#### ORAL ARGUMENT NOT YET SCHEDULED

#### No. 09-1237

#### IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

#### CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, et al., Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, et al. *Respondents*.

On Petition for Review from a Decision of the United States Environmental Protection Agency 74 Fed. Reg. 32,744 (July 8, 2009)

#### FINAL BRIEF OF AMICI CURIAE CAR DEALERS ADAM D. LEE AND CHARLES E. FRANK IN SUPPORT OF RESPONDENTS

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#### CERTIFICATE AS TO PARTIES RULINGS AND RELATED CASES

#### A. Parties and Amici

All of the parties, intervenors, and *amici curiae* appearing before this Court are listed in Respondent's Opening Brief.

#### **B.** Rulings Under Review

A statement of the rulings under review appears in Respondents' Opening

Brief.

#### C. Related Cases

A statement of related cases appears in Respondent's Opening Brief.

DATED: November 10, 2010

Respectfully submitted,

STEPHEN F. HINCHMAN MATTHEW F. PAWA

By <u>/s/ Stephen F. Hinchman</u> STEPHEN F. HINCHMAN

Counsel for *Amici Curiae* Adam D. Lee and Charles E. Frank

#### RULE 26.1 CORPORATE DISCLOSURE STATEMENT OF ADAM D. LEE, PRESIDENT OF LEE AUTO MALLS

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure, amicus

curiae Adam D. Lee, President of Lee Auto Malls, states that no parent or publicly

held corporation owns 10 percent or more of Lee Auto Mall stock.

DATED: November 10, 2010

Respectfully submitted,

STEPHEN F. HINCHMAN MATTHEW F. PAWA

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# GLOSSARY

California standards	California's greenhouse gas emission standards for new motor vehicles, 13 Cal. Code Regs § 1961.1 <i>et seq</i> .
Chrysler	Companies of the Chrysler Group, LLC, including Dodge, Jeep, Chrysler and Ram.
CO2	Carbon Dioxide
EPA	United States Environmental Protection Agency
Floor planning	A loan that is secured by merchandise and paid off as the goods are sold, usually given by manufacturers to a retailer or dealership.
Frank	Charles E. Frank and the Z. Frank Chevrolet Dealership
GHG	Greenhouse Gas or Greenhouse Gasses
GM	General Motors
Lee	Adam D. Lee and the Lee Auto Mall family of Dealerships
MPG	Miles Per Gallon
MY	Model Year
NADA	National Automobile Dealers Association
National Program	EPA and NHTSA's combined national GHG emissions and fuel economy standards for new motor vehicles, 49 C.F.R. Parts 531, 533, 536, 537 and 538.
NHTSA	National Highway Transportation Safety Administration
Section 177 States	States that have adopted California emission standards for new motor vehicles pursuant to Section 177 of the Clean Air Act, 42 U.S.C. § 7507.

Pursuant to this Court's scheduling order, Adam D. Lee and Charles E. Frank respectfully submit this *amici curiae* brief in support of respondent U.S. Environmental Protection Agency ("EPA").

#### **IDENTITY AND INTERESTS OF THE AMICI**

Adam D. Lee is President of Lee Auto Malls, a third-generation family run business, founded in 1936, that owns car dealerships throughout Maine. Lee Auto Malls ("Lee") includes two Chrysler-Dodge-Jeep-Ram ("Chrysler") dealerships, a General Motors ("GM") dealership, Honda, Nissan, and Toyota dealerships, and six used car dealerships. Lee is the state's largest Jeep dealer and, overall, sells approximately 7,000 new and used cars a year, making it one of the top-selling vehicle dealerships in the state.

Charles E. Frank ("Frank") is the former owner of Z Frank Chevrolet in Chicago, Illinois. Over the course of Frank's thirty-three year career, Frank sold well over one million Chevrolet vehicles – often ranking among the top-selling Chevrolet dealers in the nation – and his businesses have included two Chevrolet dealerships and Oldsmobile, Volkswagen, Mazda, Kia and Hyundai dealerships. At the time of its sale in July 2008, Z Frank Chevrolet sold an average of 16,000 new cars a year in the retail and fleet markets.

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Although long-time members of the National Automobile Dealers Association ("NADA"), Lee and Frank<sup>1</sup> do not support NADA's Petition for Review of EPA's grant of a Clean Air Act § 209(b) waiver for California's greenhouse gas ("GHG") emission standards for new motor vehicles ("the California standards"). Based on an analysis of their businesses, Lee and Frank have concluded that GM and Chrysler's loss of market share at their dealerships and nationwide – much of which occurred during a period of record car sales – was and continues to be due to consumer demand for cleaner and more efficient vehicles. Lee and Frank have testified in various hearings before Congress, the EPA, and the National Highway Traffic and Safety Administration ("NHTSA") that new standards are needed to reduce GHG emissions *and* to improve automobile sales and profits at their current and former dealerships.

#### STATUTES AND REGULATIONS

Applicable statutes and regulations are contained in Petitioners' Opening Brief, except for Section 177 of the Clean Air Act, 42 U.S.C. § 7507, which is in Attachment 1.

<sup>&</sup>lt;sup>1</sup> Frank's NADA membership ceased with the sale of his dealerships.

#### **SUMMARY OF ARGUMENT**

The California GHG standards have benefited, not harmed the U.S. automotive industry. By requiring development and production of cleaner and more efficient vehicles, the California standards have resulted in increased vehicle sales, and thus profits, during what has otherwise been the greatest period of crisis in the history of the industry.

To the extent that Petitioners' members have suffered harms, those injuries are not traceable to the California standards. Nor would vacating the California standards redress Petitioners alleged injuries. The third-party automakers, both domestic and international, that are the object of the California standards are now well into production of an entirely new generation of low-polluting and highlyefficient vehicles demanded by the marketplace and by similar federal standards that begin in model year ("MY") 2012. Given the costs and lead time required to take new vehicles to market, no decision by this Court regarding the California standards would alter this welcome and long overdue trend.

#### ARGUMENT

Petitioners' members – new vehicle dealers and associated auto industry businesses – lack all three essential elements of standing to bring this case. They are benefited, not injured by the California standards; any harms they may have

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suffered are traceable to the economic crisis facing the auto industry not to the California standards; and, given the fundamental and comprehensive realignment of the industry in just two short years, no decision by this Court will provide Petitioners redress.

Petitioners assert standing based upon three distinct injuries allegedly caused by the California standards: (1) injuries that may occur prior to implementation of EPA and NHTSA's combined national GHG emissions and fuel economy standards (the "National Program") in 2012; (2) injuries that may occur between 2009 and 2016 in six states that have not yet updated their regulations to adopt California's 2010 amendments to the California standards; and (3) the potential that prospective future amendments to the California standards will not be subject to a "full waiver analysis" by EPA. *See* Petitioners' Opening Brief, at 22-27.

None of these assertions meets the standing test, but the last two are facially deficient as a matter of law. Regarding the last claim, standing requires an injury in fact which is actual or imminent, not conjectural or hypothetical. *Lujan v*. *Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). A claim that a *potential future* amendment to the California standards *may* not be subject to a full § 209(b) waiver analysis fails this test twice over and cannot be evaluated by this Court.

The second assertion, that the EPA waiver authorizes enforcement of a patchwork of disparate emission standards in six states through 2016, is also

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legally unsupportable. Section 177 of the Clean Air Act exempts states from federal preemption only if they adopt and enforce emission standards that are "identical" to the California standards for each model year. 42 U.S.C. § 7507. California has amended its standards to (a) accept compliance with the National Program for MY 2012 to 2016 as compliance with the California standards, and (b) to allow automakers the option of achieving compliance in MY 2009 to 2011 based on the pooled average for fleets sold in California and the Section 177 states. See 13 Cal. Code Regs. \$ 1961.1(a)(1)(A)(i)-(ii) (2010). It is well established that states opting-in to the California standards must update their standards to reflect changes in California's standards for each model year. See Ass'n of Int'l Auto. *Mfrs.*, *Inc.*, *v. Mass. Dep't of Envtl. Prot.*, 208 F.3d 1, 8 (1st Cir. 2000) (states cannot enforce non-identical standards); Am. Auto. Mfrs. Ass'n v. Cahill, 152 F.3d 196, 200-01 (2d Cir. 1998) (same). Since the EPA waiver does not authorize enforcement of non-identical standards and since Petitioners do not claim to be injured by EPA's grant of a waiver to enforce the California standards in MY 2012 through 2016 in California or in states that have adopted identical standards as California, Petitioners can claim no injury for MY 2012 or beyond.

Petitioners' sole remaining assertion of injury is that enforcement of the California standards for MY 2009 through 2011 will force manufacturers to alter the mix of vehicles delivered to dealers or increase the cost manufacturers charge dealers for vehicles that are delivered, thereby affecting the dealers' inventories, sales, prices and/or profits.

Petitioners must not only verify that the above alleged harms are actual or imminent, but also that they are traceable to the challenged standards and redressable by a favorable decision from this Court. *Lujan*, 504 U.S. at 560-61. Because the California standards regulate third-party automakers and not

Petitioners' dealer members,<sup>2</sup>

[t]he existence of one or more of the essential elements of standing "depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict," and it becomes the burden of the plaintiff to adduce facts showing that those choices have been or will be made in such manner as to produce causation and permit redressability of injury.

Id. at 562 (internal citations omitted).

Petitioners have failed to meet this burden.

#### A. The California Standards Have Benefited New Vehicle Dealers.

First, Petitioners' have failed to even allege that their members face actual or

imminent injury. Lujan, 504 U.S. at 560. Allegations that the California standards

will cause injury-in-fact "if" the standards force a manufacturer to alter the mix of

<sup>&</sup>lt;sup>2</sup> See 13 Cal. Code Regs § 1961.1(a)(1) (2010) (compliance the California standards are based on manufacturer compliance with fleet average requirements).

vehicles it delivers to dealers, or that the standards "*may*" limit dealers' ability to stock certain vehicles,<sup>3</sup> are mere conjecture and are particularly unavailing here since Petitioners failed to aver that such an impact actually occurred during MY 2009 – which is complete – or that it is likely or imminent in MY 2010 or 2011. Lee and Frank agree with Respondent that, based on historic changes in consumer demand and market conditions, sales of compliant vehicles have substantially increased since 2008, providing manufacturers with excess credits and enabling them to comply with the California standards through MY 2011 without altering their product lines, if they so chose. *See* Respondent's Opening Brief, at 20-21.

Second, Petitioners' attempt to show harm based on studies and forecasts produced early in the administrative record, *see* Petitioners' Opening Brief at 23, wholly ignores that the automotive industry has since entered into the worst economic crisis in its history.<sup>4</sup> Chrysler is in bankruptcy; GM has survived only due to a federal bailout; and Ford has lost billions of dollars in reserves. Corporate leadership has been replaced, whole brands – Oldsmobile, Hummer, Saturn, Plymouth, Pontiac, and Mercury – have been eliminated, vehicle and engine lines

<sup>3</sup> See Petitioners Opening Brief at 24.

<sup>&</sup>lt;sup>4</sup> While Petitioners argue standing can only be evaluated based on the circumstances as of their petition to this court on Sept. 8, 2009, that was a year into the collapse of the auto industry. Thus, Petitioners have failed to show injury, traceability or redressability as of any date. Regardless, a case can also become moot if standing disappears as the case progresses. *See Arizonians for Official English v. Arizona*, 540 U.S. 43, 68 n.22 (1997).

changed, factories closed, inventory liquidated, and dealerships unilaterally eliminated by their parent manufacturers. The implosion of the industry has nothing to do with the California standards but rather is due to wholly separate and independent factors ranging from health care costs, to pensions, union contracts, rising fuel prices, changes in consumer demand, collapse of the credit market, and the onset of a severe national recession.

If anything, the evidence – whether based on sales at the Lee and Frank dealerships, national sales, or published studies – shows that by requiring development of cleaner and more efficient cars and trucks, the California standards have resulted in more popular vehicles and increased sales, thereby mitigating the economic losses that new car dealers, including Petitioners' members, would otherwise have suffered.<sup>5</sup>

For example, a recent EPA study shows that beginning in 2005, higher fuel prices began to reverse the two-decade-long trend of rising national fleet average GHG emissions and fuel consumption.<sup>6</sup> National sales data confirm Lee and Frank's first-hand observations, *infra* at 2, that during this period sales of low-mpg domestic brands (Ford, GM, and Chrysler) steadily dropped while sales of high

<sup>5</sup> See, e.g. Respondent's Opening Brief at 19.

