

Uncertainty Subgroup ARB Expert Workgroup

June 17, 2010

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Uncertainty and ILUC

- How can uncertainty about the ‘real value’ of ILUC resulting from substitution of biofuel B for (fossil or other) fuel F be described?
- Given a characterization (PDF function, range, table of estimate values, etc.) ‘how big’ is the uncertainty in a given estimate? Across all estimates?
- How can it be reduced?
- How should LCFS implementation accommodate it?

Sources of uncertainty

- Errors and variation in model parameters
- Errors and variety in model structure

Are new model results converging on a narrow range of values?

Task: describe uncertainty in existing models

- Variation among model results
- Modelers' uncertainty reporting
- Inferrable uncertainty for specific models
- Random vs. bias
- Can a probability distribution be constructed?

Reducing uncertainty

- Better models
- More models
- Better data for models
- Selection of “best” models

Most of this work is being done in other subgroups

Task: Policy and implementation options

- The LCFS requires publishing a GWI with infinite precision for each fuel, but our knowledge of the 'real' GWI is imperfect
- Problem 1: what is the best GWI to use within that framework?
- Problem 2: Is there a better framework ARB should consider?

Optimal value for GWI

Elements of choice

Action: Publish a value for a fuel GWI

Maximize: GHG reduction? Forcing? ΔT (as of when)? Social cost?

Factors:

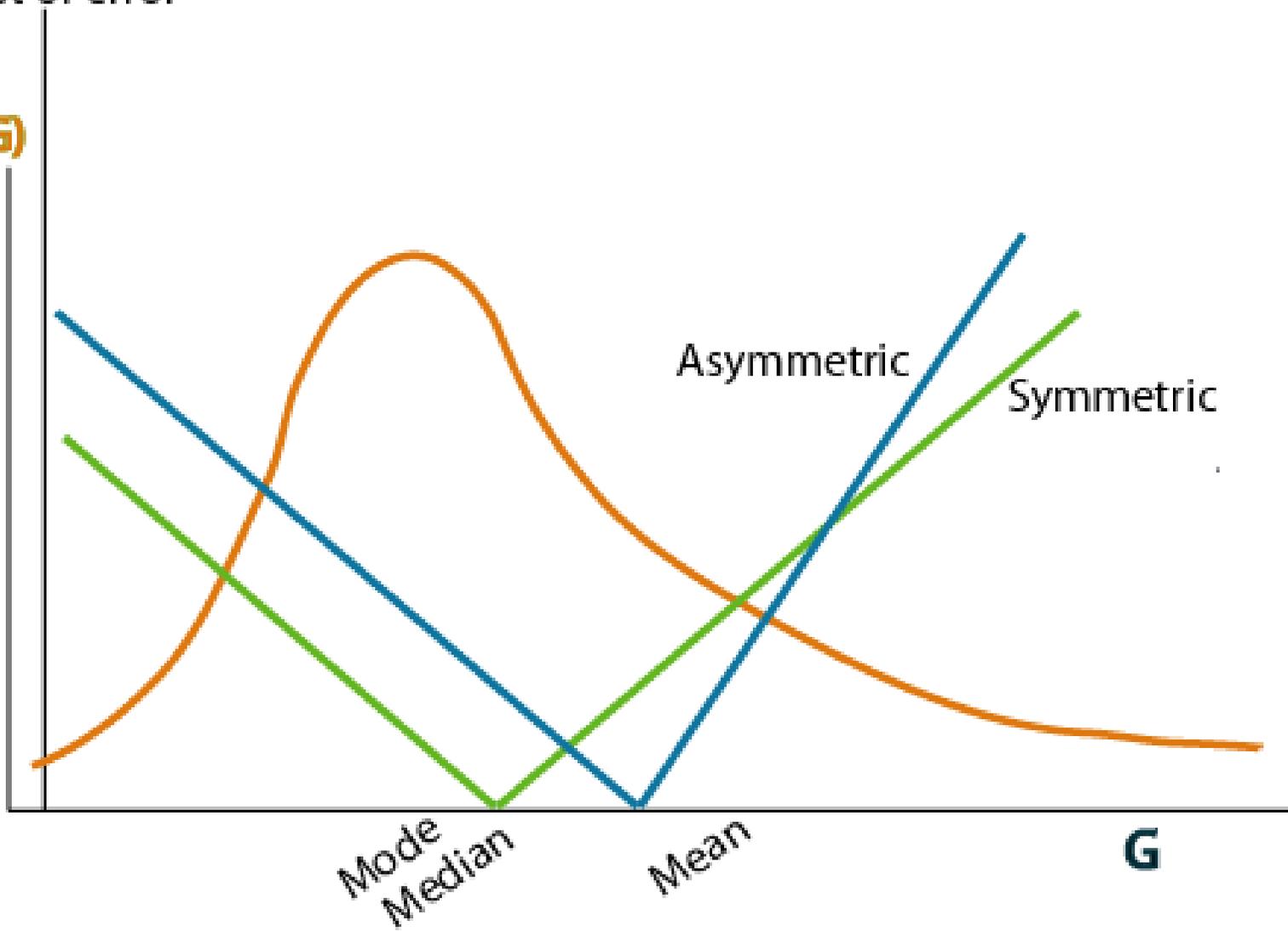
Distribution of GWI^* (real value)

Cost of 'error' $GWI - GWI^*$

The most likely value of GWI^ is not necessarily the optimal value of GWI (safety factor principle).*

Cost of error

$f(G)$



Uncertainty-explicit policy

- Few examples to learn from (Task: review other jurisdictions' practices)
- Policy adaptation as uncertainty is reduced
- Other?