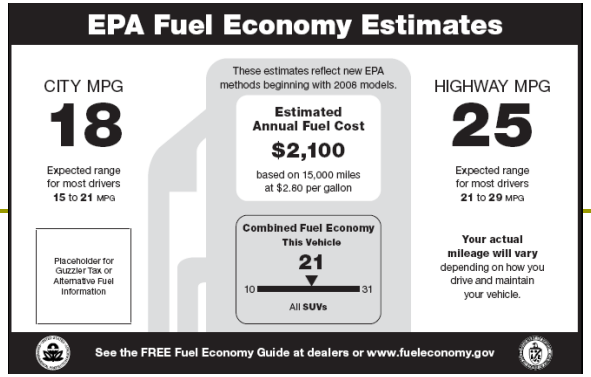
Fuel Economy Label Proposal

October 5, 2010

Background



- *Develop a new fuel economy label that helps consumers choose more efficient and environmentally friendly vehicles*
  - Develop new labels for advanced technology vehicles (PHEVS and EVs) and update current label (conventional)
  - Propose additional label information beyond MPG and annual fuel cost
  - Propose one label that meets both NHTSA and EPA statutory requirements

Statutory Obligations

New Fuel Economy Label Metrics Under Consideration **Includes Primary EPA Requirements under the Energy Policy and Conservation Act (EPCA)** 49 USC 32908(b)	**New Label Requirements** **NHTSA Requirements under the Energy Independence and Security Act (EISA)** 49 USC 32908(g)
Label affixed to all new vehicles sold in the U.S.	Label to be affixed to all new vehicles sold in the U.S.
Fuel Economy and potentially consumption Estimated fuel cost and potentially savings	Vehicle performance information: 1. Fuel economy 2. Greenhouse gases 3. Other emissions over the useful life of automobile
Greenhouse gas value and/or environmental emissions rating	Rating system to allow for vehicle comparison, including: 1. Highest fuel economy 2. Lowest GHG emissions

32908(g) also requires NHTSA to develop a consumer education campaign, and that EPA develop the criteria that NHTSA will use for the vehicle performance information.

EPCA also requires gas guzzler tax and other info.

Key Elements of Joint Proposal

- EPA and NHTSA Co-proposing two labels
- All Labels include the following
  - Fuel economy, annual fuel cost, and fuel consumption (gal/100 mi)
  - CO2 emissions (grams/mile)
  - Ratings across all vehicles for: fuel economy, CO2, and other emissions
  - Fuel economy of comparable vehicles
  - Reference website with additional data and tools to customize for individual consumer
  - Smartphone interactive tool
- Advanced Technology Labels
  - Range for EVs and PHEVs
  - For PHEVs, show information reflecting all-electric, blended (electric + gasoline), and gasoline-only operation
  - Propose Mpg-equivalent, instead of mpg-gasoline + kw-hr electricity
  - Tailpipe only emissions – electric operation reported @ 0 grams CO2/mile

Proposal Supported by Market Research and Public Input

- Stakeholder Input
- Market Research
  - Focus Groups
    - 2 groups per city: Atlanta, Chicago, Seattle, Houston
    - 3 phases in each city
      - Current label and purchase process, new metrics
      - Metrics for advanced technology vehicles
      - Bringing it all together
  - Expert Panel
  - On-Line Survey
    - underway
- Public Participation
  - Comments
  - Hearings

Stakeholder Input

- Comments received as part of light duty vehicle GHG/CAFE rule
  - Support for label undergoing revisions
    - Additional metrics beyond MPG supported
    - Entry of PHEVs/EVs require new metrics but must be simple and understandable for consumers
    - Selected metrics for label should allow for direct consumer comparison of conventional and advanced technology vehicles
      - E.g., annual fuel cost and GHG metric
  - But--no consensus on overall label approach or specific metrics

Focus Groups: Key Findings

- Create immediate first impression
- Clearly identify vehicle technology (conventional, EV, PHEV)
- Be easy and quick to read and understand
- Utilize color
- Chunk information to allow people to deal with "more information"
- Be consistent in content and design across technologies
- Allow for comparison across technologies
- Make it easy to identify the most fuel efficient and environmentally friendly vehicles

Participants Want:

For Conventional Vehicles

- City/Hwy MPG separately
- OK to add Consumption metric (such as Gal/100 miles)
- Annual Cost

For EVs and PHEVs

- Cost, MPG or MPGe information (not kw-hrs)
- Comparison information across all technologies
- Electric driving range & battery charging time

Expert Panel Recommendations

- Draft labels were not "designed;" they were negotiated
  - Rejected working drafts developed by focus groups
- Consumers
  - Like it simple (Fewer, bigger, better)
  - Don't act on details
  - Respond to emotional appeals
- Content
  - Remember reality of very short label viewing time
  - Divide into 'above the fold' (simple) and 'below the fold' (details)
- Recommended Label elements
  - Use letter grade score - include explanation of elements included in the grade
  - Use URL that incorporates a message
  - Include a Smartphone interactive (QR code)
  - Use cost savings information- a strong motivator
  - Include all legal requirements

Label Methods and Assumptions

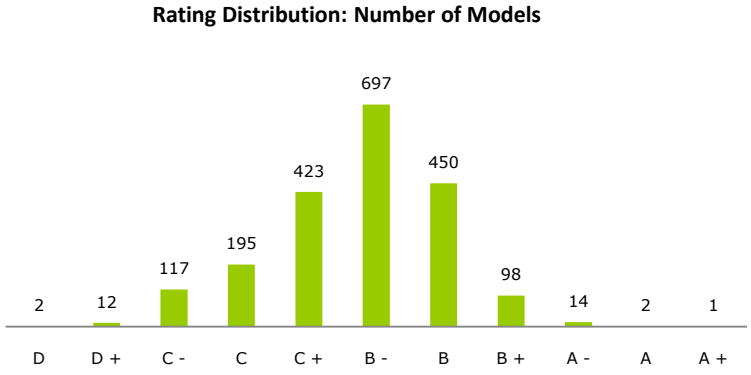
- Values for energy consumption, fuel economy, and CO2 emissions
  - Rely on the standard federal test procedures that are used today for fuel economy labeling
    - Electric vehicles use the same procedures, except they are tested until the battery is empty
    - Plug-in hybrids are tested under two sets of conditions: full battery and empty battery
      - Values for each condition can be merged using a "utility factor," which combines the two values based on the percentage of miles the vehicle is expected to spend in each condition
      - Seeking comment on which values to present on the labels
    - MPGequivalent provided for electric operation, to allow comparison across vehicles
      - Conversion from kw-hrs to MPGe based on 33.7 kw-hrs/gallon
- Values for fuel cost
  - Assume 15,000 annual miles, national average fuel costs for gasoline, diesel, and electricity
    - Example labels assume $2.80/gallon, 12 cents/kw-hr—will be updated annually
      - Will be updated annually based on projections from DOE
    - Consistent with current approach for fuel cost values on the label

Label 1: Overall Letter Grade

- Based on tailpipe CO2/fuel consumption
  - Directly reflects environmental goal—Each grade reflects same CO2 increment
  - Relatively stable system over time--grading scale will change with median vehicle
  - Current fleet mix yields a bell-shaped curve
- Any vehicle type is eligible to earn any grade
  - No limitations based on vehicle class, fuel type, or technology type
  - Using + and – gives more information to the consumer

Rating Distributions

Based on 2010 data plus anticipated 2011 EVs and PHEVs



	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
small car	1	2	8	71	215	306	79	57	30	2	
midsize car			6	5	79	92	43	6	8		2
large car					11	31	41	10	13	6	
minivan					2	9	18		2		
pickup					2	30	56	52	9		
station wagon				12	75	65	12				
SUV				8	68	167	166	68	45	4	
van							4	2	10		