<sup>&</sup>lt;sup>6</sup> See EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2009, EPA420-R-09-014, at 5, 23 (Nov. 2009) (Attachment 2).

efficiency vehicles from the "new domestics" (Toyota, Honda, Nissan, Hyundai-Kia) increased.<sup>7</sup> In response, Ford, GM and Chrysler have changed their business models to regain market share by improving the efficiency of their larger vehicles and engines, and by introducing more high efficiency cars and hybrids – the very vehicle fleets required by the California standards.<sup>8</sup>

Recent studies modeling the economic impact of higher emissions and fuel economy standards confirm both that Detroit's product portfolio became "misaligned" with the market with regard to emissions and efficiency over the last decade;

The business model [the Detroit 3] have followed since the 1970's is clearly broken. Reliance on gas-guzzling SUVs and large cars for domestic profit was risky in several ways. Cutting prices to offset gradually rising gasoline prices from 2000 through 2006 while spending billions to engineer the next generation of these vehicles left GM and Chrysler with no margin for error. There never was a high volume international market for SUVs and the large cars the Detroit 3 automakers became dependent upon, so when the price of gasoline soared in 2008 and the domestic market for them collapsed, the Detroit 3 automakers could not avoid the worst of the downside.<sup>9</sup>

<sup>7</sup> See, e.g., Wall St. J., Auto Sales Market Data Center; U.S. Market (Aug. 2010) (Attachment 3).

<sup>8</sup> See, e.g., C. Thompson, GM crafts lineups for next spike at the pump, Automotive News (Aug. 9, 2010); J. LaReau, Ford goes green, small, high-tech, Automotive News (Aug. 2, 2010); B. Wernle, Chrysler Product Plan: Tweaks, then tidal wave, Automotive News (July 26, 2010) (Attachment 4).

<sup>9</sup> W. McManus, R. Kleinbaum, *Fixing Detroit: How Far, How Fast, How Fuel Efficient*, U. of Mich. Transp. Research Inst. 2009-26, at 30 (June 2009) (Attachment 5).

and that higher efficiency and emissions standards (such as the California

standards) would benefit, not harm the industry:

... Because Detroit 3 automakers have long underestimated the consumer value of fuel economy, raising fuel economy standards would not cost more than consumers would be willing to pay. We found that an industrywide mandated increase in fuel economy of 30% to 50% would increase Detroit's gross profits by roughly \$3 billion per year, and [] increase sales by the equivalent of two large assembly plants.<sup>10</sup>

In sum, Petitioners are benefited, not injured by the California standards.

# **B.** Petitioners Have Failed To Show That Their Alleged Injuries Are Caused By The California Standards.

As noted above, the collapse of the auto industry has forced manufacturers to fundamentally change their business models for reasons wholly independent of the California standards. Today, virtually all manufacturers are working diligently to produce new high efficiency vehicles and engines, to alter their product mix to include more smaller vehicles, and to incorporate new fuels and technologies. As part of this change, manufacturers have also eliminated or sold brands, dramatically reduced inventory, closed dealerships, and revised credit terms, etc.

<sup>&</sup>lt;sup>10</sup> Id. See also id. at 6 (other automakers also benefit from higher standards, but to a lesser degree because their fleets start with a higher baseline); Citigroup Global Market Reports, Oct. 13, 2009, Respondent's Opening Brief at Attachment 1 (automakers will benefit by building vehicles to higher standards).

Petitioners have not and cannot meet their burden to show that manufacturers have made these changes due to the California standards and not for independent reasons based on other business factors. *See Bennett v. Spear*, 520 U.S. 154, 169 (1997) (injury not traceable to defendant if it "the result of the independent action of some third party not before the court").

To take just one example, since the car sales crash of 2008, virtually all automakers have abandoned their decades-old practice of overproducing cars and relying upon incentives to move inventory. This newfound discipline avoids overcapacity costs, increases profit per vehicle, and allows manufacturers to focus limited resources on high-demand vehicles. It is this new business model, combined with significantly reduced credit terms for dealer floor planning – and not the California standards – that has limited dealers' ability to stock vehicles in highest demand and that is increasing the price of those vehicles.<sup>11</sup>

In sum, Petitioners have failed to show that their alleged injuries are fairly traceable to the California standards and not the result of independent actions by manufacturers.

<sup>&</sup>lt;sup>11</sup> See, e.g., T. Keith, *Dealers Beg for Cars as Automakers' New Discipline Curbs Sales*, Bloomberg (Aug. 11, 2010); S. Ryst, *Car dealers make most of less on their lots*, Washington Post (Aug. 12, 2010) (Attachment 6).

#### C. Petitioners Have Failed To Show That Their Alleged Injuries Are Redressable by a Favorable Judicial Ruling.

Since the California standards have not caused Petitioners injury, a favorable judicial ruling, by definition, could not provide relief. Moreover, the ongoing transformation of the industry is so broad and deep as to be virtually impervious to any ruling by this Court regarding the California standards.

For example, in EPA's and NHTSA's Detroit hearings regarding the

National Program, Sue Cischke, Group Environmental and Safety Engineering for

Ford Motor Co., testified that Ford has begun executing a long-term sustainability

plan to match the fundamental change occurring in the marketplace, including

converting three truck and SUV plants to build small cars, re-tooling our powertrain facilities to manufacture EcoBoost engines and more advanced six-speed transmissions, leveraging our global platforms, increasing our hybrid offerings and moving forward with an aggressive electrification strategy. While there are significant costs in making this transformation, it is the right thing to do for our customers, and you will continue to see us offer more great products with advanced, innovative technologies to improve the fuel efficiency of our vehicles and to deliver outstanding quality and features that our customers desire.<sup>12</sup>

<sup>&</sup>lt;sup>12</sup> EPA/NHTSA Joint Public Hearing Transcript, Detroit MI, EPA-HQ-OAR-2009-0472-6185, at 13-14 (Oct. 21, 2009) (hereinafter as "Detroit Hearings") (Attachment 7).

Given the costs and lead times required to get new products from the drawing board to the production line to market,<sup>13</sup> as well as the early credit option in the National Program, *see* 40 C.F.R. § 86.1867–12 (providing CO2 credits for sales of compliant 2009-2011 model year vehicles), there is no realistic chance that an order from the Court vacating the EPA waiver would change manufacturers' current product plans. To the contrary, industry wide manufacturers have testified that they are committed to full and immediate transformation of their fleets.<sup>14</sup>

In sum, Petitioners have not met their burden to adduce facts showing that that automakers will respond to a favorable judicial ruling in a manner that would provide Petitioners' relief. *Lujan*, 504 U.S. at 562.

<sup>&</sup>lt;sup>13</sup> See Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F.Supp.2d 295, 368-69 (D. Vt. 2007)(4 years lead time needed to manufacture new vehicle; 8-12 years to roll out new technologies to an entire fleet).

<sup>&</sup>lt;sup>14</sup> See e.g., Detroit Hearings at 10-12 (GM); *id.* at 13-14 (Ford); *id.* at 46-48 (Chrysler); *id.* at 52-54 (Toyota); *id.* at 79-81 (Hyundai); *id.* at 83-84 (Alliance of Automobile Manufacturers).

#### CONCLUSION

For the foregoing reasons, Petitioners have no standing and their petition for review should be dismissed.

DATED: November 10, 2010

Respectfully submitted,

STEPHEN F. HINCHMAN MATTHEW F. PAWA

By <u>/s/ Stephen F. Hinchman</u> STEPHEN F. HINCHMAN

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#### **CERTIFICATE OF COMPLIANCE**

1. This brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B) because it contains 2,980 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii).

2. This brief complies with the typface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. Civ. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typface using Microsoft Office Word Mac 2008 in 14-point Times font.

DATED: November 10, 2010

#### STEPHEN F. HINCHMAN MATTHEW F. PAWA

By <u>/s/ Stephen F. Hinchman</u> STEPHEN F. HINCHMAN

Counsel for *Amici Curiae* Adam D. Lee and Charles E. Frank

#### **CERTIFICATE OF SERVICE**

I hereby certify that on November 10, 2010, I filed and served the foregoing *Amici Curiae* Brief of Adam D. Lee and Charles E. Frank by electronic service through the CM/ECF system to the following counsel, who are registered CM/ECF users:

Adam Jeffrey White Alexandra Margaret Walsh Amar D. Sarwal Andrew D. Koblenz **Barbara Beth Baird** Barney James Chisolm Jr. **Beverly Marie Conerton** Damien Michael Schiff David D. Doniger David Robert Sheridan Deborah A. Sivas **Douglas Irwin Greenhaus** Frederick Don Augenstern I Gerald T. Karr Helen Kang Jeffrey Alan Lamken John W. Busterud Kathleen A. Kenealy Kevin P. Auerbacher

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In addition, I hereby certify that the foregoing Amici Curiae Brief of Adam

D. Lee and Charles E. Frank has been served by United States first-class mail this

10th day of November, 2010 upon each of the following participants in the case

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In addition, pursuant to D.C. Circuit Rule 31(b), I have caused eight paper

copies of this brief to be mailed to the Court.

DATED: November 10, 2010

### STEPHEN F. HINCHMAN MATTHEW F. PAWA

#### By <u>/s/ Stephen F. Hinchman</u> STEPHEN F. HINCHMAN

Counsel for *Amici Curiae* Adam D. Lee and Charles E. Frank

## Attachment 1

42 U.S.C. § 7507

constitute final agency action within the meaning of section 7607(b) of this title.

(July 14, 1955, ch. 360, title I, §176A, as added Pub. L. 101-549, title I, §102(f)(1), Nov. 15, 1990, 104 Stat. 2419.)

#### References in Text

The Federal Advisory Committee Act, referred to in subsec. (b)(2), is Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 770, as amended, which is set out in the Appendix to Title 5, Government Organization and Employees.

## §7507. New motor vehicle emission standards in nonattainment areas

Notwithstanding section 7543(a) of this title, any State which has plan provisions approved under this part may adopt and enforce for any model year standards relating to control of emissions from new motor vehicles or new motor vehicle engines and take such other actions as are referred to in section 7543(a) of this title respecting such vehicles if—

(1) such standards are identical to the California standards for which a waiver has been granted for such model year, and

(2) California and such State adopt such standards at least two years before commencement of such model year (as determined by regulations of the Administrator).

Nothing in this section or in subchapter II of this chapter shall be construed as authorizing any such State to prohibit or limit, directly or indirectly, the manufacture or sale of a new motor vehicle or motor vehicle engine that is certified in California as meeting California standards, or to take any action of any kind to create, or have the effect of creating, a motor vehicle or motor vehicle engine different than a motor vehicle or engine certified in California under California standards (a "third vehicle") or otherwise create such a "third vehicle".

(July 14, 1955, ch. 360, title I, §177, as added Pub. L. 95–95, title I, §129(b), Aug. 7, 1977, 91 Stat. 750; amended Pub. L. 101–549, title II, §232, Nov. 15, 1990, 104 Stat. 2529.)

#### Amendments

1990—Pub. L. 101-549 added sentence at end prohibiting States from limiting or prohibiting sale or manufacture of new vehicles or engines certified in California as having met California standards and from taking any actions where effect of those actions would be to create a "third vehicle".

#### §7508. Guidance documents

The Administrator shall issue guidance documents under section 7408 of this title for purposes of assisting States in implementing requirements of this part respecting the lowest achievable emission rate. Such a document shall be published not later than nine months after August 7, 1977, and shall be revised at least every two years thereafter.

(July 14, 1955, ch. 360, title I, §178, as added Pub. L. 95–95, title I, §129(b), Aug. 7, 1977, 91 Stat. 750.)

#### §7509. Sanctions and consequences of failure to attain

#### (a) State failure

For any implementation plan or plan revision required under this part (or required in response to a finding of substantial inadequacy as described in section 7410(k)(5) of this title), if the Administrator—

(1) finds that a State has failed, for an area designated nonattainment under section 7407(d) of this title, to submit a plan, or to submit 1 or more of the elements (as determined by the Administrator) required by the provisions of this chapter applicable to such an area, or has failed to make a submission for such an area that satisfies the minimum criteria established in relation to any such element under section 7410(k) of this title,

(2) disapproves a submission under section 7410(k) of this title, for an area designated nonattainment under section 7407 of this title, based on the submission's failure to meet one or more of the elements required by the provisions of this chapter applicable to such an area,

(3)(A) determines that a State has failed to make any submission as may be required under this chapter, other than one described under paragraph (1) or (2), including an adequate maintenance plan, or has failed to make any submission, as may be required under this chapter, other than one described under paragraph (1) or (2), that satisfies the minimum criteria established in relation to such submission under section 7410(k)(1)(A) of this title, or (B) disapproves in whole or in part a submis-

sion described under subparagraph (A), or (4) finds that any requirement of an ap-

(4) finds that any requirement of an approved plan (or approved part of a plan) is not being implemented,

unless such deficiency has been corrected within 18 months after the finding, disapproval, or determination referred to in paragraphs (1), (2), (3), and (4), one of the sanctions referred to in subsection (b) of this section shall apply, as selected by the Administrator, until the Administrator determines that the State has come into compliance, except that if the Administrator finds a lack of good faith, sanctions under both paragraph (1) and paragraph (2) of subsection (b) of this section shall apply until the Administrator determines that the State has come into compliance. If the Administrator has selected one of such sanctions and the deficiency has not been corrected within 6 months thereafter, sanctions under both paragraph (1) and paragraph (2)of subsection (b) of this section shall apply until the Administrator determines that the State has come into compliance. In addition to any other sanction applicable as provided in this section, the Administrator may withhold all or part of the grants for support of air pollution planning and control programs that the Administrator may award under section 7405 of this title.

