

MGA Bioeconomy and Transportation Working Group Webinar

April 21, 2009

Webinar Objectives

- Agree on BTAG goals for modeling
- Input from group on priority policies and goals for MGA policy scenario runs
- Differentiate between goals and policies to be included in the scenario runs and roadmap

Webinar Agenda

- General discussion and review of BTAG goals
- Discuss priority BTAG goals and policies for modeling and scenario development
- Discuss roadmap development process
- Next steps

Upcoming BTAG meetings

- BTAG Webinar #3 (implementation)
 - Tuesday, May 5th, 10:00-11:30am (CST)
- Joint Tier 2 and GHG Accord advisory group meeting, May 11-12, Minneapolis

Modeling the BTAG Goals in the MGA Scenario Model

Next Steps

- Decide which goals are priorities
- Establish levels of implementation for the policies chosen for baseline scenarios
- Finish vetting the model
- Implement baseline scenarios for advisory group policies
- Do the analysis and write up results in the Roadmap

Choosing BTAG Goals to Model

- List of possible goals to model from POD
- Which are quantifiable?
- Which can be modeled in the MGA Energy Choice Model?
 - Initial model policies here are chosen from the user interface from the MGA Energy Choice Model
 - Some policies or assumptions may need to be programmed into the model, but there may be limited opportunity to do this at this stage in the process

BT - 1.1 Market Pull and Distribution Infrastructure

- **Goal: Create incentives to increase public demand for fuel-efficient, lower-carbon vehicles.**
- **Feebate system**
- **Policy name: NonFederal Vehicle Taxes or Subsidy (Gasoline, Diesel, Electric, Natural Gas)**

- **Goal: Develop incentives for creating fuel efficient vehicles (with the intent of increasing availability in vehicle markets)**
 - **2015 available in 15% of vehicle markets**
 - **2020 available in 20% of vehicle markets**
 - **2025 available in 25% of vehicle markets**
 - **HEV (hybrid electric)**
 - **PHEV (plug-in hybrid electric)**
 - **FCV (fuel cell)**
 - **FFV (flex – fuel)**

- **Comments:**

- vehicle portion of the model is fuel-demand-driven
- vehicles are provided to meet demand for different types of fuel
- no constraints based on availability of infrastructure to distribute or combust fuel
- not possible in the model to directly model the impact of policies to increase availability of low-carbon vehicles (or other infrastructure like retail, distribution infrastructure, etc)
- model structure assumes that sufficient vehicles/retail/distribution will be available to satisfy fuel demand.

- **Further Comment:**

- Model does allow you to specify a mandate for specific levels of carbon/mile in new fleet cars
- a use mandate, because the model assumes that these cars will be used in the proportion specified in the mandate to achieve the carbon/mile level.

- **Policy name: NonFederal Clean Car Standard (not an incentive, but a mandate)**
 - UNIT: gram/mile
 - DESCRIPTION: NonFederal Clean Car Standards is a state or regional policy mandating a vehicle emission efficiency level.
 - USE: Used to alter the vehicle emission efficiency of new vehicles entering the system. Also indirectly increases the cost of new vehicles.
 - SUBSCRIPT USED: Engine Fuel Type

- **Goal:** Adopt retail tax incentives to encourage retailers to sell biofuels, advanced transportation fuels and bio-based products
 - 2012 Advanced Cellulosic and other LC transportation fuels commercially produced
 - 2015 E85 at 15% of filling stations
 - 2020 E85 at 20% of filling stations
 - 2025 E85 at 33% of filling stations

- **Comments:**

- model can't directly model the impacts of infrastructure limitations on use and adoption of fuels, or the impacts of relaxing those limitations through policies such as this one (i.e. through increased availability of ethanol fueling stations.)
- it would reflect the impact on demand of tax incentives that lower the cost of ethanol relative to other fuels.
- this would be reduced taxes on the fuel, rather than reduced taxes on operations that carry that fuel.

- **Policy name: NonFederal Fuel Energy Based Taxes or Subsidies**

- UNIT: Dollar/Trillion BTUs

- DESCRIPTION: NonFederal Fuel Energy Based Taxes or Subsidies is a state or regional policy to tax or subsidize consumer fuel on an energy basis.

- USE: Used to increase the price of fuels thus increasing levelized average vehicle costs for some vehicle engine types and it reduces fuel demand through demand elasticity impacts on VMT.

