

Thorium Energy Alliance

# Venture Capital Investment in the New Nuclear Era

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# Opportunity at the Intersections

Life Sciences



Information Technology



**CMEA**  
CAPITAL



**Energy &  
Materials**

# Investing in the Future of Energy

## Advanced Generation & Storage

Kilowatt-Hour Scale Power at Grid Competitive Pricing



## Premium Power

High-Value Electric Power



## Future Fuels & Chemicals

Next Generation Fuel Production Methods



## Energy Efficiency

New products that make current methods economically obsolete



## Energy Intelligence

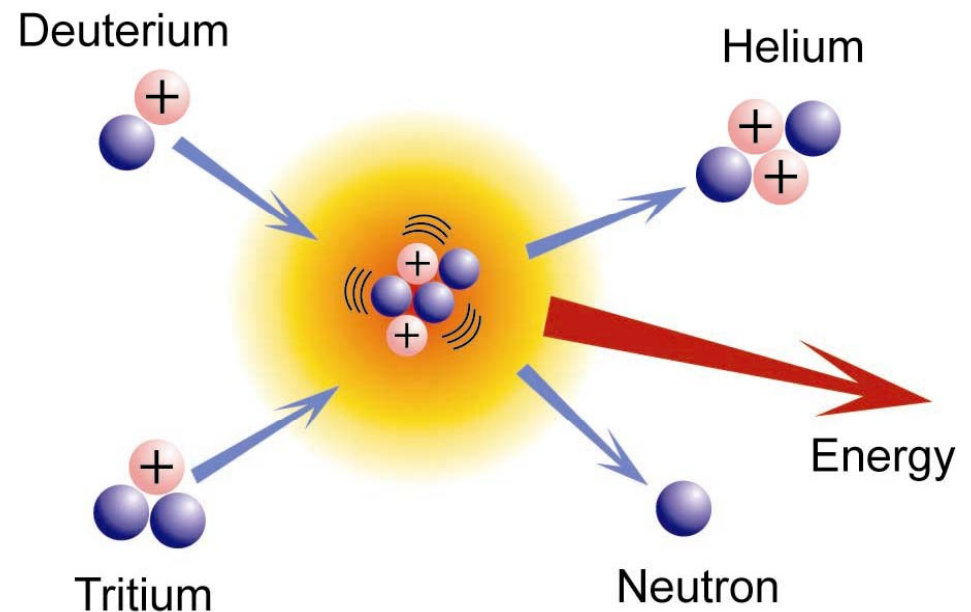
Technologies That Enable Real-Time Analysis and Control



# The Three Energy Game Changers

## 3. Nuclear Fusion

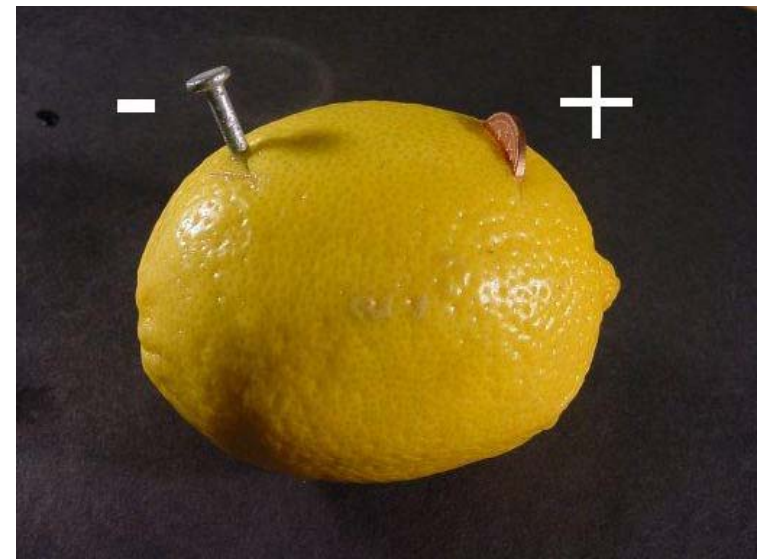
- An energy solution that solves all our present and foreseeable requirements.
- Required: Breakthroughs in physics, materials, everything. The most difficult problem ever tackled by mankind.
- Timing: Beyond our lifetimes



# The Three Energy Game Changers

## 2. Grid Scale Storage

- “Renew-ables” become “Dispatch-ables.” Value of solar and wind power increase by factor of 2 to 3X.
- Required: New chemistries, demonstration of low costs and reliability in decades.
- Timing: Expect in service by 2020.



# The Three Energy Game Changers

## 1. Modular Nuclear Power

- Nuclear power with financial risks and costs less than coal.
- Required: Capital investment, political will, public support.
- Timing: Expect in service by 2017.