#### (b) Sanctions

The sanctions available to the Administrator as provided in subsection (a) of this section are as follows:

#### (1) Highway sanctions

(A) The Administrator may impose a prohibition, applicable to a nonattainment area, on the approval by the Secretary of Transportation of any projects or the awarding by the

#### Attachment 2

Excerpts of Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2009*, EPA420-R-09-014 (Nov. 2009).

# Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2009

Compliance and Innovative Strategies Division and Transportation and Climate Division

Office of Transportation and Air Quality U.S. Environmental Protection Agency

NOTICE

This technical report does not necessarily represent final EPA decisions or positions. It is intended to present technical analysis of issues using data that are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical developments.



United States Environmental Protection Agency

EPA420-R-09-014 November 2009

# Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 29 III. Fuel Economy Trends

Figure 1 and Table 1 depict time trends in car, light truck, and car-plus-light truck fuel economy. Also shown on Figure 1 is the fraction of the combined fleet that are light trucks and trend lines representing three-year moving averages of the fuel economy and truck production fraction data. Since 1975, the fuel economy of the combined car and light truck fleet has moved through several phases:

- 1. A rapid increase from 1975 through 1981;
- 2. A slow increase until reaching its peak in 1987;
- 3. A gradual decline until 2004; and
- 4. An increase beginning in 2005.





Figure 1

Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 30 As shown in Table 1, the projected MY2009 fleetwide fuel economy value of 21.1 mpg is the highest value since 1991 and is 1.8 mpg higher than the 2004 value of 19.3 mpg, which was the lowest value since 1980. Projected industry-wide MY2009 production is not shown in Table 1, as it is expected that actual MY2009 production will be 30 to 40 percent lower than automaker projections to EPA in spring/summer 2008. Average fleetwide fuel economy has now increased for five consecutive years. These increases reverse the longer term trend of declining adjusted composite fuel economy since its peak in 1987. Most of the increase in overall fuel economy since 2004 is due to higher truck fuel economy (likely due at least in part to higher truck CAFE standards in recent years), as truck fuel economy has increased by 1.7 mpg since 2004, while car fuel economy has increased by 1.4 mpg. The 21.1 mpg adjusted fuel economy value projected for 2009 is 0.9 mpg below the peak in 1987, but this difference is due to the new methodology for calculating adjusted fuel economy values that is phased in over the 1986 – 2005 timeframe. As shown in Table 1, based on laboratory 55/45 fuel economy values which are based on vehicle design considerations only, the projected fleetwide fuel economy value of 26.4 mpg is an all-time record, and is 0.5 mpg higher than the previous peak of 25.9 mpg in 1987.

Figure 1 shows that the estimated light truck share of the market, based on the three-year moving average trend, has leveled off at about 50 percent. Figure 2 compares laboratory 55/45 fuel economy for the combined car and truck fleet and the production fraction for trucks.

The MY2009 adjusted fuel economy for cars is estimated to average 24.5 mpg, which is an all-time high. For MY2009, the adjusted fuel economy for light trucks is estimated to average 18.4 mpg, also a record high. Fuel economy standards were unchanged for MY1996 through MY2004. In 2003 DOT raised the truck CAFE standards for 2005 – 2007, and in 2006 DOT raised the truck CAFE standards for 2008 – 2011. The recent fuel economy improvement for trucks is likely due, in part, to these higher standards. The CAFE standard for cars has not been changed since 1990, but will change in 2011.



#### Truck Sales Fraction vs Fleet MPG by Model Year

Figure 2

Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 31 Figure 10 plots the adjusted CO<sub>2</sub> emissions values over time, for cars only, trucks only, and both cars and trucks combined.



# Adjusted CO<sub>2</sub> Emissions by Model Year (grams/mile)

Table 3 and Figure 10 show that, over the last 35 years, adjusted (real world) CO<sub>2</sub> emissions rates have gone through four distinct phases. Most dramatically, adjusted composite (city/highway) CO<sub>2</sub> emissions rates for the combined car/truck fleet fell sharply from 679 g/mi in MY1975 to 437 g/mi in MY1981, for a 36 percent reduction over 6 years. Adjusted CO<sub>2</sub> emissions continued to decline, though much more slowly, reaching an all-time low of 405 g/mi in MY1987, which represents a 40 percent reduction from MY1975. The trend then reversed, as adjusted CO<sub>2</sub> levels rose slowly over the next 17 years, reaching 461 g/mi in MY2004, a 14 percent increase relative to the MY1987 low. Adjusted CO<sub>2</sub> emissions have decreased for each of the last 5 years. The MY2008 value, based nearly exclusively on final CAFE reports, is 424 g/mi. The preliminary MY2009 value, based on automaker production projections made prior to the beginning of the model year, is 422 g/mi. The preliminary MY2009 value represents an 8 percent reduction relative to MY2004.

Laboratory  $CO_2$  emissions values are also given in Table 3. Because laboratory values do not reflect the changes that EPA made to its methodology for adjusting fuel economy and  $CO_2$  emissions levels for real world estimates for consumers, they are the best metric for evaluating  $CO_2$  emissions trends solely on vehicle design considerations. Based on the 55/45 (city/highway) laboratory  $CO_2$  values in Table 3, the 339 g/mi value in MY2008 and the preliminary MY2009 value of 337 g/mi represent all-time lows.

Table 4 shows key light-duty vehicle characteristics, along with the adjusted composite  $CO_2$  emissions values, for the 1975 through 2009 timeframe for cars only, trucks only, and cars and trucks combined. Table 4 is very similar to Table 2, except that the fuel economy data in Table 2 is replaced with  $CO_2$  emissions data in Table 4.

## Attachment 3

Wall St. J., Auto Sales Market Data Center; U.S. Market (Aug. 2010).



#### THE U.S. MARKET

#### GO TO: Overview Charts | What's Hot Off the Lots Top 20 vehicles | Sales and Share of Total Market by Manufactor of Document: 1276749 Total Narket by Manufactor of Document:

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#### The U.S. market

#### The big five

Share of the total U.S. market for each month. At right, 12-month rolling averages from Mar. 1997 through Mar. 2007; below, for the past year.





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#### Attachment 4

C. Thompson, *GM crafts lineups for next spike at the pump*, Automotive News (Aug. 9, 2010).

J. LaReau, *Ford goes green, small, high-tech*, Automotive News (Aug. 2, 2010).

B. Wernle, *Chrysler Product Plan: Tweaks, then tidal wave*, Automotive News (July 26, 2010).

# Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 36

**FUTURE PRODUCTS -- GENERAL MOTORS** 

# GM crafts lineups for next spike at the pump

#### **Chrissie Thompson**

Automotive News | August 9, 2010 - 12:01 am EST

General Motors Co. is planning for the return of \$4-plus gasoline by introducing small or compact cars for each of its brands -- even GMC.

GM continues to predict gasoline prices will eventually rise to levels last seen in 2008, when consumers fled light trucks for smaller vehicles.

Also, federal fuel-efficiency standards will rise to a fleet average of 35.5 mpg in the 2016 model year, compared with 27.3 mpg in 2011.

The emphasis on fuel efficiency includes Cadillac with the ATS compact car, due in the 2013 or 2014 model year.

At Buick, GM will introduce the Verano compact car in the 2012 model year and probably will give the LaCrosse sedan a hybrid to continue the fuel economy theme.

Even the GMC brand, traditionally known for its trucks, will get smaller. A production version of the Granite concept, built on a compact-car platform, is expected to come to market in 2013.

Chevrolet will continue to add smaller vehicles. The Aveo subcompact debuts in mid-2011 with production at Orion Township, Mich. The Spark minicar comes to market in 2012. Even the Impala, whose redesign is timed for the 2014 model year, will get a few inches smaller.

Here are GM's plans for the 2011-13 model years, according to sources inside GM and in the industry.



ENLARGE

2011 Chevy Cruze

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# Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 37

**FUTURE PRODUCTS -- FORD** 

# Ford goes green, small, high-tech

#### Jamie LaReau

Automotive News | August 2, 2010 - 12:01 am EST

Better fuel economy and lots of consumer electronics, engine and safety technology will define Ford brand products in the next three years.

Ford Motor Co. says its products will appeal to environmentally conscious buyers. For example, the redesigned Explorer, which goes into production late this year, will offer a four-cylinder engine for the first time. This summer, the automaker added a subcompact, the Fiesta, aimed at younger buyers.

To attract those buyers, Ford is offering a \$700 technology package on the Fiesta. The package includes a navigation system, heated cloth seats and consumer electronics such as MyKey, a programmable key; and the Sync in-car communication and entertainment system.

Here's a look at the Ford brand's three-year product plan.

**Fiesta:** The 2011 Fiesta subcompact comes in five- and four-door versions. The car could get a sporty variant in the 2013 model year with an EcoBoost four-cylinder engine. A restyling is due in the 2016 model year.



The redesigned Focus arrives early next year. It's sleeker and sportier than the current model.

**Focus:** Ford will launch the redesigned Focus hatchback and sedan in the first quarter of 2011. The Focus, built on Ford Motor's new global compact platform, is sportier and more aerodynamic than the current model.

A performance version of the Focus is in the works and could come out for the 2013 model year under the SVT brand. A sticker price in the mid-\$20s is expected. Ford is considering an EcoBoost engine for the car, either a 1.6-liter or 2.0-liter.

Still to be decided is whether the high-performance, all-wheel-drive RS model that is engineered and sold in Europe will be offered here. The issue is price: The current generation of the Focus RS is priced in the mid-\$30s.

An electric version of the Focus is planned for the 2012 model year.

**Mustang:** Ford gave the 2011 Mustang new powertrains. The company re-engineered two engines for the car, a 3.7-liter V-6 and a 5.0-liter V-8. Ford also is offering a V-6 performance package for the 2011 model year.

For the 2014 or 2015 model year, the car will be restyled and re-engineered. Mustang turns 50 years old in 2014, so it would make sense for a bold design statement at that time.

Fusion: A redesign of the Ford Fusion and its Lincoln MKZ sibling is due in the 2013 model year. The two models will switch to Crasses 00-12377-size optimized to the the content to the content of the c

The 2012 Fusion is likely to get a four-cylinder EcoBoost engine.

The Fusion and Fusion Hybrid enter the 2011 model year with more safety, technology and convenience offerings. Those include MyKey, available rain-sensing wipers and HD radio. Ford adds integrated blind spot mirrors to cars without the optional blind spot package.

Taurus: The 2011 Taurus adds MyKey and collision warning with brake support.

Ford will freshen the Taurus with mild styling changes and upgrades in technology in late 2011 or early 2012. At that time, Ford will offer a 2.0-liter EcoBoost four-cylinder engine.

A redesign is not expected until the 2015 or 2016 model year.

**Crown Victoria:** Production of the Crown Victoria sedan and Lincoln Town Car will end in 2011. The Crown Victoria is sold to police and taxi fleets only. A heavily modified Taurus will replace it for police fleets. The Crown Vic is assembled in the St. Thomas, Ontario, plant, which is expected to close next year.

**C-Max:** The C-Max is a seven-passenger compact minivan that will be sold globally. It shares a platform with the next-generation Ford Focus. European sales begin late this year, and U.S. sales start in 2011. The first U.S. models will be assembled in Europe. C-Max production is likely to be added in 2012 at the Michigan Assembly plant in Wayne, Mich.

The C-Max will be offered with 2.0- and 2.5-liter four-cylinder engines, and it likely will get the 1.6-liter EcoBoost four-cylinder engine.

**EcoSport:** Ford is increasing its investment in Brazil to develop several global small vehicles, such as the nextgeneration EcoSport crossover. The EcoSport will share a subcompact platform with the Fiesta. Depending on the price of gasoline and the U.S. appetite for subcompacts, an EcoSport-like vehicle could come here in the next few years.

**Escape:** Ford will introduce a smaller, redesigned Escape for the 2012 model year with more carlike handling. The Escape will be a version of the next-generation Kuga compact crossover developed in Europe. The U.S. vehicle will be built here, probably in Louisville, Ky. A Lincoln product off the same platform is possible.

The Escape, Kuga and Focus will share Ford's compact platform.

The 2011 Escape adds HD radio and features such as the MyKey programmable key and the rearview camera system.

**Edge:** Ford reskins the Edge for the 2011 model year to make it bolder and more flowing. Engine enhancements are expected to boost fuel economy. Ford will offer three engines: an EcoBoost 2.0-liter four-cylinder, a 3.5-liter standard V-6 and a 3.7-liter V-6.

