4mm (NOK700mm)

### EQUINOR OVERVIEW

- Equinor is a global energy company committed to developing oil, gas, wind, and solar energy in over 30 countries
- Equinor is the largest O&G operator in Norway, among the world's largest offshore operators and a growing force in renewable energy under its New Energy Solutions division
- In 2015, Equinor set up its New Energy Solutions division to drive business development in renewables and low-carbon solutions, and announced its intention to invest up to 20% of its CapEx, or \$12bn, into low carbon energy solutions by 2030
- The company has had two joint partnerships with Scatec Solar in the past, totaling 279 MW of utility-scale solar farms in Argentina and Brazil

### SCATEC SOLAR OVERVIEW

- Scatec Solar is an integrated independent solar power producer with installed capacity of 357 MW, and another 1,057 MW under construction
- Additionally, the company has a project pipeline of ~4.3 GW under development across Latin America, Africa, Asia, and the Middle East
- Scatec Solar was founded in 2001 and is headquartered in Oslo, Norway

### GREENTECH'S ROLE

- Greentech acted as a financial advisor to Equinor during the course of 2017 and 2018, supporting the company on its New Energy Solutions strategy
- Greentech evaluated a variety of potential strategic alternatives and supported Equinor in implementing the chosen strategy
- This transaction represents Equinor's largest acquisition in the solar sector to date and highlights its increasing focus in the renewable energy sector
- The transaction highlights Greentech's expertise in the solar sector and its capabilities to provide strategic and financial advice toward Equinor's new renewable strategy

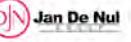
### WHAT THE TRANSACTION MEANS FOR THE RENEWABLES SECTOR

- The transaction reiterates the predominance of solar among Utility and Oil & Gas majors as a preferred, reliable and cost-efficient renewable energy technology
- Equinor's acquisition of Scatec Solar highlights how strategics continue to be active in the renewable space through M&A and their continuing efforts of executing on their diversification strategies
- The increased strategic interest in renewables creates additional competition and helps accelerate the sustainable energy transition



Providing **clarity** on  
sustainable investments

# Recent Transactions

 <p>Financial advisor on its sale of Current to</p> <p>AMERICAN INDUSTRIAL PARTNERS</p> <p>Pending</p> <p> Undisclosed</p>	 <p>Financial advisor on its acquisition of</p> <p>Wheelabrator</p> <p>February 2019</p> <p> Undisclosed</p>		
 <p>Exclusive financial advisor on its acquisition of</p> <p></p> <p>January 2019</p> <p> Undisclosed</p>	 <p>Financial advisor on its sale to</p> <p></p> <p>December 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor on its initial public offering</p> <p>December 2018</p> <p> €100,000,000</p>	 <p>Exclusive financial advisor to the Founder on the sale of the company</p> <p>December 2018</p> <p> Undisclosed</p>
 <p>Exclusive financial advisor on the sale of a 612 MW wind portfolio and dedicated operations platform to</p> <p></p> <p>December 2018</p> <p> Undisclosed</p>	 <p>Financial advisor on its acquisition of a 9.7% equity stake in</p> <p></p> <p>November 2018</p> <p> \$82,400,000</p>	 <p>Exclusive financial advisor on its sale to</p> <p></p> <p>November 2018</p> <p> \$120,000,000</p>	 <p>Financial advisor to the Board of Deepwater Wind on its sale to</p> <p></p> <p>November 2018</p> <p> \$510,000,000</p>
 <p>Exclusive financial advisor on the sale of the 157 MW Suntap I and Suntap II Solar portfolios in CA and AZ to</p> <p></p> <p>October 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor on its sale to</p> <p></p> <p>October 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor on the sale of its wind turbine installation vessel MPI Discovery and crew to</p> <p></p> <p>July 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor on its growth equity financing from</p> <p></p> <p>July 2018</p> <p> \$116,000,000</p>
 <p>Exclusive financial advisor to the Conflicts Committee on equity financing for the acquisition of</p> <p></p> <p>June 2018</p> <p> \$650,000,000</p>	 <p>Exclusive financial advisor on its sale to</p> <p></p> <p>June 2018</p> <p> \$536,000,000</p>	 <p>Exclusive financial advisor on its investment in</p> <p></p> <p>April 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor to Beacon Power on its sale to</p> <p></p> <p>April 2018</p> <p> Undisclosed</p>
 <p>Exclusive financial advisor on its strategic partnership with</p> <p></p> <p>March 2018</p> <p> \$608,000,000</p>	 <p>Financial advisor on its sale of AltAir Paramount and the Paramount refinery and pipeline assets to</p> <p></p> <p>March 2018</p> <p> Undisclosed</p>	 <p>Exclusive financial advisor on the sale of a 90 MW wind project in Pennsylvania to</p> <p></p> <p>February 2018</p> <p> Undisclosed</p>	 <p>Strategic advisor on its partnership with</p> <p></p> <p>January 2018</p> <p> Undisclosed</p>

