Regulatory Risk and Sustainability in the Approvals of Mega Resource Developments

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Advancing new realities of sustainability…

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Project Risk Factors and Regulatory Risk

- Risk to project developments most commonly thought of in terms of financial and cost risks related to engineering design, infrastructure, and capital works in developing a project
- Cost over-runs, investor commitment, and operating cash flow
- The risk of fluctuations in commodity markets

Project Risk Factors and Regulatory Risk

- Schedules and the timelines for delivering a project
- Skilled resource capacity and safety
- Front end of mega development projects is where another significant risk factor lurks
- Time and costs required to obtain regulatory approvals and bring major projects into the construction and operational stages

Risk in the Regulatory Approvals of Major Energy Resource Developments

- Scale and importance of Alberta oil sands development in relation to regulatory risk
- Canada has the second-largest proven oil reserves in the world
- Most of these reserves are in the oil sands, extending over a region in northern Alberta of about 140,000 sq. km, or roughly the size of England
- Beyond the extent of bitumen reserves and project engineering design - regulatory requirements, the influence of diverse stakeholders in the approvals process, and the advance of sustainability, are now recognized as part of mainstream corporate culture in managing regulatory risk

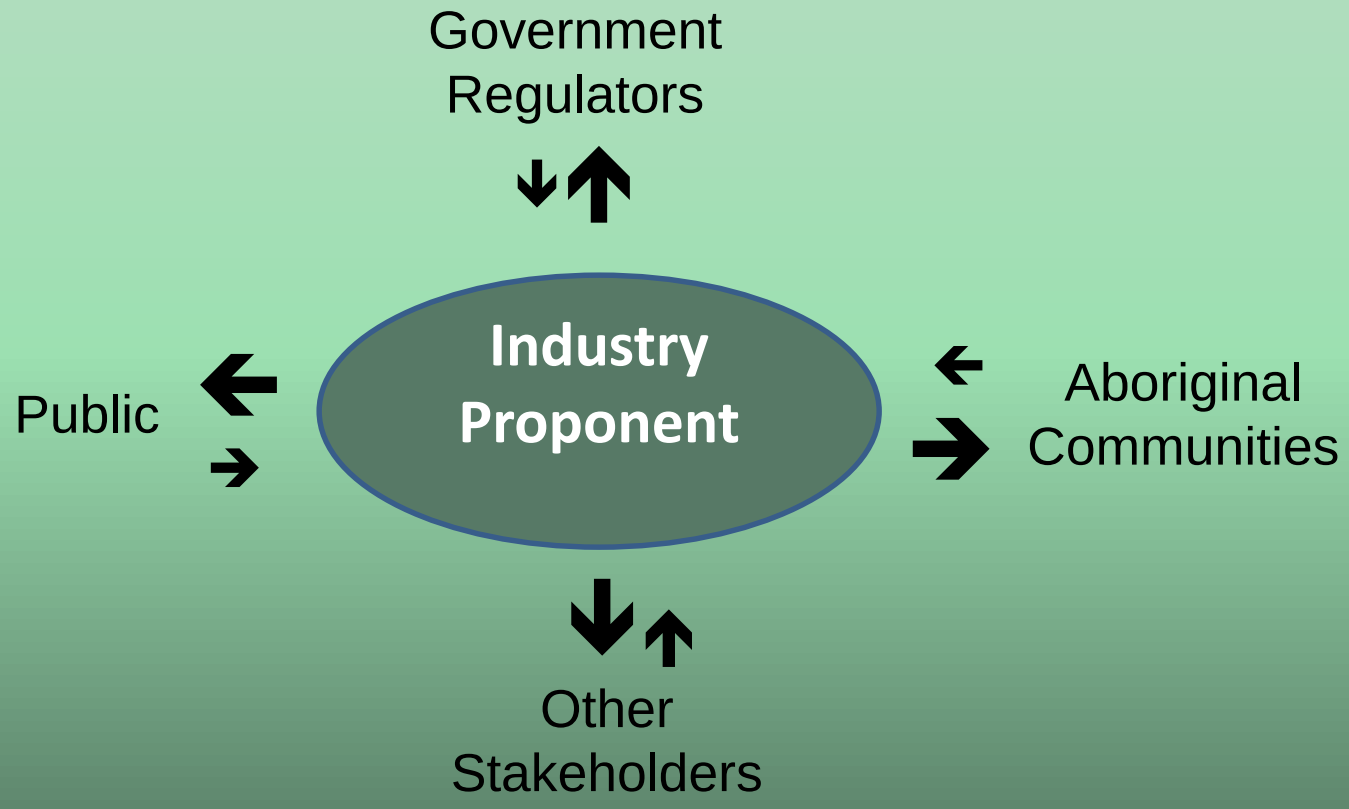
The Regulatory Setting

- Oil Sands Conservation Act
- Alberta Environmental Protection and Enhancement Act
- Alberta Water Act
- Alberta Historical Resources Act
- Navigable Waters Protection Act
- Migratory Birds Convention Act
- Fisheries Act
- Canadian Environmental Assessment Act
- Species at Risk Act

The Role of Stakeholders in the Approvals Process

- The myriad and maze of regulatory processes and players can be daunting to many of the most seasoned industry proponents and operators, and present considerable uncertainty and business risk
- Stakeholder consultation in the oil sands requires the establishment of positive working relationships with regulators, Aboriginal communities, non-government organizations (NGOs), and regional initiatives such as the Cumulative Environmental Management Association and Athabasca Regional Issues Working Group