An Edge redesign is due in the 2014 model year. The vehicle will be smaller and sit on Ford's global mid-sized platform.

**Explorer:** The redesigned 2011 Explorer moves from a rear-drive, body-on-frame truck platform to the frontdrive, unibody car platform that underpins the Taurus sedan and Flex crossover. Production ends at Louisville in November and moves to Chicago.

The Explorer offers a new four-wheel-drive feature that improves traction in mud, sand and snow. This feature adjusts the throttle input, engine speed, shift patterns and traction and stability control systems to provide the best traction under those conditions. The feature is available only on the V-6 model.

Ford is still touting the Explorer's off-road capability despite a 1.5-inch reduction in ground clearance and a 5-inch increase in width. The new Explorer has a more crouching athletic stance than the previous model.

The redesigned Explorer goes into production late this year. It will offer the 2.0-liter, four-cylinder EcoBoost engine and a 3.5-liter V-6 but no V-8 engine.

Five- and seven-passenger models will be offered.

Flex: The 2011 Flex will get a 3.5-liter V-6 EcoBoost engine. It's possible the vehicle could offer a 2.0-liter fourcylinder EcoBoost eligesein @ 12077. Document: 1276741 Filed: 11/10/2010 Page: 39

The crossover will get a minor freshening for the 2012 model year. The grille will be revised and the Ford oval removed. The top-of-the-line Titanium trim will have the word "Flex" painted across the hood. The Titanium model comes out for the 2011 model year. Expect a reskin for the 2013 model year.

**Expedition:** No major changes are on the immediate horizon. Ford added some interior refinement to the 2011 Expedition, such as a headrest-mounted rear DVD system. Ford might freshen or reskin the SUV for the 2012 model year. At that time Ford might give it the 3.5-liter V-6 engine to improve fuel economy. The Expedition also could get the 5.0-liter V-8 engine currently in the 2011 Mustang to replace the 5.4-liter V-8 engine now in the SUV.

Ford may discontinue the extended-length Expedition EL in the 2012 or 2013 model year because of poor sales.

A redesign has been put on the back burner.

**Ranger:** Ford is expected to pull the plug on the aging Ranger in 2011. It's unclear whether the company will replace the compact pickup with another product.

Executives have said Ford might import a version of the next-generation small pickup sold outside North America. If so, the U.S. model would be based on Ford's T6 global compact pickup platform, engineered by Ford of Australia.

But this is unlikely because of the 25 percent tax on imported pickups. That tax would mean boosting the price of the Ranger close to that of the F-series trucks -- a tough sell for pickup buyers.

**F-150:** Ford will replace the powertrains on the 2011 F-150 early next year. The company will offer a 3.5-liter V-6 with EcoBoost turbocharging and direct injection. Ford also will offer a 3.7-liter V-6 and the 5.0-liter V-8 that the company adapted to the 2011 Mustang. All get a six-speed automatic transmission. Ford will put the 6.2-liter V-8 engine in the off-road Raptor F-150.

The F-150 will be redesigned for the 2015 or 2016 model year and switch to a new platform, called P552.

**F-series Super Duty:** This spring Ford launched a freshened 2011 Super Duty with a new in-house diesel engine and the 6.2-liter V-8. Maximum towing capacity is 24,400 pounds. A redesign is expected for the 2014 model year.

Transit Connect: Ford will launch the electric version of the compact fwd van in the fourth quarter.

U.S. production of the next-generation Transit Connect is expected no sooner than the 2014 model year. It will most likely be built in Louisville.

**Econoline:** Ford will replace the Econoline with a large van based on the next-generation Transit, which is sold outside North America. The timing is uncertain. Some sources think it will be for the 2014 model year.

Battery power

Ford Motor Co. plans to introduce 5 new electrified vehicles through 2012

- Ford Transit Connect electric: This year
- Ford Focus electric: 2011
- 2 hybrids with next-generation lithium ion battery: 2012
- Plug-in hybrid: 2012



#### The front-drive 2011 Explorer is built on the same unibody platform as the Taurus sedan and Flex crossover. Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 40

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#### Chrysler's product plan: Tweaks, then tidal wave

By BRADFORD WERNLE, AUTOMOTIVE NEWS



COM A redone Chrysler 300 is part of Chrysler's future product plans. The current model is shown. Chrysler Group's product renaissance is a drama in two acts.

First, the company is breathing new life into its existing lineup. Highlights include the redesigned 2011 Jeep Grand Cherokee, which the automaker started shipping to dealerships in early July, and the re-engineered and restyled Chrysler 300 and <u>Dodge Charger</u> rear-drive sedans, both coming in the first quarter of 2011.

Altogether, Chrysler says it is revising 16 vehicles starting this year. Most were in the pipeline before the automaker emerged from bankruptcy under Fiat management in June 2009.

The critical second phase starts at the end of this e of Chrysler, <u>Dodge</u>, Jeep and Ram vehicles based on

year when the Fiat 500 minicar arrives, followed by a wave of Chrysler, <u>Dodge</u>, Jeep and Ram vehicles based on Fiat platforms.

Chrysler

Chrysler's strength lies in large cars, pickups, minivans and Jeeps. CEO Sergio Marchionne has said those vehicles will remain the core of Chrysler's business. But the company's complete revival depends largely on smaller, more fuel-efficient Fiat-based vehicles.

The Grand Cherokee was the first vehicle to get Chrysler's Pentastar V-6 engine, developed before Fiat assumed management control. Eventually, the Pentastar engine family will replace seven V-6 engines in Chrysler vehicles, dramatically simplifying the powertrain picture.

The Fiat 500 will be the first North American car in the Chrysler-Fiat stable to get the 1.4-liter FIRE engine. The engine comes with MultiAir, a system that boosts fuel economy and performance.

MultiAir eventually can be deployed across most of Chrysler's engine families, including the 1.8-, 2.0- and 2.4-liter four-cylinder engines produced in Dundee, Mich.

A dual-clutch transmission developed by Fiat will boost fuel efficiency in Chrysler's front-drive vehicles. A new eight-speed automatic, developed by ZF Friedrichshafen AG, will help make Chrysler's rear-drive cars and SUVs more efficient and refined.

With Fiat's Compact and slightly wider Compact Wide platforms and new powertrains, Chrysler at last should have competitive small and mid-sized vehicles.

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U.S. importer India's Mahindra & Mahindra I to said it has terminated

### Attachment 5

W. McManus, R. Kleinbaum, *Fixing Detroit: How Far, How Fast, How Fuel Efficient*, U. of Mich. Transp. Research Inst., 2009-26 (June 2009).

UMTRI-2009-26

June 2009

# FIXING DETROIT: HOW FAR, HOW FAST, HOW FUEL EFFICIENT

Walter McManus, Ph.D.<sup>1</sup>

Rob Kleinbaum, Ph.D.<sup>2</sup>

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## **Executive Summary**

The domestic auto industry is in the worst financial crisis in its history. To date, Ford Motor Company has managed to avoid the conditions that forced Chrysler Group LLC and General Motors Corporation to accept government scrutiny in exchange for bailout loans. However, now that Chrysler has entered bankruptcy the impact on the supply base that supports all three companies is mounting and the probability of a negative impact on Ford is rising. Thus, the crisis affects the entire industry, with the Detroit 3 hit hardest.

If any doubters remained, the crisis has clearly revealed that the business model of the Detroit 3 automakers is broken. Analysts may disagree about how much and how quickly the model needs to change, but all are in agreement that it must change.

The forces responsible for this crisis did not appear suddenly to blindside the industry in 2008. They have been building for years. In research begun in 2005, we identified and examined a series of misalignments between the market and Detroit's product portfolio, especially with respect to fuel economy. There is broad consensus between both industry and non-industry stakeholders that improving the fuel economy of the product portfolio is necessary to achieve widely accepted public policy goals (reduced dependence on oil, energy independence, and greenhouse gas reductions). However, some in the industry and the government believe that in the current crisis the fuel economy target and/or the speed with which the industry makes progress toward it should be lessened.

The domestic auto industry is faced with a set of choices: how much should it change, how fast should it change, and how should it respond to demands for increased fuel efficiency? The purpose of this paper is to help resolve this debate.

Given recent government intervention, the impact of these decisions reach far beyond the industry. Every American taxpayer now holds a stake in the success of our domestic auto industry.

To provide objective information to help policy makers understand the issues involved, we conducted research on two themes that we report here. One theme looks at change in a crisis, and the other looks at the impacts of mandated fuel economy improvements on the industry. What links the themes is the product portfolio.

The long-term success of a turnaround depends on executing an excellent portfolio of products, and the impact of mandated fuel economy improvements depends on the alignment of the industry's product portfolio with consumer values. The questions concerning speed and scope of change and the impact of fuel economy on profitability address the core drivers of long-term viability of the Detroit 3.

#### Methodology

To address the questions of speed and scope of change, we looked at the actions of other large corporations that have managed successful turnarounds. There is extensive literature on this subject, both academic studies and interviews with corporate leaders. In order to address the question of fuel economy standards, we model the impacts of different fuel economy standard increases (30%-35 miles per gallon (MPG), 40%-37.7 MPG, 50%-40.4 MPG) on the profitability and sales of the industry and separately for the Detroit 3, the Japan 3, and all others. The model captures the cost of fuel economy improvement on

suppliers, its impact on pricing, and the resulting changes in demand. The inputs to the model are the most recent and accepted estimates of all the key parameters, but since there is debate on many of these values, we conduct an extensive sensitivity analysis on the results.

#### Findings

The lessons from successful turnarounds are very clear:

- **Implement Broad, Deep, Fast Change**: All successful efforts addressed the fundamental issues that drove them into crisis and they did it as quickly as possible.
- **Replace Management Team**: In addition to changes in strategy and structure, in all cases there were widespread changes in management.
- **Transform Culture:** All of the successful companies considered changing culture a critical requirement and made it a top priority for success.
- **Build a portfolio of excellent products:** The path to long-term financial health for any company rests on having a great product portfolio. Our domestic auto industry, in its modern incarnation, has never been able to execute an excellent portfolio, only isolated successes.

The impact of higher fuel economy standards on industry profits is also very clear:

- An industry-wide mandated increase in fuel economy of 30% to 50% (35 MPG to 40.5 MPG) would increase the Detroit 3's gross profits by roughly \$3 billion per year, and increase sales by the equivalent of two large assembly plants.
- The Detroit 3 gain profits over base in all scenarios, with the largest profits gained from pursuing more aggressive fuel economy.
- Japanese automakers profit gains are smaller than the Detroit 3, with the smallest profits gained from pursuing 50% increase (40.4 MPG) in fuel economy.
- At 50% increase, the Japanese industry loses sales while the domestics continue to gain in sales and profitability, a result driven by the different starting points.

Profits					
	Base	30% (35 MPG)	40% (37.7 MPG)	50%(40.4 MPG)	
Detroit 3	\$39.5	\$2.9	\$3.2	\$3.1	
Japan 3	\$27.1	\$0.9	\$0.7	\$0.3	
Others	\$18.8	\$0.9	\$1.0	\$1.2	
Market Total	\$85.4	\$4.7	\$4.9	\$4.6	
		Vehicle Sales	(000)		
Scenario O/(U) Base					
	Base	30% (35 MPG)	40% (37.7 MPG)	50% (40.4 MPG)	

Detroit 3	7,276	527	521	446
Japan 3	5,282	72	(27)	(171)
Others	2,646	145	147	133
Market Total	15,204	744	641	408

The value given to fuel economy by automakers has critical impact moving forward:

- There is compelling evidence that the Detroit 3 have systematically underestimated the value of fuel economy to customers.
- Because Detroit 3 automakers have long underestimated the consumer value of fuel economy, raising fuel economy standards will not cost more than consumers would be willing to pay.
- In every scenario, the average cost-per-vehicle (direct plus indirect) is less than what consumers would be willing to pay.

	Consumer Value	of Fuel Economy	
Passenger Cars			
Industry-Wide	Direct + Indirect Cost	Consumer Value of	Value - Cost
Fuel Economy	per Vehicle	Fuel Saved	
Improvement			
30%	\$1,679	\$2,180	\$501
40%	\$2,296	\$2,697	\$400
50%	\$2,935	\$3,136	\$201
Light Trucks			
Industry-Wide	Direct + Indirect Cost	Consumer Value of	Value - Cost
Fuel Economy	per Vehicle	Fuel Saved	
Improvement			
30%	\$1,752	\$2,994	\$1,242
40%	\$2,410	\$3,701	\$1,290
50%	\$3,111	\$4,319	\$1,208
Total I	ight Vehicles		
Industry-Wide	Direct + Indirect Cost	Consumer Value of	Value - Cost
Fuel Economy	per Vehicle	Fuel Saved	
Improvement			
30%	\$1,715	\$2,578	\$863
40%	\$2,352	\$3,187	\$835
50%	\$3,021	\$3,714	\$693

#### **Testing Our Assumptions: Sensitivity Analysis**

Recognizing that our findings challenge long-held domestic industry beliefs about fuel economy and will be met with great skepticism and scrutiny, we conducted a sensitivity analysis of our eleven assumptions, such as the price of fuel and consumer value of fuel economy.

