

Essential Information for a Better Understanding World Energy and Environmental Challenges

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Essential issues

- How can we improve our ability to explain and project world energy prices?
- Are the data we are using for developing countries of the world, especially in developing Asia, adequate?
- When might China's strong economic and energy expansion slow?
- What is the true potential for alternative fuels, especially unconventional liquids?
- What technologies will be deployed in the future to help secure worldwide energy supplies? When will they be available?

What Do Policy Makers Need from Modelers?

- Policy-Neutral Reference Case
- Alternative Scenarios Varying Key Assumptions
- Capture Market Behavior—Different Sectors Behave Differently
 - Regionality
 - Fuel specific projections
 - End-use sector consumption estimates (residential, commercial, industrial, transportation, and electric power)
- Time dimension sufficient for the length of the policies evaluated
- Reporting of environmental variables
- Uncertainty in the model projections are illustrated
 - Presentation of alternative scenarios or uncertainty ranges
- Transparency
 - Explicit enumeration of assumptions
 - Documentation of methodology
 - A comparison of previous projections with actual data

What Modelers Need

- Data
 - Need accurate data at the level necessary to represent markets (Regions, fuels, time period, etc.)
- Shared Understanding of How Markets Work
 - Modelers need to be willing to exchange views of how markets work and the alternative methodologies employed (i.e., EMF).
- To Honestly Disclose Model/Approach Limitations
 - Most models were created to address specific questions
 - Disclosure of techniques that drive model results
- To Tailor Model Outputs to Policy Makers Needs
 - Models need to produce results that policy makers think are important (i.e., price impacts, economic impacts, etc.)
 - Model results should be presented clearly and pitched at an educated reader.