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### **Basin-Center Gas or Subtle Conventional Traps?**

Tight gas plays are an important gas resource of many Rocky Mountain basins and basin-center gas (BCG) models have been proposed to characterize much of this resource. Recent drilling and 3-D seismic results require modifications of the currently accepted BCG models that were first introduced over 25 years ago. Several tight gas plays in the Greater Green River Basin in southern Wyoming are reviewed to illustrate inconsistencies with the prevalent BCG models. The key to future exploration success in the Rocky Mountain region is recognizing the subtle conventional stratigraphic and structural controls of these tight gas plays.

Current BCG models depict a relatively uniform enigmatic pressure seal separating conventional traps with associated down-dip water from "unconventional" traps characterized by anomalous reservoir pressure and lack of associated water. These concepts have led to the misconception of predicting commercial basin-wide gas deposits below a given structural elevation or thermal maturation depth that can lead to predicting overstated reserves and overly optimistic drilling success rates.

New subsurface data have revealed inconsistencies with the established BCG models (presence of down-dip water, subtle fault traps, fracture and stratigraphic controls, etc.). More contemporary BCG models invoke a "sweet spot" concept to highlight the need to identify areas of improved reservoir quality to increase the probability of economically successful results. More recent studies of BCG plays reveal that the primary trap controls are better described as conventional, although subtle, stratigraphic and structural traps.