# STH ANNUAL MID-ATLANTIC ENERGY ENERGY ECHNOLOGY FORUM

APRIL 7, 2016 ACADEMY OF NATURAL SCIENCES 1900 BENJAMIN FRANKLIN PARKWAY PHILADELPHIA, PA 19103

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#### **CONTACT US**

**Thomas P. Dwyer**, Co-chair, Energy Group 215.981.4603 | dwyert@pepperlaw.com

Marc D. Machlin, Co-chair, Energy Group 202.220.1439 | machlinm@pepperlaw.com

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April 7, 2016

On behalf of Pepper Hamilton's Energy and Emerging Company Groups, Cleantech Alliance Mid-Atlantic, this year's planning committee and our sponsors, welcome to the 8th Annual Mid-Atlantic Energy Technology Forum.

We are pleased to once again bring this community together to hear from leading voices in the fields of energy technology development and investment, as well as a showcase of cutting-edge Mid-Atlantic energy companies.

Here are some of the highlights of this year's event:

• You'll hear from our investor panel on what the strategic and financial environment is looking like and what they expect in 2016 and beyond. This panel includes experienced investors who are focused on the energy space:

Bruce Chung, Managing Director, Energy Impact Partners
Patricia Glaza, VP, Invest Detroit / Managing Director, Detroit Innovate & First Step Fund
Karl Khoury, Co-Founder and Partner, Arborview Capital
Michael Smith, Vice President/Head of Constellation Technology Ventures, Exelon Corporation

• Following the investment panel is the company showcase. We've assembled five interesting and diverse energy technology companies to present to our Forum:

American Aerospace Technologies, Inc. Ardica Technologies, Inc. Blue Pillar Cubility Fischer Block, Inc.

- During the networking reception, you can learn about our exhibiting companies and meet with their representatives.
- And make sure you stop outside to check out the latest in electric cars courtesy of U-Go Stations.

We'd like to thank our sponsors, selection and planning committee members, and all of the innovative companies who applied to present at this year's event. Tonight's participants and attendees are evidence of the outstanding growth in the Mid-Atlantic energy space, and we can't wait to see what you achieve in the coming year.

Best,

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Thomas P. Dwyer, Partner Co-chair, Pepper Hamilton's Energy Group Member, Steering Committee, Pepper Hamilton's Emerging Company Group



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# 8TH ANNUAL MID-ATLANTIC ENERGY TECHNOLOGY FORUM

# Agenda

#### April 7, 2016

3:30 – 4:00 p.m.	Registration	and	Network	ino
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4:00 p.m. Welcome and Introductions

Thomas P. Dwyer, Partner, Pepper Hamilton LLP Brian McTear, SVP, Technology & Corporate Development, Preferred Proppants Eric Foster, President, NavPort

#### **Energy Technology Investment Panel**

Moderated by Thomas P. Dwyer, Partner, Pepper Hamilton

- Bruce Chung, Managing Director, Energy Impact Partners
- **Patricia Glaza,** VP, Invest Detroit / Managing Director, Detroit Innovate & First Step Fund
- Karl Khoury, Co-Founder and Partner, Arborview Capital
- Michael Smith, Vice President/Head of Constellation Technology Ventures, Exelon Corporation

#### **Company Showcase**

Introduction by **Kevin P. Brown**, Co-Founder, Cleantech Alliance Mid-Atlantic and Senior Partner, Hobbs & Towne, Inc.

#### **Presenting Companies**

- American Aerospace Technologies, Inc.
- Ardica Technologies, Inc.
- Blue Pillar
- Cubility
- Fischer Block, Inc.

6:00 – 7:30 p.m. Cocktail Reception and Exhibition

Step outside to see the cars on display courtesy of



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# **Moderator**



#### Thomas P. Dwyer Partner, Pepper Hamilton LLP

Tom is a partner in the Corporate and Securities Practice Group of Pepper Hamilton, resident in the firm's Philadelphia office. He is co-chair of the firm's Energy Group and serves on the steering committee of the firm's Emerging Company Group.

Tom's practice focuses on advising and executing mergers and acquisitions, private equity and venture capital transactions. He also serves as outside general counsel to a number of emerging, middle market and public companies that rely on his advice regarding general corporate matters, and for which he coordinates

additional firm resources in areas including intellectual property, regulatory matters, litigation, tax and government relations. Tom actively advises and assists clients in achieving their legal and business goals, including making appropriate introductions to potential financing sources, accountants, investment bankers, consultants and potential key employees.

