

Western Interstate Energy Board/ CREPC Meeting



Role of Scenarios in the Western Natural Gas Assessment

by

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Scenarios in Western Gas Assessment

Input to economic model(s) to “explore” the future:

- Gain deeper insight into important factors and uncertainties facing decision makers with respect to natural gas in the West
- Gain deeper insights into the implications of possible public policy decisions/actions



Scenario Characteristics

- Alternative views of the future ...
 - Plausible
 - Relevant
 - Divergent
 - Internally consistent
- Provide inputs to, not end-runs of, economic models
- Sufficiently different (from each other) to be modeled discretely, allowing divergent outlooks to help shape policy choices
- Price is not a legitimate “scenario” variable

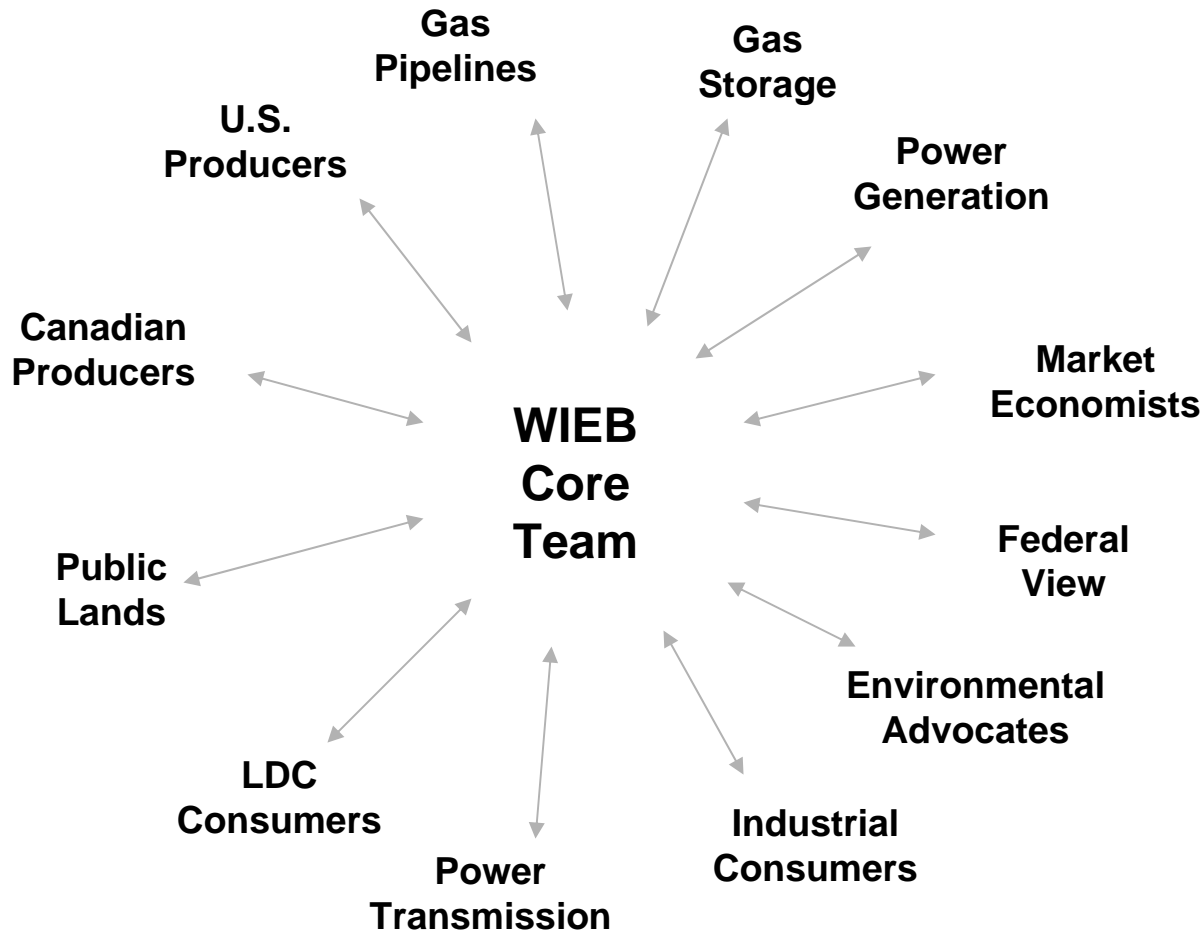


Stakeholder Input

- Expert advisory group for recommendations, composed primarily of Market Analysts/Economists
- Cross-section of stakeholders in Western Gas
- Intensive work session with advisory group and WIEB Core Team representatives from West sub-regions
- Developed recommendations on reference case, alternative scenarios, sensitivities
- Advisory group will provide future peer review

