



Warsaw Side Event

Investment and Finance

Dr. Brian P. Flannery



Twin International Energy Challenges

- Meeting significant increase in energy demand and improving access to energy
- Responding to GHG risks

Context (IEA):

```
2B People without access to commercial energy
```

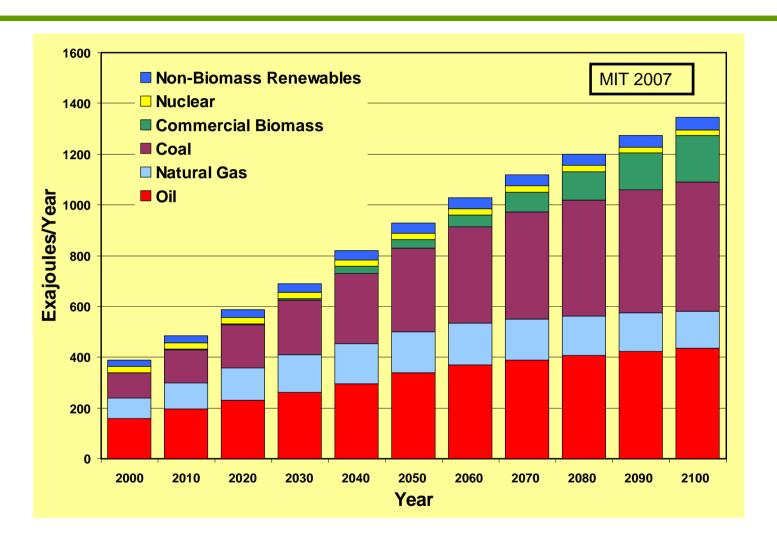
\$22T Investment (through 2030) energy supply and distribution

\$45T Investment (through 2050) to manage climate risks

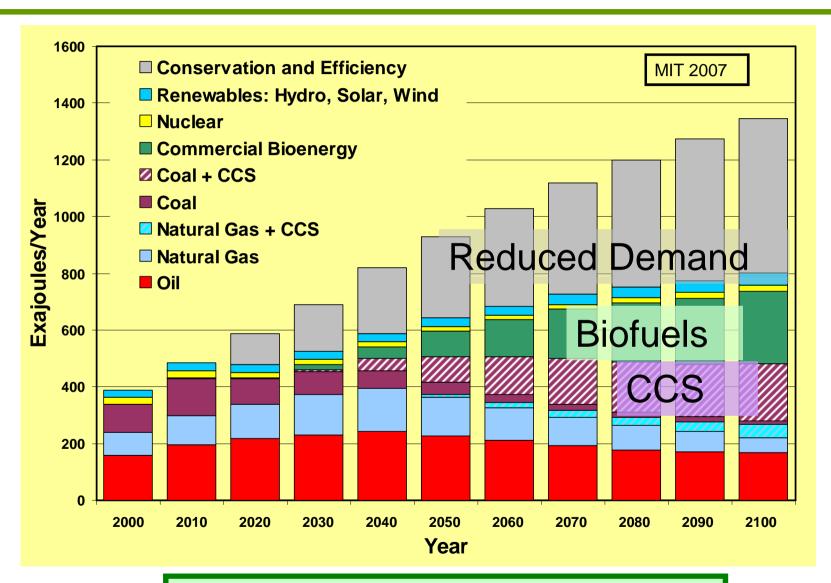
Accelerated development and deployment of advanced technology will be essential to meet aspirations and manage risks at affordable costs

Deployment will require thousands of multi-billion dollar investment projects, many for *currently non-commercial or politically challenged technologies*

Global Primary Energy: Reference



MIT 550 Stabilization Scenario: Energy Sources



Advanced technologies appear at scale after 2030

Investment Decisions and Climate Policy

- Decisions on major capital expenditures by private firms are based on a riskadjusted expectation of adequate returns
- Many of the technology systems that show promise for mitigation face high costs, limited or no commercial experience and political controversy
- Higher costs, potential for permitting or regulatory delays, public acceptance, and policy and legislative uncertainty add to perceived risks and raise costs
- Inadequate returns force firms to seek alternate approaches, defer decisions, or reject projects
- Effective climate policies will need to work with mainstream project investment and finance processes, and with local and national approval processes
- Business seeks sufficient clarity to plan, propose and implement projects with confidence that they will be commercially viable and proceed in a timely fashion

The key issue in climate finance is not so much raising funds, as confidence in returns from successful projects

Take Away Messages

- Large-scale investments that diffuse and transfer technology occur continuously using a variety of existing processes
- Climate policies need to leverage mainstream business activities, not create a separate playing field for "climate investments"
- In consulting business on finance, engage with operating companies as well as financial firms (and be aware that many firms self-finance their investments)
- Regulatory and permitting delays add costs and can tie up projects for years, try
 to expedite the investment process rather than add new complexity
- Private firms make investment decisions based on risk adjusted expectation of returns; without adequate returns they will not invest

Thank You