Challenges in Early-Stage Cleantech Investment

ROCKY MOUNTAIN INSTITUTE
Transforming global energy use to create a clean, prosperous, and secure low-carbon future.

Cyril Yee, RMI Ventures Lead | Feb 7, 2020 | NASEO Conference
There is wide consensus that climate change is occurring and we need new technologies to fight it.

Source: https://www.noaa.gov/news/july-2019-was-hottest-month-on-record-for-planet

Image: Photo/Steffen M. Olsen and the Danish Meteorological Institute
However, cleantech is not receiving adequate investment relative to the need and market opportunity.

- Energy related sectors are larger than VC addressable healthcare sector.
- For cleantech, early-stage and hardware struggle, in particular.

Source: Pitchbook, CMS, EIA, RMI analysis
Throttling of early-stage (non-software) investment is particularly pronounced.

- Only 31 Cleantech Series A deals done in 2018; 1/10th of the total number of Medtech deals.
- Overall trend in Cleantech investing is declining even as opportunity and need grow.

Source: Pitchbook, RMI analysis
In the US, utilities are last in terms of R&D expenditure.
Handoffs in commercialization create the well-known Valleys of Death

Valley of Death #1: Product Development
Valley of Death #2: Commercialization
Valley of Death #3: Growth

Description
- Research: Discovery, knowledge creation, proof of concept
- Development: Creating a commercial product or process
- Demonstration: Deployment and initial use of new technology
- Deployment: Increasing adoption and scale

Key players
- Federal Government
- Academia
- National Labs
- Major energy companies
- Federal government
- State incubators
- National Labs
- Angel investors
- Federal government
- States
- Venture Capital
- Energy industry
- Energy industry
- Private equity
- Public markets
- Customers
Handoffs in commercialization create the well-known Valleys of Death

**Valley of Death #1:** Product Development
- **Description:** Discovery, knowledge creation, proof of concept
- **Key players:**
  - Federal Government
  - Academia
  - National Labs
  - Major energy companies
- **VC Invest here**

**Valley of Death #2:** Commercialization
- **Description:** Creating a commercial product or process
- **Key players:**
  - Federal government
  - State incubators
  - National Labs
  - Angel investors

**Valley of Death #3:** Growth
- **Description:** Deployment and initial use of new technology
- **Key players:**
  - Federal government
  - States
  - Venture Capital
  - Energy industry
- **Advance and scale**

**Deployment**
- **Description:** Increasing adoption and scale
- **Key players:**
  - Energy industry
  - Private equity
  - Public markets
  - Customers

**Description**
- Federal Government
- Academia
- National Labs
- Major energy companies

**Key players**
- Federal government
- State incubators
- National Labs
- Angel investors

**Investment Time**
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Key players
- Research: Federal Government, Academia, National Labs, Major energy companies
- Development: Federal government, State incubators, National Labs, Angel investors
- Demonstration: Federal government, States, Venture Capital, Energy industry
- Deployment: Energy industry, Private equity, Public markets, Customers

VC Invest here
But can’t if they don’t know if technologies will be adopted at scale
Piecemeal interventions address the individual valleys of death

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**Policy-led, Public sector**

| | | | |
| | | Government scale purchasing (e.g., GSA, India EESL) | |
| | | Subsidies, incentives, mandates (e.g., FIT, RPS, loan guarantee) | |
| | | | |
| | | | Government-led mega programs (e.g., Apollo Program, China HSR network, SunShot, Human Genome) |

Research Development Demonstration Deployment
Development and demonstration activities remain bottleneck to commercialization
A New Global Innovation Ecosystem: The Third Derivative

- Trusted leader delivering global accelerator programs
- $250M+ VC fund(s)
- Professional team with proven track record
- Coalition of 12-15 leading corporates from diverse industries
- 200+ energy professionals
- 7 Offices in US, China, India, Africa

- Rapid capacity building and business model validation
- De-risking startups for follow-on investment
- Investment in accelerator startups
- Accelerator cohort selection and programming support
- Participant in follow-on funding
- Startup coaches, customers, investors, and acquirers
- Investment thesis refinement and validation
- Peer-to-peer learning exchange
- Analysis, insight generation, stakeholder engagement, network management
- Policy integration

Role

Ecosystem that addresses critical commercialization challenges
Thank You

Cyril Yee

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