Tom's energy experience includes serving as special in-house counsel to the treasury and capital markets groups of a Fortune 500 energy company. In this capacity, Tom assisted with a multistate utility merger and more than \$1 billion of financing transactions (including more than \$550 million of stranded costs securitizations). Some of the energy transactions and projects Tom has assisted clients with include: an energy efficiency technology company with a growth equity investment and strategic partnership with a Fortune 500 company's private equity arm; a private investor with an investment in a rainwater harvesting company; a private equity fund with a growth equity investment in an upcycling company; a private equity investor with a venture investment in a water filtration technology company; the development and subsequent sale of a utility-sized solar farm to the renewable energy development unit of a Fortune 200 public utility; a solar technology company with its private equity funding; the venture arm of a Fortune 300 energy company with multiple investments in the energy technology space; a leading energy technology venture firm with an investment transaction in the solar technology space; a private equity-backed traditional energy supply company with its acquisition program; a supplier of innovative technology products to the oil and gas industry with various strategic and corporate matters; the formation of a private equity fund to purchase mineral interests in the oil and gas space; and an energy grid diagnostic and predictive analytics technology company in its seed financing round.

Tom co-founded and now leads the Mid-Atlantic Energy Technology Forum and also chaired the 2009 IMPACT Conference, where he introduced the first ever "energy technology track." Tom also serves as a director to the Cleantech Alliance Mid-Atlantic and as a member of the Maryland Clean Energy Advisory Council. For more than 10 years, Tom has actively participated on the Ben Franklin Technology Partners' energy and physical sciences investment committee.

Tom earned his J.D. in 1994 from the University of Baltimore School of Law and his B.A. from Brown University in 1990. He is admitted to practice in Maryland, New Jersey and Pennsylvania.

Tom can be reached at dwyert@pepperlaw.com or 215.981.4603.



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# **Energy Technology Investment Panel**



#### Bruce Chung Managing Director, Energy Impact Partners

Bruce has nearly two decades of experience working in the power and energy sectors. As a Senior Vice President at NRG Energy, Bruce's responsibilities included heading the company's venture capital practice, new business strategy and finance, and mega project development. In his role at NRG, Bruce worked with and led investments in emerging technology companies, and also held operating roles in NRG's home solar and carbon capture businesses. Prior to his role at NRG, Bruce spent 10 years at Citigroup and its predecessor firms in the investment banking division, providing advisory

and capital-raising services to power and utility clients. While at Citigroup, Bruce advised on a number of corporate and asset transactions totaling more than \$20 billion, and helped companies raise more than \$100 billion of financing in the capital markets through a variety of debt and equity securities.



#### Patricia Glaza VP, Invest Detroit Managing Director, Detroit Innovate & First Step Fund

Patti joined Invest Detroit in 2014 with more than 20 years of experience in the development, implementation and commercialization of advanced technologies. She manages Invest Detroit's venture funds and portfolio of investments. Patti leverages her broad industry relationships and operational experience to serve as a resource to nurture and promote technology startup companies. Prior to joining Invest Detroit,

Patti was with Arsenal Venture Partners, a multistage national venture capital firm focused on IT, energy and industrial technologies.

# 8TH ANNUAL MID-ATLANTIC ENERGY TECHNOLOGY FORUM

# **Energy Technology Investment Panel**



#### Karl Khoury Co-Founder and Partner, Arborview Capital

Karl is a founder of Arborview Capital, co-heads the investment team and co-manages the operations of the firm. Prior to cofounding Arborview Capital, he had twelve years of experience identifying, consummating and managing private equity investments with Columbia Capital, a sector-focused venture capital firm with more than \$2 billion under management. During that time, he invested in 13 companies with a primary focus on enterprise and communications software, security, and managed IT services. Prior to Columbia Capital, Karl worked at J.P. Morgan & Co. in New York and San Francisco, where he

specialized in corporate finance and capital markets for technology and communications clients.



#### Michael Smith Vice President, Head of Constellation Technology Ventures, Exelon Corporation

Mike leads Constellation Technology Ventures (CTV), the venture capital investing arm of Exelon Corp. In this role, Mike oversees the CTV investing strategy, the management of the CTV portfolio and the deployment of new energy technologies across the Exelon commercial platform.