- **Goals:**

- **Increase the blend level from 10% in non-flexfuel vehicles to 15% to 20%**
- **2025: a blend of 30% ethanol will be included in every gallon of gas (needed to meet the current RFS.)**

BT – 1.2 GHG Intensity of Fuels

- **Goals:**
 - **Overall intensity reduction should be at least 10 percent within 10 years after implementation by Midwestern jurisdictions**
 - **Commercialization and adoption of very low carbon fuels**

- **Policy name: NonFederal Low Carbon Fuel Standard Below the Baseline**
 - UNIT: Fraction
 - DESCRIPTION: NonFederal Low Carbon Fuel Standard is a state or regional carbon intensity cap above or below the baseline carbon intensity assumption.
 - USE: Used to calculate the Metric Tons CO₂e/Trillion BTUs cap. Fuel blending decisions are altered to be in compliance with this policy.

BT – 1.3 Increase Vehicle Fuel Efficiency

- **Goals:**
 - Reduce emissions from on-road engines/vehicles by at least an additional 15% by 2020 from current adopted baseline policies through more efficient technologies and operations (Off-road transportation by 50% in 2025.)
 - Reduce transportation GHG emissions by 10% through education to promote intelligent transportation purchasing choices and vehicle operation.

- Policy name: NonFederal CAFE Standards
 - UNIT: miles/gallon
 - DESCRIPTION: NonFederal CAFE Standards is a state or regional policy mandating a vehicle fuel efficiency level.
 - USE: Used to alter the vehicle fuel of new vehicles entering the system. Also indirectly increases the cost of new vehicles.
 - SUBSCRIPT USED: Engine Fuel Type

BT – 2.1 and 2.2 Vehicle Miles Traveled

- **Goal: Pay-as-You-Drive – Assume market penetration of PAYD insurance of 25% in 2015 and 50% by 2025**
- **Possible ways model this policy:**
 - **Policy name:** Use pay as you drive insurance
 - **Comment:** Either on or off, does not set market penetration goal

BT – 2.1 and 2.2 Vehicle Miles Traveled

- **Goal: VMT reduction goal 50% from baseline 2005 to 2050**
 - 18% by 2020, 35% by 2035, 50% by 2050
- **Possible ways model this policy:**
 - **Policy name:** NonFederal VMT Reduction Spending (Transit, Bike Lane, Vanpools)

BT – 3.1 Increase Regional Research Collaboration

- **Goals:**
 - **By 2025: Average fossil fuel inputs in the production of conventional biofuels in the region will be reduced by at least 50 percent.**
 - **By 2025: At least 50 percent of all transportation energy consumed in the region will be supplied by regionally produced biofuels and other low-carbon advanced transportation fuels, with the expectation that a significant and additional portion of the region's biofuel production will help the U.S. meet a national 25 x' 25 goal.**

- **Comment:**

- difference between the intent of this policy and the RFS is the focus on “regionally produced”.
- ramp up the RFS and restrain imports of low-carbon fuels to meet that RFS
- model structure suggests that imports of non-traditional fuels are possible - not sure under what conditions, if any, the model would assume import of ethanol versus regional production of ethanol
- it may be that the model doesn't really capture that dynamic yet and that, functionally, all biofuels used to satisfy an RFS are regionally produced, in which case this policy behaves exactly the same way as an RFS.

BT – 5.1 Perennial Biomass Supply

- **Goals:**
 - Develop and expand state programs and leverage federal programs and incentives that encourage landowners to grow perennial crops and supply products to bioenergy plants. Emphasize cellulosic biofuel.
 - Implement voluntary land use tools and incentives that minimize the land use conversion

- Biomass Crop Assistance Program
 - Pays producers up to 75% of costs of planting, annual payments to help compensate for lost opportunity costs
 - Cost-share payments for collection, harvesting, storage and transportation costs to match biomass sale price
- Policy name: Federal Fuel Feedstock Subsidy

6.1 Bioeconomic Wealth Creation

- **Goal: By 2012, establish a fund to provide \$50 million in underwriting for capital improvements to existing fuel ethanol facilities in the Midwest that develop key technologies that best leverage Midwestern intellectual capital and other assets in the bioeconomy.**
- **Policy: ??**

Next Steps

- Decide which goals are priorities
 - Are we missing any?
 - Should we not include some in modeling?
- Establish levels of implementation for baseline scenarios
- Finish vetting the model
- Implement baseline scenarios for all advisory group policies

Roadmap

- Write up scenario results in Roadmap
- Internet survey forthcoming to address content of the Roadmap and possibly more fine-tuning of the baseline policies