



# Managing Risk in the Bio Economy

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- **Three perspectives on risk**
  - **Society**
  - **Value Chain**
  - **Individual Company**
- **EBI Scope & Activities**  
**Contributing to risk mitigation at BP**

- **Risks are changing**
- **Bigger? Smaller? Different!**
- **Will it work?**
- **Will it deliver?**
- **Will we be able to afford it?**
- **Will people buy it?**
  - **Policy Framework**
  - **Regulation & Mandates**
  - **Tax structures & Incentives**

**Well informed, flexible, learn & adjust**

# Value Chain Perspective



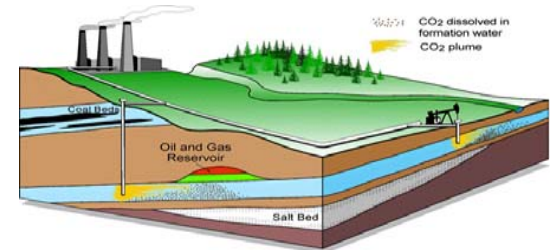
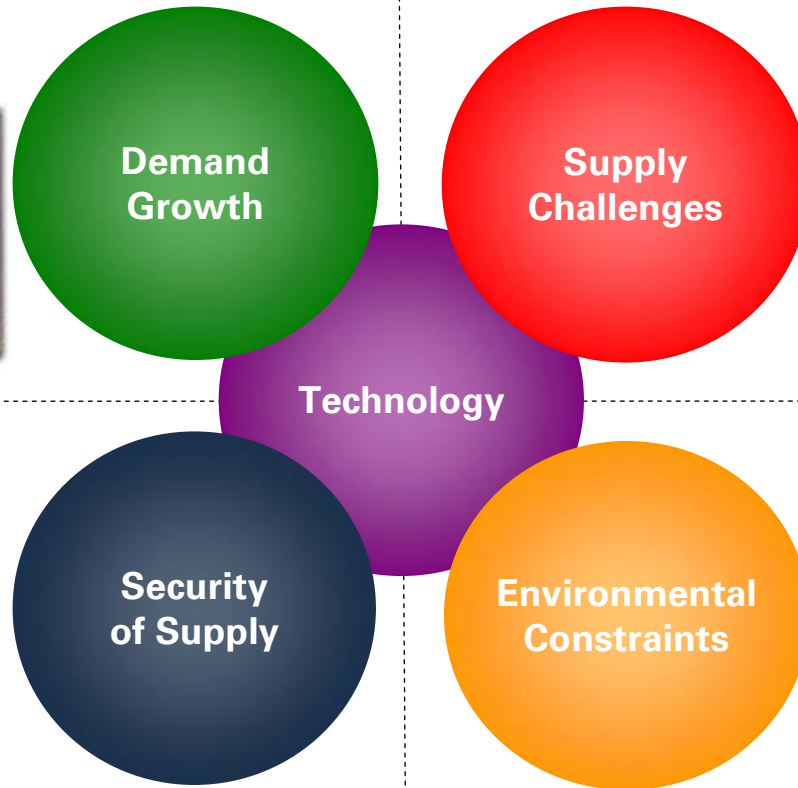
- **What will be profitable?**
  - **Where does the rent reside?**
  - **Who holds what risk?**
  - **Competing alternatives?**
- 
- **Free Markets**
  - **Win/Win Partnerships**

# Individual Company Perspective



- **How will I get access to**
  - **Markets?**
  - **Raw materials?**
  - **Technology?**
  - **Capable people?**
  - **Money?**
  - **etc.?**
- **Who am I competing with?**
- **What is my policy framework?**
- **What tools are available to manage my risk?**

# Technology Underpins Future Challenges



## Realization of the EBI Potential



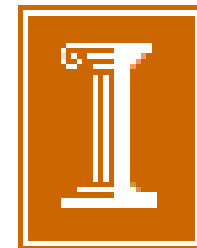
- **A physical incarnation – on or adjacent to host university**
- **Conducting open and proprietary research with a \$500m decadal funding commitment**
- **Bringing a systemic approach to complex problems through multi-disciplinary collaboration**
- **Focusing initially on renewable fuels but expanding to Enhanced Oil Recovery, Conversion and Sequestration**



# EBI Partners



This Extraordinary partnership builds upon and extends strengths in the area of alternative biofuels.





## EBI is Unique



This “first of its kind” Institute will be a fully integrated public and private sector effort requiring specific characteristics that are central to program success.

- The research must be **broad in scope** across the entire value chain. Experience has shown that optimizing independent elements sub-optimizes the entire system.
- The research must be **inter-disciplinary**. Novel findings will likely lie at the interfaces of two or even three discreet disciplines, and these capabilities must be fully integrated in the program.
- The research must be **mission-oriented** with well defined plans, targets, and flexibility in approach to lead to rapid demonstration projects and timely commercialization.

# Which Feedstock ???



# Which Business Model ???



# Sustainability ? ? ?



# Which Product Slate ???



# Conversion Technology & Infrastructure ???



# The Bay Area Ecosystem



- **A unique, multi disciplinary, mission oriented institute**
- **A unique Public/Private collaboration at unprecedented scale**
- **A unique new academic discipline**
- **A unique opportunity to make a difference to the world**
  - **Insight into a wide range of risks**
  - **Hard data to help underpin decision making**
  - **A comprehensive framework for assessing developments**



bp



Energy  
Biosciences  
Institute