Prior to leading CTV, Mike was responsible for overseeing the strategy, development and implementation of Constellation's renewable and sustainable retail product offerings, including onsite

generation, energy efficiency and greenhouse gas reduction strategies. In this capacity, Mike led Constellation's retail solar power and energy efficiency origination efforts and a dedicated commercial sales team focused on the deployment of solar installations and energy conservation measures for customers across the United States.



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#### Kevin P. Brown, Senior Partner

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# **Presenting Company Introductions**



#### Kevin P. Brown Co-Founder & Chairman, Cleantech Alliance Mid-Atlantic & Senior Partner & Owner, Hobbs & Towne, Inc.

A Senior Partner with Hobbs & Towne, Inc., Kevin is an experienced executive search professional who joined the firm in 2003 to expand its burgeoning technology and energy practices. His 25 years of executive search experience, coupled with his ability to connect with both clients and candidates, has been instrumental in helping Hobbs & Towne solidify its reputation as North America's leading boutique search firm. Kevin is

adept at developing and expanding client relationships, particularly with early-stage, growing companies and their investors. As such, he has completed CEO and Board Director searches within some of the most rapidly expanding process industry companies, including those in the manufacturing, petrochemical, oil and gas, and power and utility industries – and then helped them build out their executive teams. Through his work within health care, petrochemicals and oil and gas, Kevin has also built a strong network in and around the Houston market. As he continues to expand Hobbs & Towne's footprint in the sector, Kevin splits his time between Philadelphia and Houston.

Strategically networked within the industry, Kevin founded and is Chairman of the Cleantech Alliance Mid-Atlantic (CAMA), and is a member of the Energy Advisory Committee of the Ben Franklin Technology Partners. He serves on the Advisory Council of the Maryland Clean Energy Center. In 2009, he was recognized for his work in cleantech and renewable energy as a recipient of the Green Power Organizer Award from PennFuture, and was also featured on the *Denver Business Journal's* annual list of Who's Who in Energy.

Prior to joining Hobbs & Towne, Kevin was a principal and equity owner of one of the fastest-growing human capital management companies in the country. During his tenure, Kevin was a key factor in the company's growth, helping it to expand from just nine people to more than 750. He was consistently one of the top producers in the company and the youngest partner in the history of the firm.

Kevin studied Mechanical Engineering at Drexel University, and now lives just outside Philadelphia with his wife Courtney, son Tripper and twin daughters Chloe and Claire. He is an avid golfer, motorcyclist, and a competitive mountain biker and competed in the Leadville 100 MTB race in 2014 and 2015.

**PA Direct:** 484.831.9165 | **Houston Direct:** 832.763.9527 | **Mobile:** 610.457.9949 kbrown@hobbstowne.com

# 8TH ANNUAL **MID-ATLANTIC** ENERGY TECHNOLOGY FORUM

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# **Energy Technology Company Showcase**

#### American Aerospace Technologies, Inc.

David Yoel, Chief Executive Officer www.americanaerospace.com 610.225.2604 david@americanaerospace.com Founded in 2000



#### **Business Summary:**

American Aerospace Technologies, Inc. provides long-endurance unmanned aircraft systems and flight services to commercial and government customers. We provide complete UAS integration and gold standard FAA-approved flight operations in order to deliver valuable data products and information to our customers. American Aerospace has more than six years of experience in beyond visual line of sight (BVLOS) UAS in civilian applications. We integrate systems with 12-20 hours of endurance that produce valuable data products in a range of applications, including pipeline integrity management, smart grid inspection, deep water monitoring, arctic exploration, facility inspections, mapping and emergency management. Since 2009, our clients have accumulated the largest portfolio of FAA Certificates of Authorization (COAs) outside of the defense industry, enabling more flights in more places than any BVLOS UAS. We have flown more than 200 long endurance flights in the National Airspace System – safely, effectively and in compliance with FAA regulations. At American Aerospace we begin with the end products in mind. We have developed a large portfolio of sensors that address real-world oil and gas, electric transmission and emergency management requirements. From the world's first survey-grade mapping system to threat detection on pipeline corridors, to precision weather and methane detection, our long-endurance UAS cover more area per day than 50 small UAS, distributing data from remote locations in near real-time.

#### **Customer Problem:**

Preventing pipeline breaches and leaks before they become a major issue and detecting faults along power lines, again before they become major issues.

#### Products/Services:

Long endurance BVLOS UAS both under 55 pounds and heavier. Sensor development. Sensor integration. Multi-rotor facilities and infrastructure inspection. Geospatial data collection, analysis, integration and mapping services. Mobile Operations Center (MOC) manufacture and system integration. Threat detection and alarming. UAS consulting services.