Our finding that Detroit 3 automakers' profits would increase under higher fuel economy standards is very robust. We assessed the sensitivity of our prediction of Detroit 3 automakers' profits to extreme values of 11 uncertain factors we predict for our model, and found that just three of the factors had extreme values capable of generating a drop in Detroit 3 profits: an extremely low consumer response to fuel costs relative to vehicle prices (less than one-fourth Sawhill's (2008) statistically estimated median value), a gasoline price of \$1.50 per gallon (an extremely low price not seen since 1999), or direct manufacturing costs (materials and labor) that are 2.2 times the estimates we used (Meszler) and 3 to 4 times the National Research Council (2002) estimates (adjusted for inflation). While the three factors could result in losses rather than gains in profits, the likelihood of lost profits is low. There is a 7% chance that profits would be less than zero if CAFE were increased 30% (35 MPG), a 15% chance of a

loss if it were 50% (40.4 MPG). As intuition would suggest, the larger mandate increases the downside risk. But it also offers greater upside opportunity, as the chance that increased profits could exceed \$6 billion is 18% for a 50% increase in fuel economy, but only 6% for a 30% increase. The total uncertainty attached to the larger increase is greater, which means both more upside and more downside.

Overall, the risk and reward profile of these scenarios is very positive, with only a small chance of losing and a very large probability of gain.

Sensitivity Analysis					
		30% (35MPG)	40% (37.7MPG)	50% (40.4 MPG)	
Probability		7%	10%	15%	
Change Profit <\$0					
Probability		18%	13%	6%	
Change Profit					
>\$6bn					

#### Conclusion

A broad consensus has emerged in the current crisis that the Detroit 3 automakers need to be transformed. The business model they have followed since the 1970's is clearly broken. While the need for transformation is widely accepted, there is still disagreement about the scope and pace of change, and some voices in the industry and in government are suggesting that fuel economy and greenhouse gas regulations should be lowered or delayed.

We studied two general themes in the research reported here: the nature of change in a crisis and its impact on the way transformations should be done, and the impact of higher fuel economy regulations on costs, consumer demand for vehicles, and automakers' profits. Our findings support rapid, wide-reaching change in business models. The key to a long-term recovery is executing an excellent portfolio of products, and we find evidence that increasing fuel economy standards encourages automakers to create a portfolio of products that is more likely to raise the profits of the Detroit 3 automakers than to lower them.

# **Chapter One: Change in Crisis**

There are those who believe that because the domestic auto industry is in crisis, it is the wrong time to make anything other than the immediate changes necessary for today's survival. On the other hand, there have been widespread calls for broad changes that address the core issues that led to the current troubles and that these changes should be executed as quickly as possible.

This sections addresses four major questions:

- Should changes be broad or focused on immediate issues?
- Should change be as fast as possible or spread out?
- Should existing management be replaced?
- Is changing culture important in a turnaround?

These questions are broadly important to US policy because the taxpayer is funding the bailout, so it is of vital national interest that it succeeds. If the industry is compelled to move quickly and broadly when caution and focus is in order, then success is imperiled. But just as dangerous is a turnaround that fails to address the core issues and only defers the day of reckoning, making it ultimately more expensive.

#### ANALYSIS OF SUCCESSFUL TURNAROUND EFFORTS



In order to address these questions, we analyzed extensive literature on the successful turnaround of six international companies of comparable size, distress, and diversity to the domestic automobile industry. There is an abundance of academic research on these cases as well as multiple interviews with the people who led the efforts (sources are in the back). One of the world's most successful turnaround experts, David James, has also commented on many of these issues.

There is a surprising degree of agreement from all these sources on these questions and lessons learned about change, personnel, culture and product portfolio. The research revealed universal approaches critical to success.

#### SUCCESSFUL TURNAROUND: KEY LESSONS LEARNED

#### I. Implement Broad, Deep, Fast Change

There is overwhelming agreement that change should take place as fast as possible and be as comprehensive as possible. A crisis presents a unique opportunity to make changes that would not be possible in "better" times and urgency is a must for the successful renewal of a company on the brink.

Further, the root causes of the crisis lie in deeper issues of structure and strategy, so if they are not changed the company will do too little, too late and not deal with real problems.

"The rallying cry of our turnaround was do it **fast**, do it **right away**, do it **all at once**, do it **now**!" – **Continental** 

"Make mega changes" and "Move expeditiously." -Lockheed Martin

"We had ...a 'kitchen sink' quarter, when you clean up the mess."-Novell

"When you have that window of opportunity called a crisis, move as **quickly as you can**, get **as much done** as you can." **-Xerox** 

"Fixing IBM required an enormous sense of **urgency**." "We **changed almost everything** in this company, literally, in three months, eight months, a couple of years." **-IBM** 

"Many executives misdirect their efforts...they put all their energy into managing the company's cash flow when they **should be addressing corporate structure and strategy**...because they find it hard to rethink the structures and strategies they themselves put in place. Whatever the reason, the consequences are usually the same. The rescue starts too late and accomplishes less than it should." **–David James** 

# "A degenerative disease will not be cured by procrastination. It requires decisive action." –Peter Drucker

#### II. Replace Existing Management Team

There is strong consensus that widespread changes in personnel are necessary in a turnaround. For most, the issue was changing the people at the top of the organization, while IBM had a big problem with middle management. But the dominant thinking is that the most serious problems are the result of poor management, not external bad luck, so asking the people who made the mess to genuinely admit it was their fault and reverse course will not happen. Instead, the existing management clings to the hope that some miracle will rescue them and avoid the difficult decisions.

When Sergio Marchionne took over Fiat, he made significant changes in its management team, going down several levels as did Carlos Gohn at Nissan and Renault. Just recently, Toyota, which has had its first loss in many years but is not imperiled, announced it would replace 40% of its management, including the top three executives.

"Clean House. The same team that leads a company into crisis is rarely able to get it back on track." – Continental

"We ...**replaced** most of the executive **management team**, reducing seven layers of management to four." –**Novell** 

"If necessary, **sweep out the old leaders**...Unfortunately in many cases I have **had to fire them** because they...maintain their **hope for some miracle solution and resist the rescuers** in an effort to conceal their failure." – **David James** 

"At the top of the organization was a leadership team that really wanted to speed things up. The customer facing parts of the organization felt that that the changes were the right thing to do. But **there was a group of people in the middle that didn't want to have anything to do with it**. They just wanted it to go away. They wanted it to be the way it used to always be." **-IBM** 

#### **III. Transform Culture**

One of the consistent themes in the literature is the importance of culture to a successful turnaround. Everyone said that culture was a main contributor to the problem and needed to be addressed directly and quickly. Anne Mulcahy, Xerox CEO, made it clear she thought the culture was a problem but that rather than "kill it", she would change it. Recent correspondence with GM's CEO indicates he believes changing culture is critical to GM's long-term viability and has made it a priority in his turnaround plans.

"Establish a results oriented culture...Build a new corporate culture. A healthy culture is simply...honesty, trust, dignity, and respect" –Continental

"Novell had a dysfunctional culture, a sick culture...a culture of fear...and it was a big problem." – Novell

"In addition to cost cutting, innovation, and growth...**the fourth requirement for transformation is** culture change." – Siemens

"It's all about culture. You have to transform the culture, not just the strategy. Culture is what people do when no one is watching...Culture isn't just one aspect of the game; it is the game." –IBM

When the CEO of one of Mulcahy's biggest lenders said she would have to kill the culture to succeed, **Mulcahy shot back, "I am the culture. If I can't figure out how to bring the culture with me**, I'm the wrong person for the job." She **appealed to employees with missionary zeal**, in videos and in person--what Burns called a "laying on of hands." She implored them to "save each dollar as if it were your own. -Xerox

#### IV. Implement a Clear and Well-Communicated Strategy

It is important to have a clear and well-communicated strategy. All the CEOs talked about the need to work hard to communicate the plan to all levels of the organization in a clear and consistent way and, while listening to feedback, to be firm on what needed to be done. Successfully implementing the changes required aligning the organization at all levels. Since all turnaround plans required deep changes in the operations of the enterprise, the people on the front lines had to understand what they needed to do and why they needed to do it.

#### V. Institutionalize Accountability

Another theme was the importance of identifying failure quickly and eliminating it. There is a tendency to hold on to existing people, plans, and businesses even after repeated failures. This simply removes accountability and perpetuates problems.

#### VI. Focus on value, not costs

To execute a successful turnaround, management must understand how their actions change the total value of their products, not just the costs. This means having an understanding of how their customers view their products; what it is the customers want and are willing to pay for. A culture of cost cutting, unfortunately, leads to the development of products that people do not like, as product decisions are made on a basis that is always incomplete and usually disastrous.

"After 15 years of a low cost approach, **Continental** had created a *doom loop*. By **focusing only on costs**, **the airline had created a product no one wanted to buy.**" -**Continental** 

The culture of cost cutting at the Domestic 3, especially GM, has been well documented. While the forward capital plan has not been published, press reports have stated that capital and engineering resources for the next generation of products have been cut fairly drastically. If so, then there is reason to be concerned about their market success and the long-term health of the companies.

#### VII. Understand the balance sheet

Turning around a major enterprise requires understanding what the real assets and liabilities are. Simply trying to increase cash flow will be too slow and do too little to make a significant difference. The company is usually hemorrhaging cash so changing product or pricing will require too much time to save the enterprise. In the context of the auto companies, this means understanding which regions, brands, and products are generating real value and which are not and then removing the former ruthlessly.

#### **Bottom line: Execute Excellent Portfolio of Products**

The path to long-term financial health of any company is not a great mystery; it rests on having a great product portfolio. Our domestic auto industry, in its modern incarnation, has never been able to execute an excellent portfolio, only isolated successes. The fundamental cause has been insufficient capital and engineering, driven by a culture focused on cost cutting, myopic to value and tone deaf to customers. The management team is fundamental to the culture. They lead and sustain it. Their worldview, their values, and their plans have made these companies what they are today. One would hope that human beings are capable of radical change in values and vision but human experience proves otherwise. Instead, it is human nature, especially when joined by others, to defend one's position, in the hope that one day you will be proven right. The result: every decision will be challenged; every change watered down. The problem is they don't have time to waste.

As the Detroit 3 automakers are poised on the brink of turnaround or demise, they must make a choice of how far, how fast, and how fuel-efficient the transformation of their product portfolio will be. This is not their decision alone to make. Given the highly interdependent nature of the domestic automobile industry, the taxpayer has substantial vested interest in the choices made by not just GM but all domestic automakers.

At this moment in history, there is a widespread consensus in Detroit, both within the industry and the media, that the industry is being forced to build more fuel-efficient vehicles by a government that places more importance on ideology than the market. Story after story frames the issue of a struggling industry that will not survive tough fuel economy standards. However, there is substantial evidence that the domestic auto industry has ignored customers' demands for fuel economy, and has consistently undervalued the impact of fuel economy on their profit potential. For example, GM conducted internal research for decades that found customers value fuel economy far more than the company's financial calculations assumed. As publicly reported, the company systematically discounted these research results when calculating the benefits of improving fuel economy, often by as much as two-thirds. In other words, if the research said the sales gain would be 10%, the number used to do financial calculations was 3%. In fact, the belief that fuel economy was not "worth it" became so ingrained into the culture of the company, and so institutionalized in decision making that the senior people might not even be aware that

they have been ignoring their own research.

The previous section provided detailed documentation on the need for transformation to be far and fast if the Detroit 3 are to succeed. The question that remains is: How fuel-efficient? We now turn to this fundamental question.

## Chapter Two: Profit impact of higher fuel economy standards

Regulatory standards exert substantial influence on product portfolios and the attributes of products, and both Federal and state standards for greenhouse gas emissions (GHG) and fuel economy were in the process of tightening before the current industry crisis. Congress established an industrywide 35 MPG Federal Corporate Average Fuel Economy standard (CAFE) to be attained by the year 2020, and California's Air Resources Board (CARB) set a GHG standard that by 2016 is roughly equivalent to 35MPG. The U.S. Environmental Protection Agency (EPA) is expected to issue Federal GHG rules in the near future. However, the current crisis has prompted some in the industry and others to argue for reducing or at least slowing the implementation of standards until the crisis is over.

The "just not in a crisis" argument for reducing or delaying future fuel economy and GHG emissions standards is based on the claim that the costs of improving vehicles exceed what consumers are willing to pay for the improvements. This claim is not different because of the crisis, and has always been a standard element of the industry's criticism of higher standards. Such investments are certain losers, asserts the industry, and we support the social goals of the investments and are committed to make them someday, just not in a crisis.

