AN EXPLORATION & PRODUCTION PERSPECTIVE ON THE WEST COAST OFFSHORE

B.C. NATURAL GAS SYMPOSIUM
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AGENDA

- INTRODUCTION
- OPPORTUNITY EVALUATION FRAMEWORK (“TECOP”)
  - Technical
  - Economic
  - Commercial
  - Organizational
  - Political / Societal
- CURRENT ASSESSMENT OF WEST COAST OFFSHORE
- NEAR TERM PRIORITIES
- KEY MESSAGES
Shell Canada's Upstream Business

- Foothills - Maintain/generate cash
- Peace River (oil sands) - Grow?
- Frontier - Grow

West Coast Offshore
- Initial Shell land position 1961
- Exploration in 1960's
  - 14 wells drilled
  - Regional 2D seismic
- Farmout to Chevron 1971
- Moratorium 1972
- Environmental Assessment Panel 1986

West Coast not a current exploration priority...but a strategic growth option of interest
SHELL’S OPPORTUNITY EVALUATION FRAMEWORK - “TECOP”

“TECOP”

**TECHNICAL**
- Prospectivity, costs, technology, HSE

**ECONOMIC**
- Economic attractiveness

**COMMERCIAL**
- Market, fiscal, competition

**ORGANIZATIONAL**
- Competencies, resourcing, partners

**POLITICAL / SOCIETAL**
- Governments, First Nations, stakeholders, reputation, regulation
**TECHNICAL - GEOLOGICAL PROSPECTIVITY**

**PROS**
- “Positive” indicators
  - source / reservoir / trap / seal
- GSC / other resource estimates (± 30 TCF)
- New technologies not applied
- Exploration cycle immature
- Large areal extent

**CONS**
- Early drilling results disappointing
- Oil vs. gas uncertainty
- Relative attractiveness versus investment alternatives
- GSC estimates are not recoverable reserves

Resource potential **HIGHLY** uncertain...can only be confirmed through exploration
TECHNICAL - SEISMIC DATA QUALITY

Early data (circa 1965)

More recent GSC data (circa 1988)

Need to apply current seismic technology & geological concepts to more fully assess offshore potential
A “NOTIONAL” TECHNICAL TIMELINE

YEAR: 0 1 2 3 4 5 6 7 8 9 10 11 12

- Base regional studies
- 2-D Seismic
- 3-D Seismic
- Exploration Drilling
- Appraisal Drilling
- Development
- Dvm't Planning & Regulatory Approval
- First Production
- First Production

Series of technical “gates”
Concurrent process in other key areas - regulatory, fiscal, etc.?…..would allow timely exploration activity if/when go-ahead provided

REPRESENTATION OF TECHNICAL TIMELINE ONLY.....OTHER FACTORS WILL HAVE A SIGNIFICANT IMPACT ON PACE OF ACTIVITY!!
Establish integrated planning framework @ early stage in process
- Government leadership, broad stakeholder engagement
- Identify data / information gaps ("real", substantive)
- Plan / timeline to address information needs

Key requirements:
- Sound science as basis for decision-making
- Good baseline data
- Early clarity on sensitive / protected areas (prior to significant expenditures)

Provide legitimate “foundation” for subsequent environmental assessments & regulatory reviews for specific project proposals
Important to acknowledge results of earlier reviews…

- **Oct’01 Jacques Whitford Report**
  
  “…there are no specific design, geographical or environmental issues that would preclude the development of the offshore reservoirs of British Columbia”

- **Jan’02 Offshore Oil and Gas Scientific Panel Report**
  
  “There is no inherent or fundamental inadequacy of science or technology, properly applied in an appropriate regulatory framework, to justify a blanket moratorium on activities.”
Positive medium term outlook for N.A. gas market

Other commercial issues to be addressed by industry:
- pipeline infrastructure
- local market development
- access to export markets
COMMERCIAL - LANDHOLDINGS & PARTNERSHIPS

- Highly concentrated landholdings
- Responsible operators with global experience...Shell, ChevronTexaco, PetroCanada
- Strong partnerships (Shell / ChevronTexaco)
- Rights & interests of existing landholders must be respected!

1997: Shell and others donate 129,000 ha to set up Gwaii Haanas Marine Reserve
POLITICAL / SOCIETAL

- Governments must jointly take lead in resolution of...
  - Jurisdictional issues
  - Regulatory framework
  - Fiscal regime & revenue sharing
  - Rights & tenure
  - Environmental assessment process

- Need a pragmatic tripartite process involving First Nations peoples
  - Meaningful consultation
  - Focussed process

- Industry (& other stakeholders) will engage once multi-stakeholder process(es) established

Is there sufficient alignment of interests & political will?
W.C. OFFSHORE - CURRENT ASSESSMENT

“TECOP”

TECHNICAL
Prospectivity highly uncertain, technology exists, environmental must be addressed (appears doable)

ECONOMIC
Costs & economics uncertain

COMMERCIAL
Market outlook very favourable

ORGANIZATIONAL
Industry capability exists, limited current capacity for West Coast Offshore

POLITICAL / SOCIETAL
Jurisdiction, fiscal, regulatory framework are undefined, meaningful First Nations engagement required… mixed stakeholder messages

Some positive indicators, many unknowns, significant issues to be resolved!
NEAR TERM PRIORITIES

- Establish a coordinated & transparent multi-stakeholder process (joint Federal / Provincial)

- Establish integrated planning framework...focus on substantive gaps in environmental information & plans to address

- Federal & Provincial governments align to address:
  - fiscal regime
  - regulatory framework
  - jurisdiction
  - rights & tenure

- Meaningful consultation with First Nations peoples..... tripartite process?

Concurrent, flexible process building momentum toward lifting of moratorium
KEY MESSAGES

- Shell largest West Coast landholder…offshore “on the radar screen”, driven by market pull & potential geological prospectivity
- Issues / challenges are reasonably well-understood…but difficult, complex, diverse
- Industry needs clarity, certainty, transparency on “rules of game” before undertaking significant investments
- Industry will engage in multi-stakeholder processes… once established by responsible gov’ts & regulators
- Some momentum established, but much work to be done before “moratorium” lifted
- Take longer term view & be realistic about timelines / expectations

Potential window of opportunity…is there sufficient alignment to proceed?
SHELL & SUSTAINABLE DEVELOPMENT

An overarching commitment to SD - Economic, Social, Environmental - part of our Business Principles

Corporate Goals

Leadership in profitability
Profitable growth

Context in which offshore oil & gas activity MUST be evaluated!
We’re all in this boat together, so let’s do it right......

THANK YOU