#### Target Market:

Oil and gas, electrical power, emergency services, government.

#### **Customers:**

Energy producers, electrical transmission companies, pipeline companies, government, universities.

#### **Competitors:**

DJI Aeronautics LTD of Israel.

#### **Competitive Advantage:**

Access to more than 10,000 square miles of airspace for UAS operations. Four years of development of airborne pipeline threat detection sensors and systems. Long endurance, long range.

# **Energy Technology Company Showcase**

#### Ardica Technologies, Inc.

Kristopher J. Lichter, Chief Executive Officer www.ardica.com 858.243.1608 kris@ardica.com Founded in 2004



#### **Business Summary:**

Ardica Technologies creates advanced energy solutions that greatly reduce grid-reliance and substantially increase device utility while dramatically reducing weight. Our world-class power systems are built on an outstanding, patented hydrogen-based fuel (powder) that is energy-rich, stable, clean and can be applied in any application or environment. In short, Ardica is delivering a practical, pervasive hydrogen fuel to the world now.

#### **Customer Problem:**

- 1) How can devices run far longer, more flexibly, and more cleanly, but with substantially less weight?
- 2) How can more energy security (reliability of power) be provided for a given application or use?
- 3) How can power be provided that is entirely quiet, but provide substantial power?

#### Products/Services:

Wearable Power System (20W) for U.S. Army, unmanned vehicles (U.S. Navy), all-terrain vehicle power, material handling (forklifts), electric/fuel-cell automobile range extension, backup/emergency power, and consumer electronics charging.

#### Target Market:

Initially soldier power and unmanned vehicles (all types), then industrial (forklift), backup power, automotive, and consumer electronics.

#### **Customers:**

U.S. Army is first customer.

#### **Competitors:**

Intelligent Energy (UK) MyFC.

#### **Competitive Advantage:**

Ardica has extensive IP and control around production at scale/low cost of the aluminum metal hydride fuel.

# **Energy Technology Company Showcase**

#### **Blue Pillar**

Tom Willie, Chief Executive Officer www.bluepillar.com 415.867.8842 tom.willie@bluepillar.com Founded in 2006



#### **Business Summary:**

Blue Pillar provides simplified, ubiquitous connectivity for Distributed Energy Resources (DERs) with *Aurora* (**R**), the first vendor-agnostic *Energy Network of Things*<sup>TM</sup> platform. With a 400% spike in new behindthe-meter DERs and millions of unconnected legacy energy assets, the market opportunity for this platform is enormous. We connect and control all types of DERs and generation assets, increasing energy efficiency, resiliency and self-sufficiency at the world's most critical facilities, including Duke University Medical Center, Tenet Healthcare and Houston Methodist. Energy service providers such as NRG have been able to offer new services to their commercial and industrial (C+I) customers by centrally monitoring, managing, and dispatching behind-the-meter assets with *Aurora*. Recognized as one of the 15 fastest growing energy tech companies in North America by the Deloitte Fast 500<sup>TM</sup>, Blue Pillar is disrupting the energy management industry with simplified, ubiquitous connectivity.

#### **Customer Problem:**

The aging electrical grid and extreme weather events have led to a 265% increase in power outages since 1984. When power fails in critical buildings such as hospitals, universities and military complexes, the stakes are high. Loss of power for just 15 seconds can be the difference between life and death on the emergency room table. Emergency Power Supply Systems (EPSS) must work in a crisis. However, many back-up generators and assets were installed decades ago. These need to be connected into a software-based, centralized energy control and management system that can provide real-time status of asset health, so they work flawlessly when called on in an outage. Additionally, as facility managers move toward microgrids, solar, and battery energy storage, they want a guarantee that these new resources will work reliably without issue, and the data available from systems will not be stranded. Blue Pillar solves this problem with its open, ubiquitous and centrally managed *Energy Network of Things* platform for connecting energy assets regardless of vendor, age or type. Now, anyone can gain control of their energy assets to improve reliability and become more energy-efficient.

#### **Products/Services:**

Blue Pillar's *Aurora Energy Network of Things* platform is the first solution to connect behind-the-meter distributed energy resources by self-prescribing secure IoT networks, enabling real-time visibility, data collection and control of assets. With centralized management, facilities become more resilient, self-sufficient and energy efficient.

