

International Symposium on Voluntary Approaches: Evaluating Industry-led Voluntary Approach and Discussing the Future of Climate Change Policy
Keidanren, METI, Institute of Energy Economics

Voluntary Actions and the Post 2020 Climate Agreement

***subtitle: Transformational Change and
Investments in a Mosaic World***

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Scene Set: Stabilizing GHG Concentrations

- For CO₂ net emissions must fall to zero (and other GHGs)
 - Transformation occurs through deployment of technology systems: (technology, infrastructure, business models, supply and value chains, finance, legs/regs/permits/courts...)
- Global issue...behavior of developing nations will be critical
- Outcomes depend on:
 - Innovation/options: (R&D, Finance, Business Models, Management Systems, ...)
 - Investment decisions
 - Policy (2-way risks, e.g. imposing a new or larger carbon price, creation or removal of subsidies, anticipated policy that never materializes, policy shocks and reversals)
- National institutions play a fundamental role/determine:
 - Policy choice, implementation, enforcement... business climate, credibility of policy
 - Investment decisions

Climate change is only one of many compelling national priorities

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

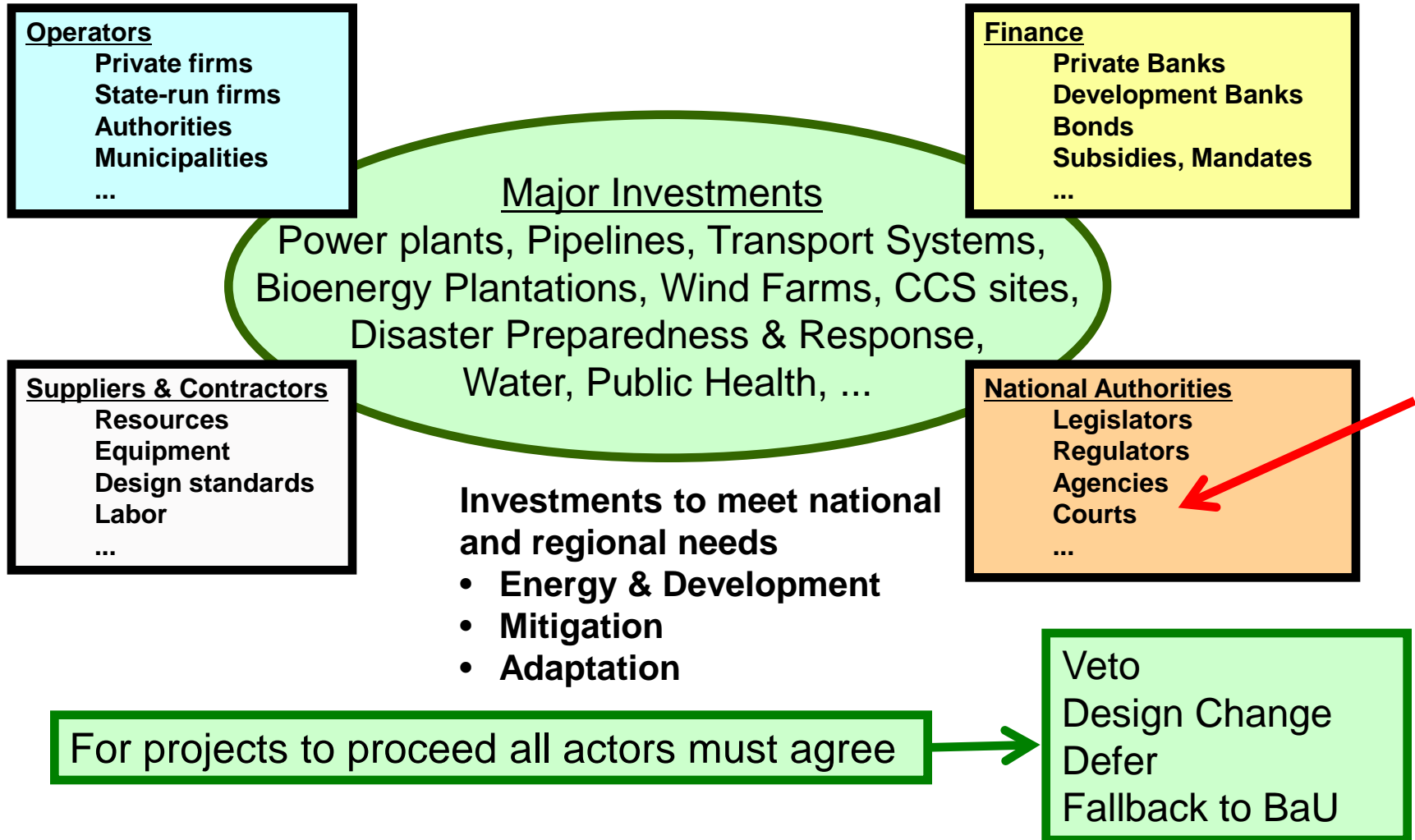
\$45T Additional investment (through 2050) to manage climate risks