This argument depends on some unproven propositions. If the unproven propositions are not true, then the "just not in a crisis" argument fails. The unproven propositions are (1) that automakers know the value that consumers place on attributes of vehicles, (2) that automakers know the cost of changing attributes, and (3) that the vehicles that exist in the vehicle market are optimal in all attributes.

Our analysis of the impact of fuel economy standards on profitability raises doubts about all three propositions on which the "just not in a crisis" argument depends. The "just not in a crisis" conclusion is, "lowering or slowing the implementation of higher standards would give relief (higher profit) to the Detroit 3." Our analysis tests this conclusion and raises the stakes by addressing the question, "Would *tightening* the standards and/or *speeding* their implementation result in higher or lower profits for the Detroit 3?"

We estimated the impacts of higher fuel economy standards relative to a baseline forecast of sales, revenue, and costs for 2016. The baseline forecast used 2008 fuel economy levels (average MPG 26.9), and incorporated anticipated changes in products offered and sales by manufacturer and segment. We examined three scenarios for higher industrywide fuel economy standards defined by percentage increases in baseline fuel economy: 30% (35 MPG approximately CAFE 2020 or Pavley 2016); 40% (37.7 MPG); and 50% (40.4 MPG). Consumer demand and manufacturer cost models were used to estimate for each scenario the impacts on sales and profits relative to the baseline. We then conducted an extensive sensitivity analysis to the key parameters in our model.

Middle Range Industry Forecast, 2016				
	Thous	ands of Unit	s Sold	
Type of Vehicle	Detroit 3	Japan 3	Industry	
Passenger Car	2,660	3,374	7,773	
Crossover Utility	1,370	1,101	2,868	
Minivan & Large Van	581	232	859	
Pickup	1,772	368	2,140	
Sport Utility	892	207	1,565	
Industry	15,204			
Source: The Planning Edg				

#### **Baseline: Middle Range Industry Forecast 2016**

See Citi Investment Research (2009), CAFE Panel Conference Call & Briefing, April.

Type of Vehicle	Chrysler	Ford	GM	Honda	Nissan	Toyota	Others	Industry
Passenger Car	418	828	1,415	1,065	664	1,645	1,738	7,773
Crossover Utility	174	574	622	345	235	520	396	2,868
Minivan & Large Van	307	140	135	127	0	106	45	859
Pickup	440	612	719	21	96	251	0	2,140
Sport Utility	253	185	454	0	94	113	466	1,565
Total	1,592	2,339	3,345	1,559	1,089	2,634	2,646	15,204
Source: The Planning Edge, April 2009								

See Citi Investment Research (2009), CAFE Panel Conference Call & Briefing, April.

Sales by automaker and segment for our baseline scenario were provided by The Planning Edge. All the changes we consider in this report were with respect to this baseline. The scenario represents The Planning Edge's mid-range outlook for the U.S. market in the near future.

We defined cost and demand for the automaker by segment level. In the analysis, a market entry (the lowest level we modeled) is defined as an aggregate of an automaker's products in a segment. For example, GM has several Luxury Car products that we aggregated into a composite "GM Luxury Car" market entry. The attributes of the GM Luxury Car market entry are the sales-weighted averages of the products that comprise the market entry (fuel economy is the sales-weighted harmonic average).

The aggregation to automaker by segment market entries is consistent with our market demand and automaker cost information. We are using a price-elasticity demand model that is defined at the automaker by segment level. The own and cross-price elasticities were originally derived from a segment level elasticity model from General Motors. We estimated the automaker by segment elasticities using a method developed by the Congressional Budget Office. The costs of improving fuel economy, which were provided by Meszler Engineering Services (See CITI Investment Research (2009) for details), are defined at the segment level. We applied these segment-level costs to each automaker within the appropriate segment.

#### **Consumer Demand**

# Consumer demand is modeled as a system of demand equations (one equation for each automaker by segment market entry).



Consumer demand is modeled as a set of 75 demand equations -- one for each market entry. There are 7 automakers: the Detroit 3, the Japan 3, and an aggregate of all others. With the 15 segments in our model, there are 105 (=15X7) possible market entries, but since an automaker may not offer products in all segments there are 75 actual market entries.

The quantity of entry **m** demanded by consumers is a function of the "effective consumer prices" of all 75 market entries. (The elasticity matrix is 75 X 75.) The effective consumer price for an entry **n** is the retail price of that entry plus the adjusted expected future fuel costs for that entry. The adjustment in expected fuel costs consists is multiplied by  $\phi$ , a measure of the relative consumer response to fuel cost (an operating cost) vs. retail price (a capital cost).

We estimate the expected fuel costs as the discounted present value over the life of the vehicle of the annual future expected fuel costs of operating the vehicle. Along with the fuel economy of entry  $\mathbf{n}$ , several consumer preference factors determine expected fuel costs. Vehicle Lifetime is the consumer time horizon for the present value calculation. First Year Fuel Price and First Year Miles Driven establish the level of annual fuel costs.

The future fuel costs are brought into present value by applying the Overall Discount Rate, which is defined by consumer behavior and expectations about the Expected Fuel Price Growth, the Rate of Change in Miles per Year, and the (real) Consumer Discount Rate. Expected annual vehicle miles

generally fall as a vehicle ages based on two considerations. Not all vehicles survive from one year to the next, and a declining fraction of vehicles of a given vintage remain in use as they age. There is also evidence from the National Household Travel Survey that older vehicles are driven fewer miles.

# **Direct and Indirect Costs of Improving Fuel Economy**

We estimated the direct and indirect costs of improving fuel economy at the "enterprise" level— combining the change in costs at the automaker and its dealerships.

#### **Automakers' Direct and Indirect Costs**

# Vehicle Product Cost for Automaker (OEM)



We developed a model of product cost to estimate the impact of improving vehicle fuel economy on OEM and Dealership cost and retail price. Our estimates of the impact of a given industrywide percentage increase in fuel economy on product cost and profit assume that each market entry is improved by the same percentage. This significantly eases the model's computational burden, and does not materially influence our directional findings. Our analysis focuses on the impact of alternative scenarios on the (gross) profits of the Detroit 3. If they can meet an industrywide increase in fuel economy by applying different rates of improvement by segment, then they would be able to increase profits (reduce losses) above what results from the assumed uniform improvement rate. Thus, our (gross) profit impacts are understated.

The OEM Product Cost model distinguishes between Direct and Indirect Costs. The estimates of the Direct Cost of improving fuel economy were developed by Meszler Engineering Services and are contained in CITI Investment Research (2009). Direct cost = Direct Labor + Direct Materials. We assume that an improvement in fuel economy also increases some Indirect Cost items including, Warranty & Freight, and Factory Overhead (mainly Engineering in Indirect Labor and Depreciation, Maintenance, and Other). We measure the Indirect cost increase by multiplying Direct cost by an Indirect Cost Ratio (assumed to be identical for all automakers).

#### The Dealerships' Direct and Indirect Costs



# New Vehicle Cost for Dealership

The Dealership New Vehicle Cost model also distinguishes between Direct and Indirect Costs. From the vertical perspective of the enterprise (the OEM and its dealerships), dealership costs are all indirect. We incorporate dealership costs that change when technologies are used to improve fuel economy into our measure of Enterprise Indirect Cost. These may include Direct Cost Dealership-Installed Options, Dealership Overhead, and Other Indirect Cost.

### **Enterprise Cost Model**

An industrywide increase in vehicle fuel economy has impacts on OEMs' and dealerships' product costs, on product prices, and on consumers' willingness to pay for vehicles —leading to changes in profits.



We combine each automaker and its dealerships for an enterprise view of costs, sales, revenue, and profits. An industrywide increase in fuel economy increases the cost per vehicle. Direct Costs changes include OEM direct labor and materials costs of new components that raise the cost of manufacturing. Indirect Cost changes include other changes in OEM costs that vary with output (warranty and freight, if affected by new technologies); and some OEM costs that do not vary with production, but cover the costs of changing the vehicle or the manufacturing process (OEM engineering expense and OEM factory overhead). Indirect costs also include dealership costs that are changed to deal with selling and servicing new technologies.

#### Vertical View of Enterprise (Automaker and Its Dealerships)

Change in Cost = (1 + Indirect Cost Multiplier) X (change in Direct Cost)

Change in Price = (1 + ICM + Gross Profit Rate) X (change in Direct Cost)

#### **Consumers**

Change in Full Price = Change in Price +  $\phi$ (change in Fuel Cost)

The prices and full prices of all market entries are changed by the industry-wide improvement in fuel economy. The impact on sales on vehicles by automaker and segment is predicted by applying the elasticity matrix to the changes in full prices.

Change in Gross Profit = Change in Revenue - Change in Variable Cost

We estimated the increase in the per -vehicle Direct Costs resulting from raising fuel economy using cost curves. The curves differ by segment, as seen in the examples.



Source: Meszler Engineering Services, April, 2009

Our estimates of the impact on Direct Cost of a percentage increase in fuel economy were computed using information provided by Meszler Engineering Services (see CITI Investment Research (2009) for details). We defined cost curves for each segment that predict the change in Direct Cost as a quadratic function of the percentage change in fuel economy.

 $\Delta DC = A(\Delta E/E) + B((\Delta E/E)^2)$ 

In the sensitivity analysis, we treat uncertainty in the change in cost through an uncertain multiplicative factor that scales the change in direct costs to be higher or lower than the prediction from the curves.

## Automaker Knowledge of Consumer Willingness to Pay

Evidence that automakers underestimate the value of fuel economy to consumers leads us to reject the assumption that fuel economy is optimized in the baseline scenario.



Fuel Price Improvement: Supply Price and Consumer Willingness to Pay

A standard assumption of neoclassical economic theory is that automakers have complete knowledge of the market -- they know the preferences of their customers for all vehicle attributes, including fuel economy, and automakers make and sell vehicles that meet these consumer preferences exactly. It necessarily follows that any improvement in fuel economy would cost more to supply (areas B + C + D) than it would be valued by consumers (area D).

However, there is compelling evidence that automakers (especially the Detroit 3) systematically underestimate the value of fuel economy to consumers.

References to poor selection ("I can't find the vehicle I want with the fuel economy I need.") by consumers who stated that it was a bad time to buy a new vehicle increased during the 1970s, peaked in 1980, and did not return to pre-oil shock levels until 2002. References started rising again in 2003 and exceeded the 1980 peak in 2008 (University of Michigan Survey of Consumers).

- In recent years, as the real price of gasoline increased the unit sales of fuel-inefficient SUVs and large cars, which ought to have fallen, did not seem to be affected. Why? Automakers substantially offset the increase in the resulting present value of fuel costs by dropping prices of vehicles and dropping prices of fuel-inefficient vehicles the most. Estimates of the responsiveness of vehicle sales to fuel prices that ignore these vehicle price offsets understate consumer preferences for fuel economy (McManus 2007; Miller & Langer 2008).
- "...they are not making cars and trucks that enough Americans want to buy. And this has been true to some degree since the first energy shock hit the U.S. in the early 1970s." (Crandell & Winston WSJ 11/27/08)
- Continuing loss of market by Detroit 3 to competitors with more fuel-efficient vehicles.

Using the True WTP (assuming consumers respond the same to fuel cost as to retail price) the net gain to consumers is the area A. Automakers can raise prices and increase Gross Profits.

# **Results: Profits and Sales Impacts**

Industry average fuel economy is 26.9 MPGin the baseline mid-level future-market scenario. Gross profits are estimated for the automakers and their dealerships combined at \$85.3 billion for the industry. Vehicle unit sales are 15.204 million, reflecting The Planning Edge's expectation of a recover from current sales that are running below 10 million on an annual basis Services (See Citi Investment Research (2009) for details).

We estimated detailed impacts for three scenarios for industry-wide fuel economy improvements:

30% improvement (35.0MPG)

40% improvement (37.7 MPG)

50% improvement (40.4 MPG)

We used the EPA's laboratory composite fuel economy values, unadjusted for CAFE flex-fuel credits, so a precise match to CAFE is not expected.

We estimated the detailed impacts on the industry of three levels of improvement in industrywide fuel economy: 30%, 40%, and 50%. Industry total gross profit increases relative to the base case in all three scenarios; Detroit 3 gross profits increase roughly \$3 billion (8%) relative to the base case in all three scenarios.