#### **Competitive Advantage:**

Blue Pillar has a decade of technical experience simplifying the complexity behind-the-meter. Our open, secure *Aurora* platform provides ubiquitous connectivity **without** requiring customized SCADA development. It's a self-configurable approach that is deployed 75% faster and 30% more affordably than alternatives and works whether you manage a single facility or a fleet of back-up generators across multiple sites.

# **Energy Technology Company Showcase**

#### Cubility

Brandon Buzarde, Vice President of Sales, International www.cubility.com 832.264.6962 brandon.buzarde@cubility.com Founded in 2007



#### **Business Summary:**

Replacing the archaic "Shale Shaker" with an enclosed conveyor-based filtration process that retains maximum drilling fluids, reduces cuttings waste, and encloses harmful vapors, Cubility's MudCube delivers dry cuttings, eliminates the need for additional SCE drying equipment that is costly and impairs operations, and brings greater efficiencies to drilling operations.

#### **Customer Problem:**

Drilling waste from shakers has to be treated by many lines of equipment to dry cuttings and then dispose them. Shakers create more waste by high G Force separation, and drilling operations are hampered by this inefficiency with the environment (both the external environment through increased waste and working environment through heavy vibrations and oil vapors) suffering. By reducing total mud used per well (and ensuring better mud quality through more efficient separation) and cutting waste by 50% while delivering dry cuttings, wells can see up to 15% increases in cost savings.

#### Products/Services:

Solids control, fluid management, waste reduction, HSE solution.

#### **Target Market:**

All drilling, land and offshore (operators and contractors), waste management, service companies.

#### **Customers:**

Statoil, Maersk, Total, Shell, Petronas, Petrobras, Dong, Saipam.

The MudCube is operational in many of the world's most challenging environments, including offshore in the North Sea and onshore on the Marcellus Shale.

#### **Competitors:**

Brandt, MI Swaco, Derrick, Axiom, Halliburton (Centrifuge & Dryers), Baker Hughes (Fluids).

#### **Competitive Advantage:**

Dramatically reduced drilling costs (less waste and more fluid retained), the elimination of harmful gas exposure and an improved working environment, increased drilling efficiencies through stable mud properties and the reusing of more mud, and ease of use and ability to monitor in real time with automation brought to solids control operations for the first time.

# Energy Technology Company Showcase

#### Fischer Block, Inc.

Greg Wolfe, President & Chief Executive Officer www.fischerblock.com 610.762.4162 gregw@fischerblock.com Founded in 2013

# 🐯 Fischer Block

#### **Business Summary:**

Fischer Block is bringing highly disruptive technology to the electrical power industry with a unique solution to embed advanced sensors throughout the electrical grid at a fraction of the time and cost of traditional solutions. And, employing cloud-based data analytics, this solution provides a new source of actionable intelligence to help utility companies prevent power outages before they occur and help recapture the billions of dollars of lost energy on the grid each year.

#### **Customer Problem:**

Due to the aging infrastructure (largely installed in the 1940s-50s), the number of asset-related power outages increases each year at double-digit rates, now costing the world economy more than \$100 billion per year and the industry itself more than \$20 billion per year. Installing advanced monitoring equipment (to measure and report critical asset health) is essential in being able to provide grid operators with advance notice of pending failures on the grid. However, current monitoring solutions are at extremely high cost and high risk (many times taking years to implement, and thus only a small percentage of substations have been equipped. At current rates, fully equipping the grid with advanced asset monitoring systems will take decades to complete.

#### Products/Services:

The industry's only "non-intrusive" sensor network, which can be installed in just minutes, onto LIVE substation control panels and with NO wiring, provides a first-time-ever viable wide-scale implementation of a common grid sensing platform, enabling the use of data analytics and IoT technology to provide utility companies with new insight into grid losses and advance warning of pending problems so steps can be taken to avoid outages before they occur.

#### Target Market:

Nearly 10,000 utility companies world-wide currently spend more than \$350 billion annually to maintain more than \$15 trillion in assets. Having grid monitoring equipment installed on the grid is critical to utility companies in helping them understand which grid assets are in urgent need of repair or maintenance.

#### **Customers:**

Fischer Block has formed strategic relationships with Siemens, IBM, Oracle, ABB, and Lehigh and Temple Universities. The company is also working with several prominent utility companies and industry organizations.

