Overview of Sophisticated Modeling Approaches and Tools for State Economic Analysis					
Method	Tool (Example)	Advantages	Disadvantages	Considerations	When to Use
Input-Output *(also called multiplier analysis)*	IMPLAN	• Quantifies the total economic effects of a change in the demand for a given product or service. • Can be inexpensive.	• Static; multipliers represent only a snapshot of the economy at a given point in time. • Generally assumes fixed prices. • Typically does not account for substitution effects, supply constraints, and changes in competitiveness or other demographic factors.	• Provides rich sectoral detail (NAICS-based). Could be appropriate if the need is to analyze detailed impacts by sector.	• Short-term analysis.
Econometric Models	RAND	• Usually dynamic, can estimate and/or track changes in policy impacts over time. • Coefficients are based on historical data and relationships, and statistical methods can be used to assess model credibility.	• Historical patterns may not be best indicator or predictor of future relationships. • Some econometric models do not allow foresight.	• Important to understand if model is myopic or has foresight.	• Short- and long-term analysis.
Computable General Equilibrium (CGE) Models		• Account for substitution effects, supply constraints, and price adjustments.	• Not widely available at state level. • Most CGE models available at state level are static, although a few are dynamic.	• Important to examine how the energy sector is treated within any specific CGE model.	• Long- term analysis.
Hybrid	REMI	• Most sophisticated, combining aspects of all of the above. • Dynamic, can be used to analyze both short- and long - term impacts. • Can be used to model regional interactions. • Flexibility of looking at 2-, 3-, or 4-digit NAICS sectors.	• Can be expensive, especially if there is a need to analyze impacts on multiple sub-regions (e.g., counties within a state). • Can require a fair amount of massaging inputs, especially with energy sector inputs.	• Important to examine how energy sector is treated. • May need to update default data to account for most recent energy assumptions	• Short- and long-term analysis.