

Representation of
Industrial Energy Efficiency Improvement
in Integrated Assessment Models:
Discussion

Duncan Callaway
University of Michigan

Significance of CCE contribution?

- CCE curves *appear* to be an important bottom-up contribution
- CCE sensitivity analysis would confirm this

Long-term simulation results

- 100-year results are probably wrong
 - Not because of what's in the model, but because of what's *not* in the model
- This modeling framework is still great for comparing competing policy options
 - Suggest “opening the model up” to various policy options

Technological Change

- Excellent characterization of *manufacturing* energy intensity
- But there could be enormous changes in demand that the models do not see
 - More durable concrete
 - Changes in automotive industry materials use
- Because steel and cement materials flows through the economy are so enormous, detailed future end-use studies may be warranted.

Fantasy football, or a diversified portfolio?

- Models that predict that the answer is “42” suffer from being *too* precise
 - Makes it difficult to revise results
- Might be better to report results as a range of possibilities
- A transparent methodology for assigning certainty or probability distributions to the results would be useful