#### **Competitors:**

The leading providers of substation monitoring equipment (GE, Siemens, ABB, and Alstom) focus primarily on selling traditional technology-based systems as part of new substations and power plants, and they do not possess the specific patent-pending technology owned by Fischer Block.

#### **Competitive Advantage:**

This technology significantly reduces the time, cost, and risks associated with traditional substation modernization programs, enabling utility companies to increase their substation modernization rates by more than 400% while using only 10% of their existing resources.

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# Exhibitor

#### ClearGrid: The Leading Solar Site Origination Engine



# Cleargrid Energy

#### Contact Information:

ClearGrid Energy c/o NYC ACRE 15 Metrotech Center, 19th Floor Brooklyn, NY 11201 917.723.9431

cleargridenergy.com

michael.wyman @cleargridenergy.com

Management Team:

CEO: Michael Wyman

Geospatial Director: Dan Mahr

Software / Front-End Lead: Johnny Lin (San Francisco)

Marketing Lead: Tory Hanna

Year Founded: 2015

#### Accelerator

Membership: NYC Accelerator for a Clean and Resilient Economy (Brooklyn, NY; NYU-Sponsored)

Entity: Delaware C-Corp.

#### **Financing Sought:**

\$1MM angel raise to support company R&D (algorithm development), sales and marketing to grow our pipeline, and further project development. We are open to sourcing funds from real estate investors in specific markets where we target. We find better sites for solar farms faster using proprietary image processing and geographic information systems (GIS) algorithms. The typical solar developer approach relies on blanket mass mailings to thousands of landowners and commercial real estate brokers with little data-driven research. Compared to that approach, our proprietary algorithm identifies the best sites in a third to a half of the time. We harness GIS, geological data, and our datasets of electric grid information to find the best sites via machine learning analytics. Our research team specially trained to identify great sites for solar refines the list. And our marketing team reaches out to a select group of landowners. Our approach typically takes three weeks from site identification to signed option with a landowner, giving us an edge over other solar developers. We leverage our team's experience in permitting and interconnection. In seven months, we contacted about 250 carefully selected landowners directly and generated 40 Megawatts of pipeline using our algorithm-driven approach, a number most developers our size would take two years to achieve. We have \$4 million in revenue expected in 2016 from this pipeline.

#### **Our Business Model:**

We have a two-pronged revenue model. First, after originating the sites, our developer partners take over our sites and then pay us a development fee, once they get permits and build them. That nets us about a 60% EBITDA margin. Second, we seek to put the land underneath the sites (usually leased rather than purchased by solar developers) into a real estate fund. That land typically yields 10% cash on cash returns and can be mortgaged, resulting in lucrative returns for real estate investors. We take a 2% management fee and 20% carried interest on the real estate fund. All-in, we expect \$6 million in revenue in year 1 (including \$3 million for sites under contract currently). We forecast EBITDA to grow to \$77 million in five years. Our first two customers include Citizens Energy, started by Joseph Kennedy II and one of the largest solar developers in Massachusetts, developing the initial tranche of our pipeline.

#### Market Size:

We have achieved traction in a fast-growing market. Our U.S. total addressable market is composed of (1) the \$800 million per year in development/origination fees and (2) the \$19 billion solar real estate market. Our immediate focus is on the handful of high-value solar real estate markets in the U.S., including many markets in the U.S. Northeast.

#### Team:

We have the team to both identify sites using algorithms and gain the permits for the site. Our team has deep expertise in legal and financial deal structuring, generation development, permitting and interconnection. Chief Executive Officer Michael Wyman developed hundreds of million dollars of new generation investments as Development and Mergers & Acquisitions Manager for Public Service Electric & Gas, the largest utility in New Jersey, and EDF, holds a B.A. (Honours) from Oxford University in the United Kingdom and a J.D. from the University of Toronto, and a Chartered Financial Analyst designation.

Geospatial Director Dan Mahr leverages geospatial data to identify valid sites for solar energy and prioritize the best sites using a proprietary decision support model. He previously consulted for the Cadmus Group, the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, and The Nature Conservancy, where he developed a GIS-based tool for siting shale gas infrastructure with minimal environmental impact. He holds a B.S. in Environmental Science / Minor in Computer Science from Brown University, where he conducted research on detecting agricultural intensification using a multispectral time series of remote sensing data.