Note: The Stem growth equity financing had two closings.

# Investor Focus in 2018



## M&A Volume and Trends

2018 M&A activity in the sustainable infrastructure sector was dominated by deals ranging from \$500mm to \$1.5bn. While overall volume decreased by approximately 3% from 2017 to 2018, overall transaction count grew 28%. Many of these transactions fell in the \$500mm to \$1.5bn band, with an average deal size of \$842mm.

Certain sustainable infrastructure subsectors saw notable spikes in M&A activity. Water and wastewater, wind, recycling and waste, and solar all experienced an increase in deal activity, with 2018 transaction values and YoY growth rates of \$4.6bn (186%), \$5.0bn (1000+%), \$8.6bn (1000%), and \$10.8bn (711%), respectively.

In 2017 there were four deals greater than \$8bn, in 2018 there were no similar mega-deals. That is not to say there were no large deals in 2018. Of particular note were Brookfield Asset Management's acquisition of Westinghouse Electric Corporation for \$4.6bn and the \$2.8bn merger of GFL Environmental and Waste Industries, which will create the largest privately held environmental services company in North America.

Geographically, this was a turnout year for the APAC market, which had a number of large deals in transportation and wind. Transaction count for APAC grew 350%, comprising 18% of total deals in sustainable infrastructure. EMEA deal count grew 74%, while deal count in AMER declined 13%. However, AMER still leads the sector, accounting for 49% of all deals.



## Private Placement Activity

The private placement market for sustainable infrastructure continued to grow in 2018, with an approximate 10% increase in the number of investments and an 18% increase in aggregate invested capital. The AMER and EMEA regions saw growth in both transaction volume and the number of transactions. In APAC, while there was a notable 34% increase in the number of transactions, overall transaction value declined 12%, indicating a proliferation of smaller deals.

The transportation subsector remained the dominant category within the sustainable infrastructure private placement market, representing 41% of aggregate investment totals. While ride-sharing platforms like Uber, Didi and Lyft continue to comprise a large portion of capital raised for the subsector, a number of emerging mobility opportunities are gaining traction

with investors. Among the larger investment categories were: electric vehicles (Farraday Future, Youxia Motors), sensors and driving assist technologies (Cruise Automation, Cambridge Mobile Telematics), autonomous technologies (Zoox, Byton), and software solutions (ManBang Group, Grab). Also of significance was increased interest in bike and scooter share companies, including Lime, JUMP, HelloBike, and Ofo.

Notably, agriculture and food saw a significant increase in total invested capital in 2018, up 143% from 2017. Grocery delivery platforms, farm-to-table chains, vertical farming, and alternative proteins were of particular interest. Other attractive and growing sectors are smart grid technologies, recycling and waste, and energy storage, which grew 102%, 36% and 83%, respectively.

# Investor Focus in 2018



## IPO Activity

Public offerings for companies within sustainable infrastructure varied widely by geography. While EMEA activity was muted compared to the spike in 2017, APAC IPOs had a blowout year. While overall dollars raised through IPOs remained essentially on par with 2017, the number of IPOs shrank by roughly 50%, indicating that IPOs this year were much larger in size.

Energy storage and transportation were the dominant subsectors for IPOs this year. All APAC public offerings this year were Chinese electric vehicle or lithium storage companies.

In the United States, we saw the first IPO for an energy storage company this year (Bloom Energy), which

mirrors strong investor interest for energy storage in Private Placements. Energy storage and fuel cell private placements totaled over \$2.5bn in 2018.