Letter Grade

	CO2 g/mi	MPGe	Sample Vehicles
A+	0-76	117 and up	Nissan Leaf (projected)
A	77-152	59-116	Chevy Volt (projected), Toyota Prius PHEV (projected)
A-	153-229	40-58	Toyota Prius, Honda Civic Hybrid, Ford Fusion Hybrid
B+	230-305	30-39	Nissan Altima Hybrid, Ford Escape Hybrid, Honda Civic, Toyota Yaris, Toyota Corolla, Chevy Cobalt, VW Golf
B	306-382	24-29	Hyundai Elantra, Nissan Sentra, Ford Focus, Toyota Scion, Mazda Tribute, Toyota RAV4, Nissan Cube, Toyota Matrix, Toyota Camry, Chevy HHR, Honda Accord, Ford Fusion, Jeep Patriot, Pontiac G6, Chrysler Sebring
B-	383-458	20-23	Mazda 5, Nissan Rogue, Mitsubishi Eclipse, Toyota Avalon, BMW 328i, Chevy Impala, Chevy Silverado Hybrid, Hyundai Santa Fe, Mitsubishi Lancer, Porsche Boxster, Subaru Forester, Toyota Tacoma, Honda Odyssey, Toyota Highlander
C+	459-535	18-19	Acura MDX, , BMW X3, Dodge Caravan, Ford Crown Vic, Cadillac CTS, Buick LaCrosse, Chrysler Town and Country, Ford Mustang, Honda Pilot, GMC Canyon, Kia Sedona, Jaguar XJ, Mitsubishi Eclipse, Toyota 4Runner, GMC Sierra, Ford Ranger, Toyota Sienna, Chevy Tahoe, Jeep Grand Cherokee
C	536-611	16-17	BMW 750i, Chevy Corvette, Ford Explorer, Ford F150, Toyota Tundra, Aston Martin DB8, Dodge Charger
C-	612-688	14-15	Chevy Express, Land Rover Range Rover, Lexus LX 570, Maserati Quattroporte, Nissan Titan, BMW M5
D+	689-764	13	Ferrari Fiorano, Mercedes-Benz Maybach
D	765 and up	12 and down	Ferrari Scaglietti