Stakeholder Engagement



Sustainable Development: A New Corporate Culture

- Integration of social, economic and environmental variables was well introduced at the Earth Summit in Rio de Janeiro in 1992 and the concept is still very much alive and well in 2010
- Planning must address the *'triple bottom line'* of sustainable development and the relationships between these variables, to strive for a balance and appropriate equity among them
- Sustainable development in most instances is only realistic in the context of more extended spatial and temporal scales
- Paradigm of a more advanced economy and business model with a new perspective on corporate responsibility in relation to social and environmental contexts

Risks of Not Integrating Sustainability

- Increased opposition that can result stakeholder conflicts and lawsuits
- Delays of approvals from regulators
- Inefficient use of valuable resources such as energy and water
- Increased mitigation and compensation
- Lack of integrated, long term planning to guide decision making
- Sustainability achieved in large part through regulatory applications, and their requirement for environmental assessment

Objectives of Environmental Assessment

- To ensure that environmental considerations are incorporated into the development decision making process
- To anticipate and avoid, minimize or offset the adverse significant biophysical, social and other relevant effects of development proposals
- To protect the productivity and capacity of natural systems and the ecological processes which maintain their functions
- To promote development that is sustainable and optimizes resource use and management opportunities

Oil Sands Environmental Assessments

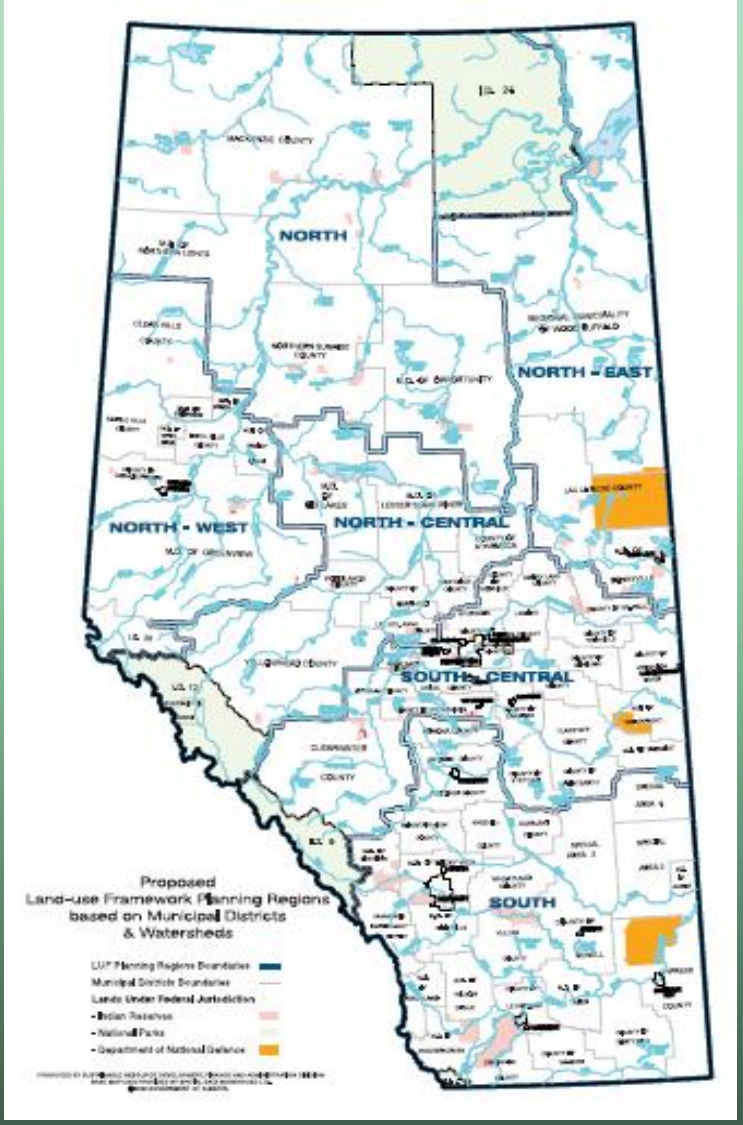
- Project footprints assessed can extend over 100 - 200 km^2
- Costs can range from $3 to $5 million
- Time required for completion can involve anywhere from 18 - 36 months.
- Can be subject to regulatory hearings and are required to follow-up with reclamation and environmental monitoring plans
- Assessment of cumulative effects an important requirement

Environmental Issues

- Airborne carbon and sulfur emissions
- Discharge of project water to ground or surface water, and water withdrawals from ground or surface water
- Size of project footprints
- Wildlife habitat and biodiversity loss
- Minimizing human health effects

Regional Approaches to Planning

- Provincial Land-use Framework - a regional approach to manage lands and natural resources to achieve long-term economic, environmental and social goals
- Set out land use objectives and provide context for land use decision making within six regions
- Thresholds and targets for air, land, water and biodiversity to manage cumulative effects at a regional level, allowing decision making that imposes limits on impacts rather than on development



Summary and Conclusions

- An element of regulatory risk is involved with all energy resource development projects
- The time and costs required for regulatory approvals and to bring major projects into the construction and operational stages represent a major risk category that is not as commonly considered as others
- Alberta oil sands are *Canada's greatest buried treasure* and contribute significantly to the national economy

Summary and Conclusions …cont'd

- Sustainable development offers a more balanced perspective and solutions to negative environmental consequences in the pursuit of oil sands
- Fundamental principles of sustainability are closely linked to regulatory approvals and have emerged front and center of large, industry resource development projects
- They recognize longer time frames for development, the finite nature of resources, and a greater equity in the balance of social and economic benefits from development