Front-End Engineer Johnny Lin has built the front-end for ClearGrid's SolarFinder interface. Mr. Lin has a B.S. in Computer Science from Brown University and was previously a software engineer at Apple Inc. As a back-end engineer, he was involved in storing, managing, analyzing and securing iCloud's unprecedented amount of metadata and data. He developed a new feature for Apple Inc.'s cloud service at the time, MobileMe, from start to finish. Johnny is based in San Francisco.

Business Development and Permitting Lead Tory Hanna was formerly permitting head and Interim City Planner for the City of Pittsfield, the largest city in western Massachusetts, where he permitted several multimegawatt solar installations. He holds a B.S in Environmental Design from University of Massachusetts-Amherst. He holds the AICP designation from the American Institute of Certified Planners.

# Exhibitor

http://dynamo-micropower.com jason@dynamo-micropower.com

#### **Executive Summary:**

Dynamo Micropower has commercialized gas turbines for use in upstream oil and gas, which saves customers money with a payback rate of six months. Dynamo completed field trials of its product in 2015 and secured an evaluation program with market leaders such as Kinder Morgan. Completion of this evaluation program positions Dynamo for breakout sales growth.

Dynamo turbines reduce the cost of energy by more than 50% over diesel engines. Implementation of Dynamo technology is expected to reduce the cost of oil production by \$2-3 per barrel, a very significant savings in the current oil environment.

Key relationships with strategic partners facilitates growth. P1 Industries committed to support continuous cost reduction, inventory and work in process financing for Dynamo. Active relationships with power equipment OEMs to provide packaging and services in broader market. These relationships cement the foundation to scale Dynamo production and meet projected demand.

#### Management Team:

Investors can expect to participate in a dynamic business, led by a passionate team, with the potential to revolutionize the \$2 billion upstream O&G power market.

The management team is led by two founders who worked together on breakthrough small gas turbine technology for over six years. The team augments its youthful enthusiasm with experienced staff and advisors. The extended team has the skills to develop and sell turbines for oilfield applications and manage rapid growth of the business.

#### Jason Ethier—Founder & CEO

Entrepreneur recognized twice by *Forbes*' 30-under-30 list of top disruptors in energy. Successful leadership experience developing trailblazing satellite programs to leading an internationally competitive formula racing team.

#### Dr. Ivan Wang—Founder & Chief Engineer

High performance engineer with a Midas touch for all things technical.

#### Dr. Joe Rife—Strategy & Special Projects

Expert in coaching /managing energy business organizations. Provides strategic guidance at juncture of technology, marketing and sales.

#### Matthew Lazarewicz—Chief Technical Advisor

Former CTO and VP of Engineering of Beacon Power. Served 25 years working within aircraft engine and gas turbine engineering businesses at GE.

#### **Business Model:**

O&G operations require significant investment in power equipment. The predominant solutions are based on diesel engines. These engines require substantial fuel, maintenance and capital investment. The consequential cost of energy exceeds 50¢ / kWh, representing a significant operating cost. Dynamo's turbines use local unrefined oil byproducts as fuel. Dynamo engines require orders of magnitude less frequent maintenance than reciprocating engines, reducing operating cost and increasing operational efficiency. Together these attributes reduce operating cost by more than 50% over competitive diesel engines.

Principal sales efforts including working with applications channel partners to sell products using Dynamo engines. Working with channel partners leverages existing sales engineering, distribution and service networks. Dynamo manufactures its core engines with P1 Solutions, a turbine parts and assemblies supplier.

Dynamo entered the market with a gas turbine-based portable heating unit. Dynamo anticipates shipping 25 turbines into this market for the winter season. The niche \$200 million O&G heater market provided an effective entry point, opening the door to cathodic protection applications with an additional market value over \$300 million. Dynamo intends to drive growth with layered vertical marketing and sales initiatives focused on applications that exploit the transformative product features of small, fuel flexible gas turbines.





# Exhibitor



You're in charge

#### **EV-Box Overview:**

EV-Box is the European market leader in Electric Vehicle (EV) charging infrastructure and related software services, with an installed base of over 38,000 charging points in over 830 cities. In the U.S. we provide charging stations to businesses, municipalities, utilities and charging network providers and act as the operator behind public charging networks in several countries.

EV-Box has been profitable since its inception in 2010, and has grown alongside the European EV-Market, allowing us to understand the needs of the EV-Driver and station owner. For example, high installation costs are an important factor that prevents an organization from providing electric vehicle chargers. Our Load-Balancing Software can save the station owner up to 40% on the installation costs. This Smart-Charging Software accounts for the available electrical capacity in your parking facility, and actively distributes the electricity among chargers, making sure it never exceeds your desired energy consumption.