Other 2018 IPOs were: Ganfeng Lithium, Niu, NAVYA, Contemporary Amperex Technology, NIO, nLight Photonics, and GrafTech International.

We expect 2019 to be an active year for the sustainable infrastructure sector, despite early IPO delays in the U.S. due to the government shutdown. Advanced mobility majors Uber and Lyft announced their intent to IPO in late 2018 and the year is just beginning.

# Our Senior People



**Jeff McDermott**

**New York,  
Managing Partner**

Sectors of focus: Large industrials and energy companies, Broad network of senior leaders

- Over 30 years of transaction experience with large, complex mergers and acquisitions
- Previously Joint Global Head of Investment Banking at UBS and Head of the Global Industrials Group at both UBS and Citigroup



**Derek Bentley**

**New York, Partner**

Sectors of focus: Renewable energy assets, Distributed generation, Water

- Over 15 years of experience advising power and utility companies on M&A, capital raising and project finance transactions
- Previously Director in the Energy and Power Group at Bank of America Merrill Lynch



**PJ Deschenes**

**New York, Partner**

Sectors of focus: Renewable energy assets, Power infrastructure, Renewable energy supply chain, Environmental services

- Over 15 years of experience advising companies and investors in cleaner conventional energy and environmental services along with a variety of other Sustainable Infrastructure sectors
- Previously founding member and partner of Blue Wave Strategies, a cleantech-focused consulting firm



**Michael Horwitz**

**San Francisco, Partner**

Sectors of focus: Energy software and services, Energy efficiency, Renewable energy

- Over 20 years of transaction experience
- Prior roles include Managing Director and Head of Robert W. Baird's Energy Technology Banking team and Managing Director and Head of Clean Technology research at Stanford Group Company

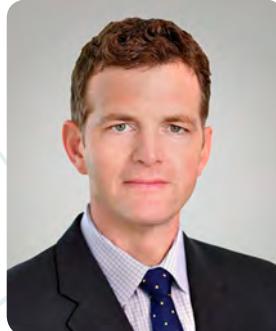


**Olav Juntila**

**San Francisco, Partner**

Sectors of focus: Energy software and services, Energy efficiency, Renewable energy, Utilities

- Over 15 years of experience advising sustainable infrastructure companies on M&A and capital raising, both in North America and Europe
- Prior roles include Chief Financial Officer of Pegasus Solar, Private Equity Investor with Citi's Sustainable Development Investments and Investment Banker with Citi's M&A and Global Utilities groups



**Duncan Williams**

**San Francisco, Partner**

Sectors of focus: AgTech, Advanced transportation, Environmental services, Industrial IoT and software, Water

- Over 25 years of extensive advisory and capital markets experience in Sustainable Infrastructure, both in North America and Europe
- Prior roles include Managing Director and Head of Industrial Growth Technology at Wedbush Securities and Executive Director at UBS Investment Bank



## Seamless global team dedicated to our clients' success



**Stephen Mogyery**

New York, Partner

Sectors of focus: Capital formation, Debt advisory services

- Over 15 years of corporate private placement and project finance experience in a variety of sustainable technology and infrastructure sectors
- Previously Director at Coady Diemar Partners



**Robert Schultz**

New York, Partner

Sectors of focus: Strategic initiatives, Infrastructure and Compliance

- Chief Operating Officer, Chief Compliance Officer and Chief Legal Officer
- Over 30 years of experience running and building successful businesses
- Previously Managing Director and COO of Morgan Stanley Fund Services



**Laurent Dallet**

Zurich, Partner

Sectors of focus: District energy networks, Distributed energy production, Gas value chain, Energy efficiency and services, Renewable energy assets

- Over 15 years of M&A experience in Sustainable Infrastructure with leading European companies
- Previously Chief Financial Officer of ENGIE E&P International



**Diego Pignatelli**

Zurich, Partner

Sectors of focus: Industrials, Energy, Utilities

- Over 30 years of experience covering the European market and providing sustainably focused companies with advisory and M&A services
- Previously Chairman of EMEA Investment Banking at UBS



**Damien Sauer**

Zurich, Partner

Sectors of focus: Energy efficiency, Power infrastructure, Renewable energy supply chain, Smart grid

- Over 20 years of transaction experience covering European markets, advising leading companies on M&A and capital-raising assignments
- Previously Head of M&A at Areva

# Greentech CEO Summit

## 2018: Aspen, Colorado



“ The discourse...was excellent. It was well worth my time, the topics were all on point, and your team made the event seamlessly comfortable.”