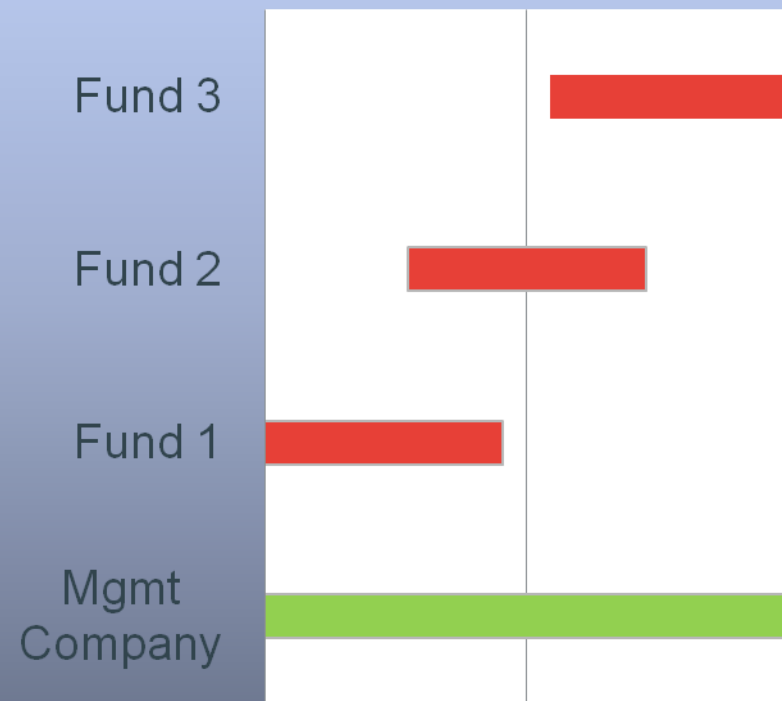


# Timing Is Everything in Venture Capital

## 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?

# Venture Capital Investment Basics

Management  
Team

VC investing is a bet on the team.  
Do we believe they can make it happen?  
Do they want us a partners?

Market  
Focus

Is business defined in customer terms?  
Who will buy, and why?

Competitive  
Landscape

Is IP protected? First mover?  
Strong or weak competitors?  
Barriers to entry?

What's the  
Deal?

Realistic terms?  
How can we exit?

# Do Nuclear Opportunities Fit The Venture Capital Model?

Modular  
Nuclear Power

Yes, this fits now.  
Commercialization underway.  
Can see exits < 5 years.

Thorium Fuel

Almost, but not yet.  
Nuclear industry and regulators don't have  
bandwidth for a new fuel.

Fusion

You got to be kidding.  
Maybe for our grandkids.

**Please send us your Business Plans!**

[Maurice@CMEA.com](mailto:Maurice@CMEA.com)

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Information Technology



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Backup Slides Follow

# University Spin-Out Specifics

Focus on  
Returns

What is the team's motivation?  
Do they want to be wealthy?

Technology  
Transfer

Is IP well protected? Are terms realistic?  
Can deal be done quickly?

Value of  
Information

Universities disseminate information.  
Companies withhold it.

Step on  
the Gas

Universities are paced by the calendar.  
Startups succeed by beating the calendar.

# Push the Reject Button if...

Management  
Team

All engineers or scientists.  
No prior successes.  
Ask for an NDA.

Market  
Focus

"The market is so huge, we only need  
X% market share."  
One party pays, another party benefits.

Competitive  
Landscape

"We have no competitors."  
"Nobody else can figure this out."

What's the  
Deal?

Concerns about voting or board control.  
No discussion of exit plans.  
Want to create careers for themselves.

# War Stories I

Engine Control  
Systems Co

Excellent technology and IP.  
Team not motivated by money, alienated by  
investors and commercial concepts.

Fuel Cell  
Materials Co

Excellent technology and IP.  
Team inexperienced. Brought in new CEO.  
Saw CEO as protection from investors.

Carbon  
NanoTube Co

Excellent technology, IP protection incomplete.  
Very low costs. Team highly motivated to make  
money.

Battery Co

Excellent technology and IP. Founder missed the  
train once before, won't let it happen again.  
Huge market, easy to hire the best people.

# War Stories II

Nuclear  
Power Co

Excellent technology and IP.  
Unique university facility. Very experienced CEO.  
Regulatory questions, raising money challenging.

Solar PV Co

Excellent technology and IP.  
Team best and worst of Silicon Valley.  
Huge capital requirements.

Engine  
Management  
Systems Co

Excellent technology. Needs more IP protection.  
Very low costs.  
Experienced team with prior big successes.

Industrial  
Biotech

Excellent technology and IP. Experienced team.  
Largest commercial deal in history of  
"cleantech" sector.

# Investing in the Future of Energy

## Future Energy



Agriculture



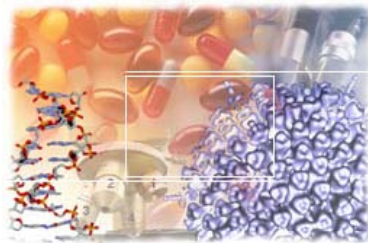
Power



Oil & Gas



Forestry



Pharmaceuticals  
& Biotech



Marine Resources



Info Tech