Cleantech innovation & strategic capital

James Sprinz, Vice President of Strategy, Energy Impact Partners
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Clean energy VC is up, but exits remain challenging

Source: Pitchbook
Utilities are still the biggest spenders in the power sector

US utility capex vs renewables asset finance

$bn

Utility capex
Clean energy investment

Source: FERC, BloombergNEF
Energy Impact Partners: who we are

- $1.5bn AUM
- 20+ global strategic partners
- US, UK, German offices
We invest in compelling companies that have high strategic value to our partners
## EIP’s portfolio

<table>
<thead>
<tr>
<th>Category</th>
<th>Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent Operations</td>
<td>eSMART Systems, Urbint, BHI energy, Innowatts, GridX, opus-one Solutions, CLEVEST, AQUAM, POWERPHASE GENERATION SMART, TRIFACTA</td>
</tr>
<tr>
<td>Customer Engagement</td>
<td>TenDril exit, FIRST FUEL exit, Arcadia Power, sense., FUEL exit, TENDRIL exit, ring exit, MARKETING EVOLUTION, ecobee</td>
</tr>
<tr>
<td>Distributed Energy Resources</td>
<td>AutoGrid, Enchanted Rock Technology, MOSAIC, PALMETTO</td>
</tr>
<tr>
<td>Mobility</td>
<td>VIRICITI, Greenlots exit, remix, VOLTA</td>
</tr>
<tr>
<td>Smart Cities &amp; Buildings</td>
<td>Cimcon Lighting, Inc., sparkfund, Particle, SmartRent, RAPIDSOS</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>DRAGON, Attivo Networks, Swimlane, PICNIC</td>
</tr>
</tbody>
</table>

Source: Energy Impact Partners
Our partners provide significant value to our portfolio.
Three themes we’re focused on
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- New data sources and analytics
- Energy-as-a-service
- Electric mobility
The utility asset monitoring landscape

- Construction sites
- Environmental emissions & hazards
- Power generation equipment
- Solar farms
- Solid fuel piles
- Gas leaks
- Storm damage
- Transmission & distribution lines
- Wind farms
- Substations
- Gas networks

Big
Remote
Hidden from view
Data sources are suited to different scales and distances

- Drones
- Satellites
- Sensors

- Big
- Remote
- Hidden from view
But these data sources are starting to compete

- **Drones**
  - Better battery life
  - Autonomous navigation

- **Satellites**
  - Ubiquitous coverage
  - Non-optical imaging

- **Sensors**
  - Lower cost = wider deployment
  - Cheaper data transmission
And the volume of data keeps on growing

Nanosatellite launches

Source: Nanosats.eu
This wealth of new data is overwhelming without machine vision.
Machine learning is becoming commoditised

“Eventually, pretty much everything will have ML somewhere inside and no-one will care.”

Benedict Evans
To create value, machine learning requires:

- Specific use cases
- Access to unique data
- Human appraisal
- Integration with existing systems
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- Transmission line inspection
- Utility drone imagery
- Trained asset inspectors
- GIS
Three themes we’re focused on

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- Electric mobility
Businesses are looking for new ways to buy energy

Global corporate PPA volumes

Source: BloombergNEF. Note: purchases of wind, solar and other renewables.
And majors are looking for new energy services to sell

Recent B2B energy services strategic investments

- TEPCO
- Centrica
- National Grid
- Total
- ENGIE
- Shell
- ZENOBÉ
- smartwatt
- CARBON LIGHTHOUSE
- Level10 Energy
- GENBRIGHT
- limejump
But turning energy into a service is complicated

- Stakeholder management
- Multiple types of risks
- Contracting and billing
Even the major players are struggling

Centrica Distributed Energy & Power financials

Source: Centrica
EIP invested in Sparkfund to simplify the process

OEMs
Installers
Financiers

sparkfund

Subscription providers

Customers
Three themes we’re focused on

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What will it take for EVs to go mainstream?

1. Lower cost
2. More range
3. Compelling models
4. A better charging experience
5. Higher used-car values

Source: Energy Impact Partners
What will it take for EVs to go mainstream?

1. Lower cost ✓
2. More range ✓
3. Compelling models ✓
4. A better charging experience ✗
5. Higher used-car values —

Source: Energy Impact Partners
EV charging: The definition of a fragmented, unattractive market

European charge point operator market share

Source: BloombergNEF
Ultra-fast charging is coming...but not for the masses

Brands launching +250kW capable vehicles
Battery analytics software: a partial solution to faster charging, battery degradation and warranties?

Battery production

Analytics for designing, developing and producing better batteries

Battery operation

Measuring state of charge and battery health in real time; optimizing performance

Vehicle telematics

Analysing weather, driver behaviour and other effects on range and battery life

- Volta IQ
- Rejoule
- Hive
- TWAICE
- NOVO
- VIRICITI
- Ion Energy
- Samsara
- SPARK
- +BAMOMAS
- Feasible
- Ultrasonic sensors
- GBatteries
- Brill Power
- Electriphi
- Titan Advanced Energy Solutions
- Ultrasonic sensors
- Impedance spectroscopy
Thank you