“ I have taken away numerous nuggets from the table and large group discussions – some of which will become talking points during our capital raise!”



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Greentech CEO Summit 2019  
June 16-18, 2019 | Andermatt, Switzerland

# Greentech Sustainable Heroes

## 2018 Issues

Sustainable Heroes is an opportunity for us to highlight some of the leaders, visionaries and doers whose impact we consider noteworthy and inspirational.



We welcome nominations for people you'd like to see featured in future editions. Please send your nominations to:  
[anikolausson@greentechcapital.com](mailto:anikolausson@greentechcapital.com)

# Social and Environmental Responsibility

## Walking the Walk

Greentech is helping the world transition to a cleaner, more sustainable energy- and resource-efficient future. We take our commitment to sustainability one step beyond our business practices. We promote our mission in our day-to-day activities.

### B Corp Certified

Our mission is to transform how the world does business and that is why we are a member of the B Corp community. B Corp companies use the power of business to solve social and environmental problems. What this means for our clients is that not only are we saying that we are striving for a common goal of global sustainability but we are proving it as well.

### Carbon Reduction

We choose to operate our business in a manner that reduces our environmental impact.

- Our New York and San Francisco offices are located in LEED-certified buildings
- Our website is hosted from a 100% solar-powered service
- We use hybrid taxis, rental cars and car services
- We often use videoconferencing instead of air travel
- We use recycled paper, double-sided printing and paperless presentations
- We recycle paper, cans and bottles
- We turn the lights off at the end of each day

Greentech is a **carbon-neutral company**. We have partnered with Terrapass to quantify the size of our carbon footprint and purchase Certified Emission Reductions, Renewable Energy Credits and BEF Water Restoration Certificates to offset our emissions.

### Charitable Giving

Each year, our employees direct a percentage of the firm's profits to global charities that promote sustainable development. We support the following nonprofits: Brighter Children, Catalyst, Family Research Foundation, Help for Children, and World Resource Institute.

### Partnerships and Collaboration

- CERES: Greentech supports CERES investor and board governance initiatives, established to accelerate capital allocation toward sustainable investments and projects
- World Economic Forum: Greentech is a member of the Steering Committee for the World Economic Forum's ESG Reporting Project, which aims to standardize and promote clear and consistent ESG metrics and reporting standards for companies

### Inclusion Memberships



Greentech is a member of the U.S. Chapter of the 30% Club, which launched with a goal of achieving 30% female directors on S&P 100 boards by 2020. As business leaders we believe we are able to achieve more when we are committed to driving change



Greentech is a member of Advance, an association and network that takes specific measures to increase the share of women in leading positions in Switzerland



Greentech is a Partner company with SEO Career, which connects talented Black, Hispanic and Native American undergraduates with internship opportunities at more than 40 partner companies nationwide

### Proud Member of:



Signatory of:



**“** Step-by-step, year-by-year, the world is improving. Not on every single measure every single year, but as a rule. Though the world faces huge challenges, we have made tremendous progress. This is the fact-based worldview.”

“I want people, when they realize they have been wrong about the world, to feel not embarrassment, but that childlike sense of wonder, inspiration and curiosity...”

**HANS ROSLING**  
PHYSICIAN AND AUTHOR OF *FACTFULNESS* (2018)

**“** The economy is a huge innovation discovery machine. What the government can do usefully is to focus some of that effort where things turn out better for everyone.”

**PAUL M ROMER**  
NOBEL PRIZE WINNER IN ECONOMIC SCIENCE FOR  
INTEGRATING TECHNOLOGICAL INNOVATIONS INTO  
LONG-RUN MACROECONOMIC ANALYSIS (2018)

**“** We cannot solve our problems with the same thinking we used when we created them.”

**ALBERT EINSTEIN**



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