Advanced Biofuels: Financing and Investments

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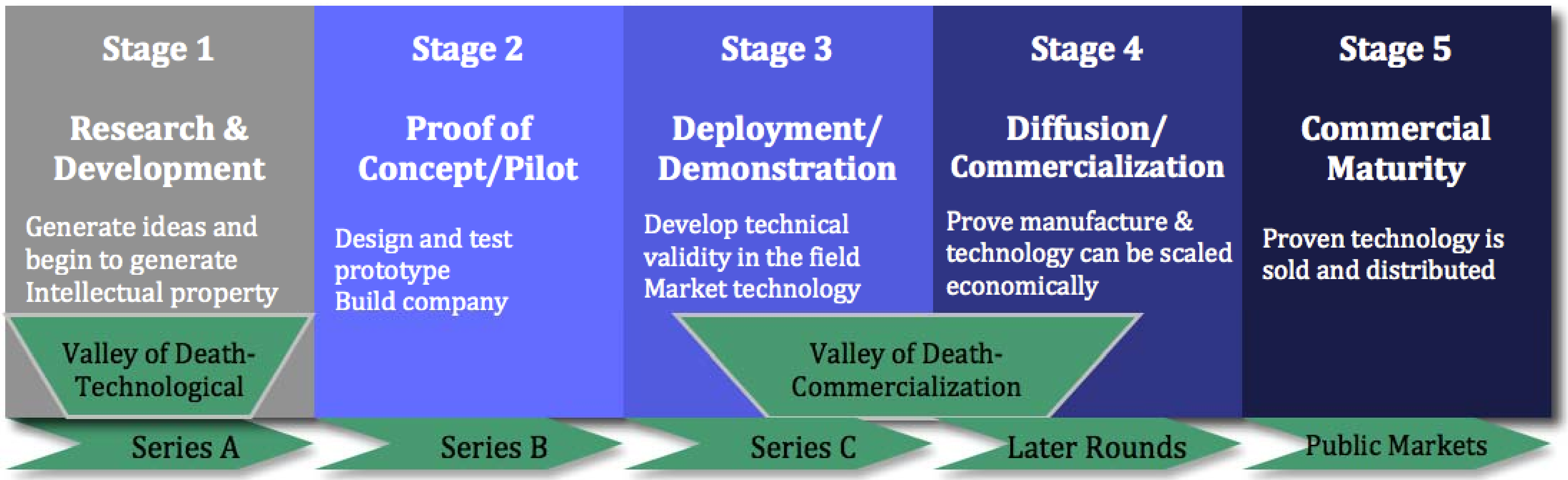
E2 Environmental Entrepreneurs®

Funding Stages



Equity versus Debt

- Equity
  - Ownership
  - High potential returns
    - Repaid through future profits
  - Higher risk
  - Early stage, only equity is available
  - Venture Capital, Strategic (Corporate) Investments, Public Markets
  - Expensive

- Debt
  - No ownership
  - Lower returns (fixed rate)
    - Repaid with interest
  - Lower risk
  - Commercial stage – require cash flows
    - Larger sums
  - Banks, government agencies

Equity: Venture Capital

- Smallest funding amounts aside from angel investors
- $13.1 billion in Q1 2013 into biofuels and biochemicals in United States
- $11.1 billion in Q1 2012 in same sector
- Feeds early stage ventures in exchange for equity (ownership)
- Demands high returns for high risk
- Pilot or demonstration phase

Equity: Strategic Investments

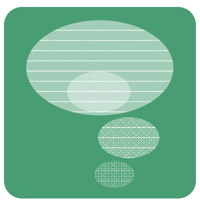
- When more capital is needed than VCs can provide
- Investment pools from existing large companies for strategic partnerships or growth
- Uniquely defined per transaction, but frequently results in a percentage of ownership
- Demonstration or commercial phase
- Example: Tyson Foods joint venture with Syntroleum = Dynamic Fuels

Equity: Public Offerings

- Largest access to capital
- Typically soon after turning profit
- BioAmber completed $80 million in May
  - Seven biofuel companies as of now
  - Some companies backed out last year because of “application glut”
- Commercial phase
  - $10/gallon average capital expenditure

But when that is not enough……

Debt



- Debt to equity ratio preferred at about 2 for capital intensive industries
  - $2 debt for every $1 equity
- Banks or sometimes other companies
  - Current market rate ~8%
- Can be difficult to access, especially with new technologies
- Lower return necessary for large sums

Public Financing

- Grants: Function like equity investments, but there is no ownership or expected return
- Loan guarantee: assurance that debt will be paid if borrower defaults
- Off-take agreement: contract to purchase product, thereby guaranteeing a market and sometimes a price.
  - Can be public or private
  - Provides access to debt financing

Example: Solazyme

- Venture capital 2003 - ?
- Demonstration: $22 mill DOE grant (2009) for Peoria, Ill. Capacity 2 million L
- Public offering June 2011 at $201 million
- CEC: $1.5 mill R&D at pilot through 2015
- Partnerships for plant financing:
  - Bunge – Moema, Brazil
    - 80% Capex Brazilian Dev Bank, 4% interest, 8 year loan, 100,000 MT facility
    - Cash financed other 20%, may borrow $120 million more SVB
  - ADM – Clinton, Iowa
    - Renting facility and stock issuance
    - 20,000 MT facility

Example: KiOR

- Venture capital 2007 - ?
- Public offering June 2011 at $150 million
- Facility funded by cash, equity investments and $75 million interest free loan from Mississippi Development Authority.
  - $200 million; 11 million gallons
  - With RINs, payback within 3 years
  - Without RINs, payback 8-10 years
- Next facility $450 million for 33 MG, then working on third. Cash flow from first two sufficient to fund facilities thereafter.

Example: LanzaTech

- Hunting $60-$80 million in investments
  - Personal take: strategic partnerships likely financiers
- Building 10 and 25 million gal facilities in China (30 MG plant estimated $80 mil)
- Waiting until facility operational for IPO
- Purchased Range Fuels facility in Georgia
- Many public grants, loans, etc.

Questions

(Thank you)

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