EV-Box complies with OCPP (open charge point protocol), which allows simple and easy integration with network partners, and our stations come equipped with SAE-J1772 charging plugs that work with any electric vehicle in the U.S. We take pride in our ability to provide the most energy efficient charging stations on the grid for a mid-market price.

# Exhibitor

http://www.MyShaleWell.com



#### **Executive Summary:**

MyShaleWell<sup>™</sup> is a SaaS (Software-as-a-Service) cloud based logistical platform to manage Shale Gas Well Sites, including complete well site logistics, marketplace to connect key providers and services essential for productivity and efficiency of workers, processes, materials, equipment, monitoring, training, safety and security.

#### **Target Market:**

MyShaleWell is a seed-stage patent-pending service in the Shale Gas industry. The company has industry-oriented strategic partners. The target users are land owners, suppliers, trucking companies, service providers, workers, trainers, energy producers, refiners etc.

#### Manish Gorawala, Founder and CEO:

A serial entrepreneur and tech expert, Manish is the chief visionary of MyShaleWell<sup>™</sup>, headquartered in Lansdale. He is also an owner of Tri-Force Consulting Services, Inc., a five-time winner among Philadelphia's 100 fastest growing companies and Inc. 5000 winner.

#### Six Technical Resources - Developers, Analysts, Designers: Supplied by Tri-Force Brian Belles - The Belles Group: Patent/Business Attorney

#### Go-to-Market Strategy:

- Social media, direct, and channel partners marketing strategy.
- Sales/marketing/tradeshow/exhibitor industry events participations in major cities.
- Affiliate partnership program promotion.
- Launch in different countries.

#### **Business Model:**

- Available on Apple, Google, Amazon, Samsung mobile app stores, and cloud platform.
- Three-month free trial subscription, monthly per user subscription to access the platform.
- In-app additional purchase revenue for key disruptive features.
- MyShaleWell™ marketplace will provide ancillary revenue from businesses and users within the year.

#### **Unique Selling Proposition:**

- We fill in the gap for small and large companies as a one-stop solution for shale gas industry well sites logistics management automation.
- Actionable data accessible at fingertips anytime and anywhere to users.
- Patent-pending software process that offers simple but powerful approach that is easily understood by various industry players.
- We can offer the platform to large companies in private cloud environment with customization.

#### Achievements to Date:

- Self-funded and fully developed platform, successfully deployed live and currently used by users.
- Available on Apple, Google, Amazon, Samsung app stores, and cloud platform.
- Successfully soft launched the platform in West Virginia at Oil and Gas Expo during the month of October 2014.



#### PEPPER HAMILTON'S PROGRAM FOR STARTUP AND EARLY-STAGE ENTREPRENEURIAL DEVELOPMENT.

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From your garage to your IPO.

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If you're a startup or an early-stage company with:

- a sound business plan
- a solid technology or scientific foundation, and
- quality management,

talk with us. We're your innovative, affordable solution.

#### **CONTACT US**

We're ready to give you more information or to help you get started – today.

Thomas P. Dwyer, Partner 215.981.4603 | dwyert@pepperlaw.com



#### pepperlaw.com



# EFFECTIVE RESULTS

We have the experience and depth in areas critical to emerging growth businesses, such as:

- business formation
- venture capital, private equity and alternative funding
- intellectual property
- technology, outsourcing and distribution transactions
- employee benefits
- privacy and data security.

Pepper SEED's holistic approach combines the resources of an experienced, multi-disciplinary team into an affordable package for startups and early-stage companies. The unique, deeply discounted program includes a nominal entry fee, a full suite of essential basic legal documents, effective legal counseling, and, for no additional charge, mentoring in areas such as board development and management, business plan review, and investor relations. And, leveraging our extensive array of relationships, we can introduce you to angel groups, seed funds and venture capital funds, and help tell your story to the world.

# Special Thanks to the Planning Committee and Company Selection Committee

# **Planning Committee**

Kevin Brown CAMA/Hobbs & Towne, Inc.

Mark deGrandpre Ben Franklin Technology Partners of Southwestern Pennsylvania

Thomas Dwyer Pepper Hamilton LLP

Skelly Holmbeck Advanced GeoServices

Brian McTear Preferred Proppant

Robert Mitchell Quench USA, Inc.

Tony Parisi Dynamic Energy

Jack Reick Aon PLC

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