

**United States Department of Energy
Hydrogen and Fuel Cell Technical Advisory Committee**

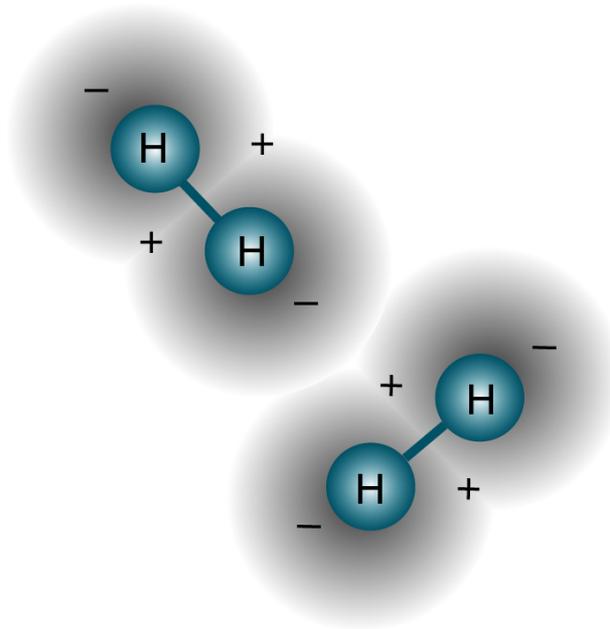
**Financing H₂ and Fuel Cell Opportunities-
A Venture Capitalist's Perspective**

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November 4, 2011**

EARTH ENERGY

VENTURES

VCs Invest In Business, Not Religions



- Recommendation: Base your business on solid scientific facts.
 - Be enthusiastic and credible.

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VENTURES

Investing in the Future of Energy

Advanced
Generation &
Storage

Grid-Scale Generation and Storage
at Grid Competitive Pricing

Premium
Power

High-Value Electric Power

Future Fuels
& Chemicals

Next Generation Chemicals and Fuels
and Production Methods

Energy Efficient
Products

New Products that Save Money
by Saving Energy

Energy
Intelligence

Products and Services that Improve Returns
on Infrastructure Investment

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Investing in the Future of Energy

Premium
Power

High-Value Electric Power

- Recommendation: Look for applications with the highest possible value, and figure out how you can charge the highest possible price.
- Externalities (climate change, etc.) and subsidies are icing on the cake.
- Show investors how you will build a very valuable company, and how you will achieve an exit.

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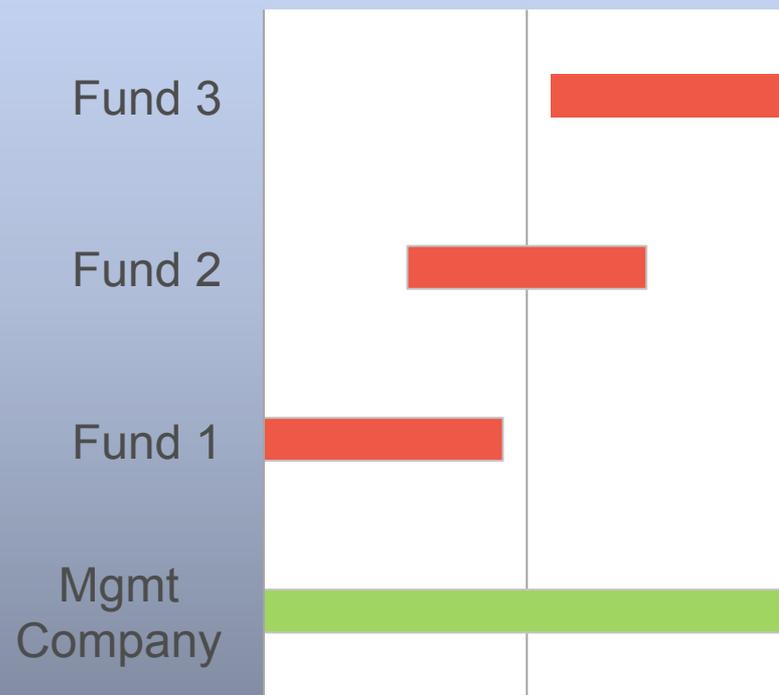
VENTURES

Timing Is Everything

VC Fund Structure

- Management Company
 - Corporate Structure
 - Indefinite Life
- Funds
 - Limited Partnership Structure
 - 10 Year Standard Life
- Funds Overlap In Time

VC Fund Timing



Essential Question: Can this investment be made and exited within the remaining life of this fund?

Timing Is Everything

Essential Question: Can this investment be made and exited within the remaining life of this fund?

- Recommendation: Look for sources of funding that match the stage of development of your business.
 - Come to VCs when your business timing matches the VC model.
 - Be realistic:
“These things always take more time and money than you think they should.”
Dr. Robert Shaw, sometime in the late 20th Century.

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Energy & Materials are Fundamentally Linked

For hundreds of years, almost every Energy technology advance has been triggered by an advance in Materials.

Steel (1885)

Aluminum (1886)

Uranium (1934)

High Performance Composites (1960s)

Nanostructured F₂ Chemistry (2000s)

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High Performance Locomotives (1867)

First Aircraft Engine (1903)

Nuclear Power (1951)

MW Class Wind Turbines (1974)

Fluorine Ion Batteries (2010)

Practical H₂ and Fuel Cells

FUSION!

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Energy & Materials are Fundamentally Linked

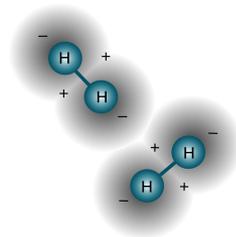
For hundreds of years, almost every Energy technology advance has been triggered by an advance in Materials.

- Recommendation: Concentrate on Materials Advancements
 - Look for opportunities that have multiple high-value applications.

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VC Financing for H₂ and Fuel Cell Opportunities



- Build your business on solid scientific facts.
 - Be enthusiastic and credible.
- Look for applications with the highest possible value, and figure out how you can charge the highest possible price.
 - Concentrate on Materials Advancements with multiple applications
- Show investors how you will build a very valuable company, and how you will achieve an exit.

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Investing in the Future of Energy



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