	Sales an	d Gross Profit I	mpacts	
	Base	30%	40%	50%
Market MPG	26.9	35.0	37.7	40.4
	Gros	ss Profits (billio	ons)	
		Scenario (	D/(U) Base	
	Base	30%	40%	50%
Detroit 3	\$39.5	\$2.9	\$3.2	\$3.1
Japan 3	\$27.1	\$0.9	\$0.7	\$0.3
Others	\$18.8	\$0.9	\$1.0	\$1.2
Market Total	\$85.4	\$4.7	\$4.9	\$4.6
	Ve	chicle Sales (000	))	

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	Scenario O/(U) Base			
	Base	30%	40%	50%
Detroit 3	7,276	527	521	446
Japan 3	5,282	72	(27)	(171)
Others	2,646	145	147	133
Market Total	15,204	744	641	408

The results show that higher fuel economy standards are favorable to the Detroit 3 automakers. Gross profits of the Detroit 3 automakers increase relative to the baseline by roughly \$3 billion (8%) in all three scenarios. Unit sales of the Detroit 3 automakers increase relative to base by 446,000 to 527,000 (about two assembly plants at 80% utilization).

The results are not as favorable for the Japan 3 automakers. Gross profits of the Japan 3 automakers increase relative to the base case in all scenarios, but the size of the increase appears to fall as fuel economy standards increase from 35 MPG to 40.4 MPG. Part of the explanation for the less favorable outcomes for the Japan 3 automakers can be traced to changes in unit sales. The Japan 3 automakers' unit sales increase if industrywide fuel economy improves 30% (to 35 MPG), but decrease by 27,000 units if industrywide fuel economy improves 40% (to 37.7 MPG), and then by 171,000 units if industrywide fuel economy improves 50%.

# Profit and Industrywide Fuel Economy Improvments

The patterns we observed in comparing the three scenarios for fuel economy improvement (30%, 40%, 50%) motivated an in-depth analysis. The change in gross profits rises and then falls as fuel economy improvement goes from 0% to 80%.



As fuel economy improvement goes from 0% to 80% (and higher), Direct and Indirect Costs rise at an increasing rate. At the same time, from the consumer's perspective, vehicle purchase price rises while the projected fuel costs of operating the vehicle fall. The consumer's full price falls if the fuel cost savings exceed the price increase, and the full price rises if the fuel cost savings fall short of the price increase.

The rising and then falling of the change in gross profits are the result of the interaction between monotonically rising industry costs and falling and then rising consumer full prices. Full price falls at smaller increases in fuel economy since consumers are willing to pay more for these increases than it costs automakers to make them so unit sales increase. At some point, the price increases exceed the fuel savings and full prices begin to increase, and unit sales begin to fall. Eventually the automakers' gross profits also stop rising and start falling.

Japan 3 automakers start with a more fuel-efficient fleet and face the u-turn in gross profits before the Detroit 3 do. Customers of the Japan 3 already get more fuel economy than do customers of the Detroit 3, so Japan 3 customers value a given percentage increase less than do Detroit 3 customers.

The point at which the Detroit 3's profit gains from industrywide improvements peak could occur at lower or higher improvements, if some factors are different from our prediction. For example, if fuel prices were higher than the \$3 per gallon we forecast, then the turning point would occur at higher industrywide fuel economy improvement.

# **Robustness of Results to Uncertainty**

A sensitivity analysis was used to understand the robustness of our results. As far as we can ascertain, no one has taken a thorough look at the impact of uncertainty over the key inputs on sales and profits. People debate what the best single value of a parameter might be but they have such widely different prior beliefs that empirical analysis is always unpersuasive. Rather than add to the noise, we wanted to incorporate the full range of opinion into the results and see how the outcome changes.

The table below lists the factors and the ranges used in the sensitivity analysis. They can be grouped into three categories: costs and margins, consumer expectations, and consumer preferences. The range encompasses the debate over each of these issues. As example, to examine the range of debate on the costs of improving fuel economy, the Mesler cost curves, we used a multiplier. The base case is a one, but we also examined the cases where costs might be twice as much and half as much.

#### Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 69

	Sensitivity Analysis: Factors Subject to Uncertainty					
	Eastera	Range Us	Range Used in Sensitivity Analysis			
	Factors	Unfavorable	Base	Favorable		
	Fuel economy cost curves multiplier	2	1	0.5		
Cost & Margins	Indirect cost multiplier	2.2	1.5	1		
	Profit Margin on new technology	0%	5%	10%		
	Price of gasoline (\$/gallon)	\$1.50	\$3.00	\$7.00		
Consumer Expectations	Real rate of change in gasoline price	-2.00%	0.00%	5.00%		
	Rate at which miles driven falls (Scrappage)	8.00%	5.20%	2.00%		
	1st year miles driven (Future miles)	10,000	15,000	18,000		
	Consumer real discount rate	18.00%	7.00%	2.00%		
Consumer Preferences	Relative consumer response to operating v capital costs	0.33	1	3		
	Horizon for valuing expected operating cost (years)	10	15	20		
Industry	Industry size (millions of units)	14.2	15.2	16.3		

The findings are very similar for all three scenarios. The 30% case is displayed below as a "tornado" chart; the charts for the other two cases are in the appendix. The range of bar reflects the impact on Detroit 3 profits as the uncertainty swings from unfavorable to favorable; the bars are ordered by the size of their impact. There is a vertical line at zero. If the bar crosses this line, then the impact would be to decrease profitability, but if it is on the right, the profits are still positive, even at the unfavorable value.

The robustness of the results is quite striking and sheds light on the debate. Most of the uncertainties did not impact the basic result that increasing mandated fuel economy would increase Detroit 3 profits, but three did. If consumers valued fuel economy at half the value of a "rational man", gas prices were less than \$1.50 a gallon, or the costs of improving fuel economy were twice the base case, then a 30% increase in CAFE would lower Detroit 3 profits. But none of the other uncertainties would affect the basic conclusion. The same results hold true for a 40% or 50% increase in fuel economy. Where you stand on these results depends somewhat on your beliefs about these three key parameters, but you would have to fall on the extremes to believe that improving CAFE would lower Detroit 3 profits.



The total risk and reward profile is more important to understand the impact of individual factors. The total risk is the combination of the individual risk factors in all the possible scenarios with their associated likelihood. To calculate the total impact we assumed that the range between the high and low captured 80% of the possibilities; in other words, there is a 10% chance the outcome on the factor could be worse than the "unfavorable" level and a 10% chance it could be higher than the "favorable". The ranges we used are broad but do permit outcomes even more extreme. The table below gives the probability that the mandated increase in fuel economy is less than zero and greater than \$6 billion; this analyzes the chance the outcome could be a loss or more than twice the base value.

	30%	40%	50%	
	Increase	Increase	Increase	
Probability Change in	70/2	10%	15%	
Profit < \$0	//0	1070	1370	
Probability Change in	60/	120/	100/	
Profit > \$6bn	070	1370	1070	

There is a 7% chance that profits would be less than zero if CAFE were increased 30%, a 15% of a loss if it were 50%. As intuition would suggest, the larger mandate increases the downside risk. But it also offers greater upside opportunity, as the chance that the increase profits could exceed \$6 billion is 18%, but is only 6% for the 30% increase in fuel economy. The total uncertainty attached to the larger increase is greater, which means both more upside and more downside.

Overall, the risk and reward profile of these scenarios is very positive, with only a small chance of losing and a very large probability of gain.

# **Summary of Findings and Discussion**

A broad consensus has emerged in the current crisis that the Detroit 3 automakers need to be transformed. The business model they have followed since the 1970's is clearly broken. Reliance on gas-guzzling SUVs and large cars for domestic profit was risky in several ways. Cutting prices to offset gradually rising gasoline prices from 2000 through 2006 while spending billions to engineer the next generation of these vehicles left GM and Chrysler with no margin for error. There never was a high volume international market for SUVs and the large cars the Detroit 3 automakers became dependent upon, so when the price of gasoline soared in 2008 and the domestic market for them collapsed, the Detroit 3 automakers could not avoid the worst of the downside. Ford was hit as hard as GM and Chrysler, but had established expanded credit lines before the credit crunch and has been able to finance its cash-burn independent of the government assistance needed by GM and Chrysler.

While the need for transformation is widely accepted, there is still disagreement about the scope and pace of change, and some voices in the industry and in government are suggesting that fuel economy and greenhouse gas regulations should be lowered or delayed. We studied two general themes in the research reported here: the nature of change in a crisis and its impact on the way transformations should be done, and the impact of higher fuel economy regulations on costs, consumer demand for vehicles, and automakers' profits. Our findings support rapid, wide-reaching change in business models. The key to a long-term recovery is executing an excellent portfolio of products, and we find evidence that increasing fuel economy standards encourages automakers to create a portfolio of products that is more likely to raise the profits of the Detroit 3 automakers than to lower them.

Our research on turnarounds in a crisis found that:

- Change should be wide-ranging and fast.
- The existing management team should be replaced.
- Changing the culture is vital and necessary.
- The path to long-term success is built on executing an excellent portfolio of products.

We assessed GM on how well it is making the right changes and whether it is moving fast enough. Our view is that GM is still not prepared to change enough, fast enough to achieve the transformation it needs to make.

Fuel economy standards should not be relaxed in the current crisis. There is compelling evidence that systematically underestimating the value of fuel economy to customers is part of what created the crisis in the first place. There is general agreement that the future portfolio of products needs to be more fuel-efficient that today's portfolio. Change should include improving fuel economy of vehicles.

Because Detroit 3 automakers have long underestimated the consumer value of fuel economy, raising fuel economy standards would not cost more than consumers would be willing to pay. We found that an industrywide mandated increase in fuel economy of 30% to 50% would increase Detroit's gross profits by roughly \$3 billion per year, and reduce increase sales by the equivalent of two large assembly plants.

The sensitivity analysis of the impacts on profits showed that only a few factors could reverse our finding that profits of the Detroit 3 automakers would increase under higher fuel economy standards: relative value consumers put on fuel costs compared to vehicle price, the future price of fuel, and the level of direct costs to improve fuel economy. While the three factors could result in losses rather than gains in profits, the potential losses are relatively small, and all three factors have much more upside than downside. The total risk and reward profile of these scenarios is very positive, with only a small chance of losing and a very large probability of gain.
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#### Appendix





#### Attachment 6

T. Keith, *Dealers Beg for Cars as Automakers' New Discipline Curbs Sales*, Bloomberg (Aug. 11, 2010).

S. Ryst, *Car dealers make most of less on their lots*, Washington Post (Aug. 12, 2010).

## Bloomberg

### **Dealers Beg for Cars as Automakers' New Discipline Curbs Sales**

By Theo Keith - Aug 11, 2010

<u>Ford Motor Co.</u> used to flood Beau Boeckmann with more cars than he knew what to do with. Now, he's not getting enough.

Boeckmann, vice president of <u>Galpin Ford</u> in Los Angeles, asked for 100 Fusion sedans in July. He received 7.

"I am begging for inventory across the board," said Boeckmann, whose dealership is the automaker's top-selling U.S. store. "I couldn't sleep a year ago because I thought, 'We have a year's supply of these cars!' And now I'm worried about our inventory again because we don't have enough."

With Ford, General Motors Co. and Chrysler Group LLC kicking a decades-long habit of building more cars than customers want, dealers are howling that they can't get enough models to drive sales back to pre-recession levels. This newfound discipline preserves the automakers' profit per vehicle and draws praise from investors. At the same time, it cuts retailers' volumes.

Gordon Stewart, who owns Chevrolet dealerships in Michigan, Georgia and Florida, said GM isn't producing enough Equinoxes to meet his requests. Sales of the Equinox could be triple or quadruple current levels if he had adequate supplies, he said.

"The requests mean nothing," Stewart said in a telephone interview. "They appreciate the requests, but it does nothing for what they can produce."

#### **Increasing Output**

GM said last week it would increase output of the Equinox. The company is trying to meet demand without building too many vehicles and relying on discounts as it did in the past, said <u>Tom Henderson</u>, a spokesman for Detroit-based GM.

"We're working awfully hard to provide the additional capacity to meet that demand," he said. "But we don't want to go back to the days where we had overcapacity and had to use a lot of incentives."

Chrysler slashed production by half in 2009, and GM cut 44 percent as the companies went through

bankruptcy and extended summer plant shutdowns. Ford, the only major U.S. automaker to avoid Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 78 bankruptcy, lowered output 16 percent, according to J.D. Power & Associates in Troy, Michigan.

Cutting production has allowed the automakers to curb the discounts they'd relied on to move inventory for years, said <u>Tom Stallkamp</u>, a partner at private-equity firm Ripplewood Holdings LLC and a former Chrysler Corp. president.

"It took the financial collapse to make them realize that pushing them down is not the best way, that having consumers pull is better," Stallkamp said.

Ford had 349,100 vehicles of supply at the end of July, 30 percent less than two years earlier, while GM's inventory dropped 43 percent to 424,000 and Chrysler's declined 53 percent to 191,000, according to the companies.

#### Paying More

"Buyers have always been able to find 10 versions of the same vehicle they want," said <u>Jeff Schuster</u>, J.D. Power's executive director of forecasting. "Now we're in an environment that they're probably not going to get the exact one they want and they're going to pay more because the incentives aren't there."