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

Deployment will occur globally in thousands of multi-billion dollar investment projects, many for *currently non-commercial technologies*

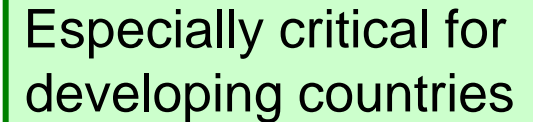
Investments and Decision-Makers

What actors, criteria and enabling frameworks are required?

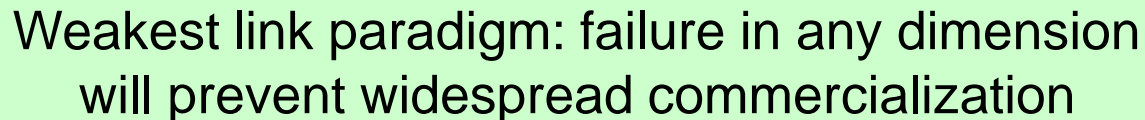


Criteria for Technology Evaluation

- Safety, health and environmental impacts
- Performance
- Cost
- Consumer acceptance
- Enabling infrastructure and capacity
- Regulatory compliance
- Securing permits
- Environmental and social impacts at local and large scale



Especially critical for developing countries



Weakest link paradigm: failure in any dimension will prevent widespread commercialization

Business Risks

- Technological
- Market
- Competitor behavior
- Policy and regulations
- Political
- ...

Risks are greater for currently non-commercial and politically challenged technologies

Mosaic World

- A world in which nations and regions establish climate objectives and policies based on national circumstances and priorities
- Implementation depends on national policies and enforcement
- Economies and global GHG progress remain linked through, e.g.
 - Formal bi- and multi-lateral linkages (in some cases)
 - Trade and investment
 - International offsets
 - Research and development
 - ...
- As contrasted with, e.g.
 - Cap & Trade World: Progressive evolution to a global system in which
 - + Nations with targets take on stronger targets
 - + Nations without targets graduate to take them on
 - + Linked cap-and-trade systems with offsets lead to a common carbon price
 - A Favela world of partially planned and unplanned policies

- Considers the real world of national policies
- Moves from idealized 1st best world

Reflections on Potential Technical Solutions

- Major technology systems that contribute to mitigation *in models* are challenged by significant interest groups
 - Nuclear, Carbon Capture and Storage, Biofuels, Wind
- Open questions in deployment will affect costs, availability
 - Public acceptance
 - Regulatory frameworks for siting, operation, monitoring
 - Timely creation of required infra-structure
 - Liability
- Policy uncertainty creates risks
- More ambitious stabilization targets imply an enormous increase in the pace of capital-intensive investment; bottlenecks affecting scarce inputs will increase costs, slow investment

Many of these issues are primarily institutional and political, not cost-benefit economics

Investment Decisions and Climate Policy

- Decisions on major capital expenditures by private firms are based on a risk-adjusted 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, reject projects... or stay with what worked in the past
- 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

Four major developments since 2008

- Demise of international top-down approach (COP 15 Copenhagen)
advent of the Mosaic World
- (Ongoing) Financial challenge/crisis
inability of public finance to meet growing expectations of
developing world regarding “climate” aid and compensation
- Energy innovation revolution in tight gas and oil
higher opportunity cost of moving from fossil fuels
- International offsets may be unavailable in Post 2020 Agreement
 - If all major nations have obligations, mitigation investments will occur
under domestic rules to satisfy domestic obligations
 - May be an excellent opportunity for bi-lateral agreements and joint
crediting (as proposed by Japan)

Received little discussion to date in the ADP negotiations

Closing Observations

- Private company investments require public approval but proceed based on inherently voluntary internal decisions
- Voluntary national participation will be essential for a positive outcome at COP 21 in Paris

Pressures and expectations, e.g. 1,000 Gton budget to stay below 2 ° C, are rising that threaten to repeat the failure in Copenhagen

Thank You & Discussion