Co-Proposal: Label 1

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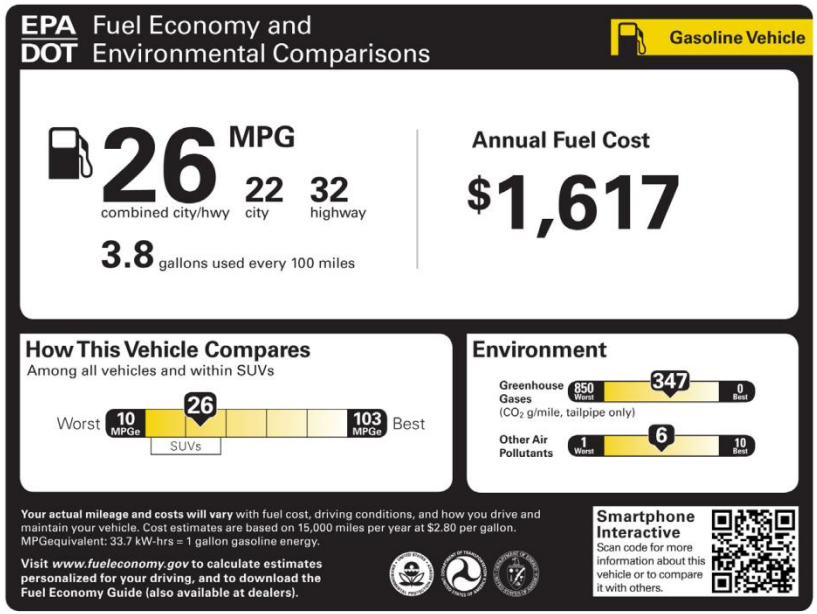
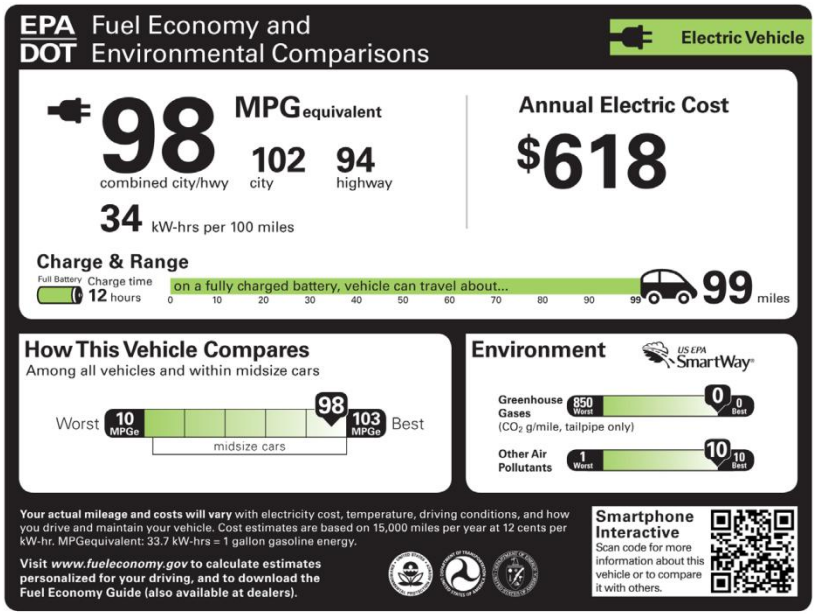
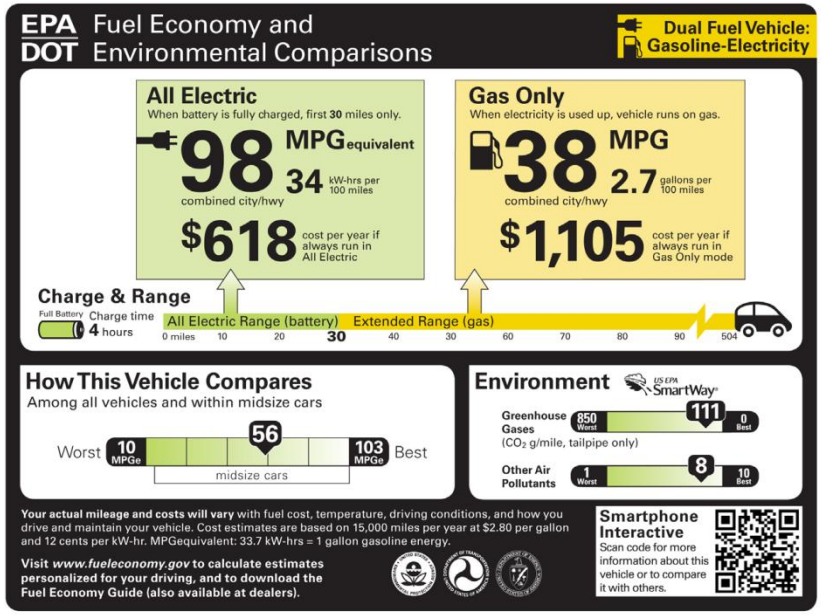
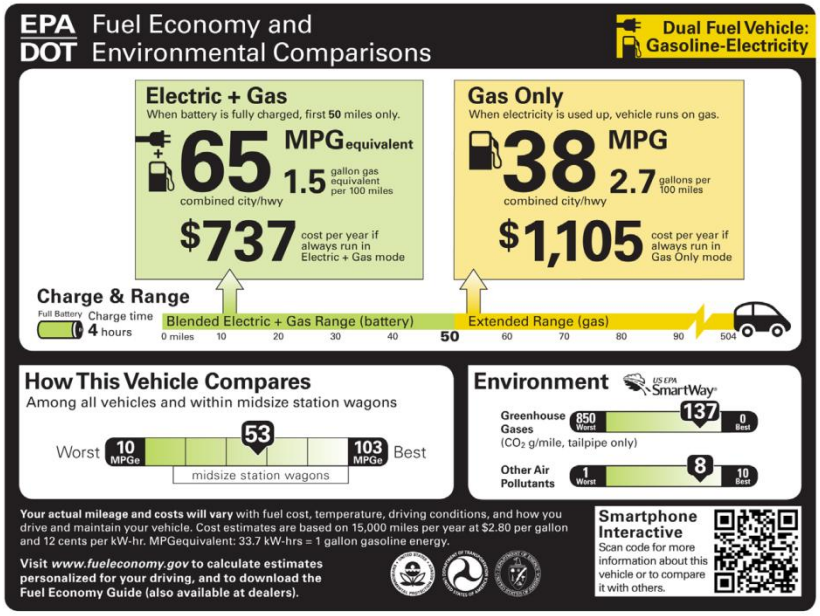
Co-Proposal: Label 2









Alternative Label