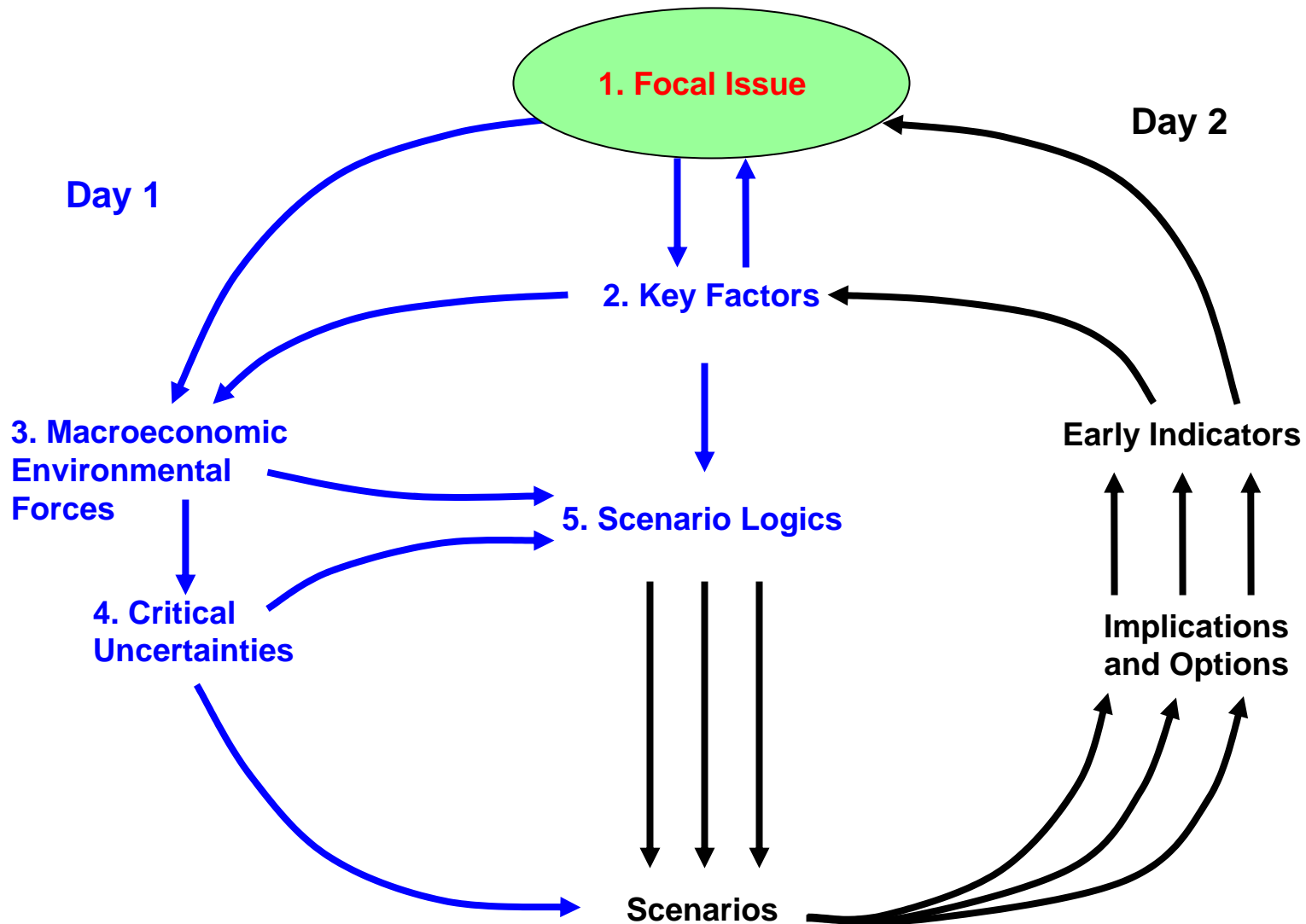


Advisory Group Representation





Scenario Development Process

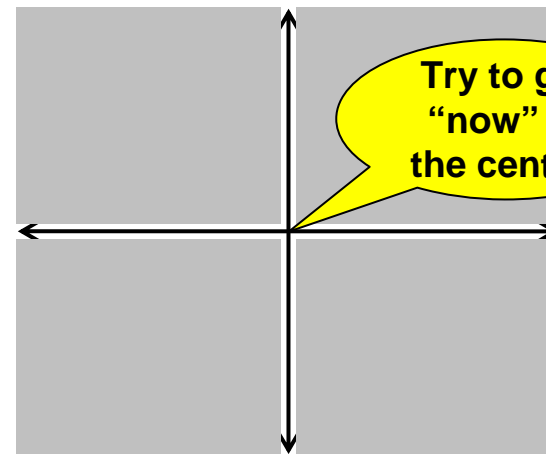
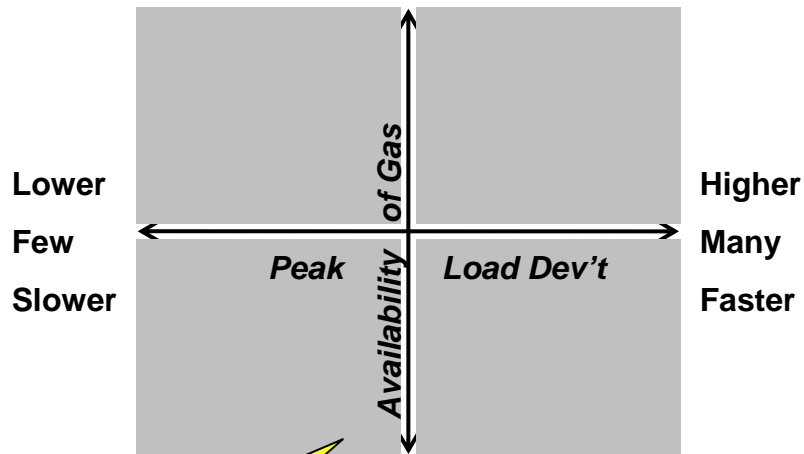




Getting to a Scenario Matrix: Example

Cross-plot various *groups* to find suitable uncertainty axes

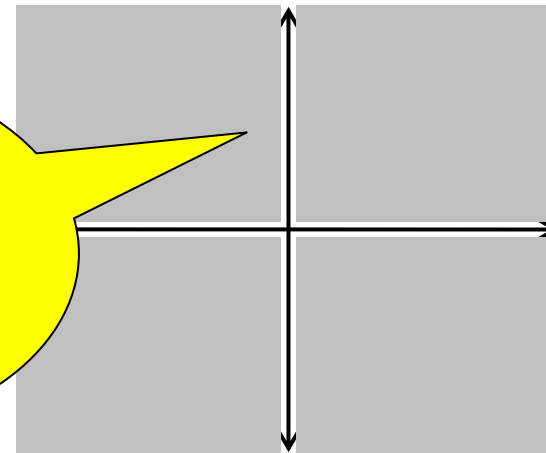
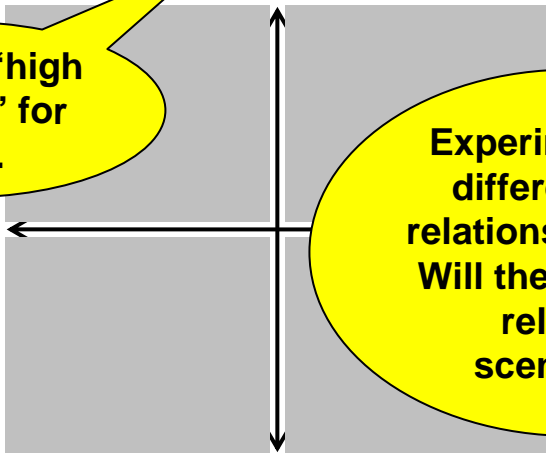
This is the “concept” world we live in....



Try to get “now” in the center.

Find the “high concept” for each.

Experiment with different axes relationships. Ask: Will they produce relevant scenarios?





The Focal Issue for Western Leaders

To what extent can Western states and provinces depend on natural gas to supply our energy needs, particularly for power generation, in an environmentally sound, reliable manner at competitive prices?





Expert Panel Advice

- Understand multiple uncertainties affecting future
- Focus modeling projections to support decision-making
 - Reference Case reflecting current “path” for gas in the West
 - Alternate scenarios reflecting
 - Degree of gas supply enablement
 - Degree of stringency in environmental policy affecting gas consumers
 - Multiple, specific “sensitivity analyses” on key issues/variables
- Integrate power market with gas market
- Account for total North America market



Uncertainties Affecting the Future

- Panel identified ~80 factors impacting future of Western gas
- Major themes shaping scenarios :
 - Carbon policy and environmental legislation
 - LNG development, including world gas markets
 - Timing of arctic developments
 - Coal development
 - Public land policy, including infrastructure development
 - Demand response, including efficiency and renewable technology



Scenario Matrix

Key Variables

- Degree of supply enablement
- Stringency of environmental policy, particularly for demand