The trend contributed to lower-than-expected sales in the past few months, he said. U.S. auto deliveries reached an annualized rate of 11.5 million in July, according to Autodata Corp. of Woodcliff Lake, New Jersey. The average estimate of eight analysts surveyed by Bloomberg was 11.9 million. June sales also trailed analysts' estimates.

Deliveries last year fell to 10.4 million, the lowest since 1982, compared with the average 16.8 million vehicles a year from 2000 to 2007.

#### Mexico Hurricane

A hurricane that delayed rail shipping in Mexico is holding back sales of Ford's new Fiesta subcompact, <u>George Pipas</u>, the automaker's sales analyst, said in an interview last week.

The company delivered 3,000 Fiestas, or less than one per store, and almost 7,000 are en route to dealers, Pipas said. Dearborn, Michigan-based Ford has no plans to increase production of any of its current models because demand is fragile in the weak economic recovery, he said.

Ford has been working to limit its inventory since 2005, in part to help retailers save money by borrowing less to stock their lots. The leaner inventories have been "healthy" for both the automaker and its retailers, <u>Mark Fields</u>, Ford's president for the Americas, told reporters at a conference last week in Acme, Michigan.

"They don't have t**CaseryO9**s112337ch iDventmentso127767144 ve Fölsedr flok110/12/0110expeases,79 he said. "We can help turn their inventory faster so they get the sales but have lower expenses."

SUV Shortages

<u>Group 1 Automotive Inc.</u> considers the inventories "ideal," though there are shortages in SUVs, Chief Executive Officer <u>Earl Hesterberg</u> said.

"Every brand is short," Hesterberg said on a conference call last month. "Every dealer is missing sales."

<u>AutoNation Inc.</u>, the largest U.S. dealer group, agrees the lower inventories are good for the industry, said <u>Marc Cannon</u>, a spokesman.

"We're 100 percent in support of this new reality," Cannon said.

Supplies at <u>Sonic Automotive Inc.'s</u> more than 120 U.S. stores, are "as close to nirvana as you can get," <u>Jeff Dyke</u>, vice president of operations, said on the company's earnings conference call last month.

Most of the shortages are of new or redesigned models such as the Cadillac SRX sport-utility vehicle that are in higher demand than previous offerings, said <u>Jessica Caldwell</u>, senior analyst at Edmunds.com, a car-shopping website.

#### 'Desperate' for More

"Dealerships have been struggling for some time now," Caldwell said. "Now that they get their hands on cars that are selling, they're desperate to get more of them."

Ford's redesigned Explorer also may be in high demand when it reaches dealers' lots in December, based on customers' reactions at the SUV's unveiling in Los Angeles, Galpin Ford's Boeckmann said.

"They were saying, 'This is going to sell like crazy," he said.

Chrysler dealers have had to wait longer for revamped vehicles. The Auburn Hills, Michigan-based carmaker introduced the 2011 Jeep Grand Cherokee in June, the company's first major redesign since its 2009 bankruptcy, and will release new versions of the Dodge Charger and Durango this fall.

Chrysler, now controlled by Fiat SpA, added a second shift to its Jefferson North plant in Detroit to make the Grand Cherokee, and Chief Executive Officer <u>Sergio Marchionne</u> said the automaker may add a third shift this fall to produce the Durango.

Chrysler said its plant in Sterling Heights, Michigan, which had been scheduled to close in 2012, will stay open and add a second shift in 2011.

Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 80 Production Increase

The additional shift and overtime hours are increasing Grand Cherokee production to help meet demand, said Ralph Kisiel, a Chrysler spokesman. More overtime is possible when the automaker introduces new models later this year, he said.

The Grand Cherokee is helping the Bob & Chuck Eddy Chrysler Dodge Jeep <u>dealership</u> in Austintown, Ohio. While Grand Cherokee inventory is running low, it's a better problem to have than last year, Chuck Eddy said.

"It's the hottest I've seen that product in my life," he said in a telephone interview. "Last year, it was survival."

To contact the reporter on this story: <u>Theo Keith</u> in Southfield, Michigan at <u>tkeith6@bloomberg.net</u>.

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## The Washington Post 1276741 Car dealers make most of less on their lots

By Sonja Ryst Washington Post Staff Writer Thursday, August 12, 2010; A12

Here's an unexpected result of the Great Recession: Washington area auto dealers don't have enough new cars to sell and are begging automakers for more.

In the past, dealers would take out big loans to buy lots full of cars, giving them months of inventory and buyers an abundant selection. But credit dried up as the recession took hold, hurting dealers and customers. Sales plummeted in 2008 and 2009. Advertisement

# Prevention is the first step.

Recent events in the Gulf have led to a national discussion about our energy needs and the safety systems they require.



Now, automakers face an uncertain economic recovery and the prospect that dealers won't be able to get loans. Dealers say automakers are being stingy in parceling out new vehicles, leading to emptier lots and sometimes frustrated customers.

Tammy Darvish, vice president of Darcars Automotive Group in Silver Spring, said a friend came by on Friday looking to buy a Chevy Tahoe. Darvish had been waiting almost two months to get one since she put in the order, so she ended up selling her friend a Toyota instead. Darvish was once so flooded with inventory that she was able to go six months to a year without having to order new vehicles from auto manufacturers. Now, she needs to replenish her lots every month.

Automakers are "not sure the recovery will last and not sure of the dealers' ability to get credit," said Thomas Stallkamp, former president of Chrysler.

Edmunds.com predicts total 2010 new vehicle sales will come in between 11.3 million and 11.5 million, up from the 10.4 million new vehicles sold in 2009, but well off the 16-million-per-year average before 2007.

"Having more demand than you have the ability to produce is a good problem to have," said General Motors spokesman Tom Henderson. "We're looking at a lot of creative ways to add capacity to meet customer demand. What we want to avoid is a situation where we have higher-than-needed levels of inventory, which drives the need to pile on incentives and discounts."

Jerry Jaffe, general manager at Jaguar, Land Rover, Lincoln & Mercury in Bethesda, said his customers in the past had a "feeding-frenzy mentality." In 2004 his dealership sold 70 new Jaguars per month and stocked 100 to 120 of the English luxury cars. Now he sells 20 Jags per month and has 35 to 40 on hand. With fewer cars to go around, his customers are more conscientious.

Darvish said GM has told her that they're ramping up their production, so she's expecting to see her supply of new cars to meet customer demand by the end of 2010. She still hasn't heard yet from Chrysler, which maintains it is hitting its targets.

"We have not gotten any criticism from dealers about our inventory," said Ralph Kisiel, a Chrysler

spokesman. He added that Chrysler Group finished July with a 55-day supply of inventory, which is where it wants to be. Case: 09-1237 Document: 1276741 Filed: 11/10/2010 Page: 82

Ford has the same 55-day supply level as Chrysler, said George Pipas, Ford's sales analyst. His company continues trying to match its production with demand, and is working with its dealers to make sure they have the proper model mix on their lots. Ford plans to produce 570,000 units in North America during the third-quarter, up 16 percent from a year ago. Meanwhile, Pipas said, the company has won retail market share gains in 21 of the past 22 months.

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#### Attachment 7

*EPA/NHTSA Joint Public Hearing Transcript, Detroit MI*, EPA-HQ-OAR-2009-0472-6185, at 13-14 (Oct. 21, 2009).

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    ENVIRONMENTAL PROTECTION AGENCY
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    40 CRF Parts 86 and 600
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    DEPARTMENT OF TRANSPORTATION
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    National Highway Traffic Safety Administration
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     49 CFR Parts 531, 533, 537, and 538
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    (EPA-HQ-OAR-2009-0472; FRL-8966-9;
    NHTSA-2009-0059)
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    Hearing for the Proposed Rulemaking To Establish
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    Light-Duty Vehicle Greenhouse Gas Emission Standards
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    and Corporate Average Fuel Economy Standards.
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         Taken at 30559 Flynn Drive,
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         Romulus, Michigan,
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         Commencing at 9:00 a.m.,
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         Wednesday, October 21, 2009,
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         Before Laurel A. Frogner, RMR, CRR, CSR-2495
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everybody is here; GM, Ford, NRDC, Sierra Club, and 1 2 Walter McManus. 3 MR. MEDFORD: Good morning. Mike 4 Robinson from GM, you're the first presenter this 5 morning. 6 MR. ROBINSON: Good morning. Put my 7 name card right here first. Good morning. I'm Michael Robinson, Vice-President for Environmental Energy and 8 9 Safety Policy at General Motors, and at first I want to 10 thank the presiders for the opportunity to participate on this panel and present testimony this morning. 11 12 On May 19th President Obama 13 announced the administration's intentions to adopt a 14 National Program to address vehicle greenhouse gas 15 emissions and fuel economy. GM President and CEO Fritz 16 Henderson proudly joined the President and others in the Rose Garden that day because we recognized the 17 18 significance of the moment. The administration, various Governors, environmental groups, and automakers 19 20 all came together because we agreed a new approach was 21 needed. Our working together in a common direction on 22 a single national approach could accomplish much more, 23 consistent with the energy needs and the environmental 24 priorities of the country. We knew then only about the 25 framework for the proposed regulations. But we made

clear that we were prepared to work with EPA and NHTSA,
 and in that regard, I appreciate this opportunity to
 testify today to reaffirm GM's commitment from last May
 and to comment briefly on the proposed rules of the two
 agencies.

6 First, let me underscore that GM 7 supports the joint proposal from EPA and NHTSA to address 2012 to 2016 model year vehicles. We commend 8 9 the technical staffs of both agencies with working 10 together on this highly complex issue to produce what appears to us to be a very harmonized approach with the 11 12 two Federal programs that will regulate fuel economy 13 and greenhouse gas emissions. We also want to thank 14 the agencies for leadership that the Federal Government 15 is showing in trying to minimize the disruptive impacts of having multiple programs at State and Federal 16 17 levels. We are especially pleased that we are able to 18 testify today in support of this approach that is being proposed rather than saying no to a patchwork of state 19 20 programs.

21 On this note, we also want to 22 commend the State of California and the California Air 23 Resources Board for their role and their collaboration 24 and their leadership in working toward this national 25 standard. We also welcome the opportunity to work with

1	the agencies as they finalize the proposed regulations.
2	This is a big step forward for all of us.
3	Among the highlights of the proposal
4	are, one, that the coordinated attribute-based approach
5	of the two programs, and, two, the recognition of the
6	need for mechanisms to provide for compliance
7	flexibility in the face of great uncertainty over
8	future technology, developments and costs, customer
9	acceptance of these technologies, and the price of
10	fuels that consumers may see in the market place. All
11	of these factors make it critical that automakers have
12	some ability to cope with changes or unexpected
13	outcomes, and we believe the proposed rule provides
14	such flexibility.
15	The proposed standards are not easy,
16	nor will they be inexpensive, but we are up to the
17	challenge. The success of our current offerings in the
18	marketplace like the Chevy Malibu and the Equinox and
19	the enthusiasm over soon-to-be released products like
20	the Chevy Cruze convince us that we will be able to do
21	our part, and even before this rule becomes effective,
22	we will have introduced the Chevy Volt, which is
23	scheduled to start production in late 2010 as a 2011
24	model year vehicle, and it will be GM's first extended
25	range electric vehicle.

1	It is our view that this rule
2	represents a dramatic opportunity to advance our mutual
3	goals of CO2 reduction and increased energy diversity
4	while respecting customer choice. But even after this
5	rule is finalized, more work will remain on the policy
6	front. This rule only gets us to 2016.
7	We do urge both EPA and NHTSA to
8	keep all stakeholders at the table and immediately
9	begin work on the next phase of what we would call an
10	ongoing national strong program. And I will tell you
11	right now from a GM perspective, we are prepared to
12	engage in that process today.
13	All voices, as reflected in May's
14	Rose Garden event, are essential to this panel, the
15	States, the automakers, the environmental
16	organizations, and the energy providers themselves need
17	to be at the table. Ultimately we will need strong
18	leadership at the Federal level with an integrated
19	approach that addresses infrastructure, vehicles,
20	fuels, and consumer behavior as well as other sectors
21	of the economy. This proposed rule is a very positive
22	first step and a good foundation on which we can all
23	build. We intend to provide detailed technical written
24	comments to enhance the clarity and harmonization of
25	the jointly coordinated program, and as we have from

2 states, and other interested parties to make this a 3 success. I'm glad to answer any questions you may 4 have. 5 MR. MEDFORD: Let's move on. 6 Sue, you want to introduce yourself? 7 MS. CISCHKE: Good morning. I am Sue Cischke, Group Vice-President of Sustainability, 8 Environmental and Safety Engineering for Ford Motor 9 10 Company. It is a pleasure to be here today to provide our perspective on this very important rulemaking. We 11 12 commend the efforts of both agencies in this difficult 13 task to develop harmonized greenhouse gas emissions and 14 CAFE standards for passenger cars and light-duty trucks 15 and we are committed to working with you to finalize 16 these regulations. 17 Before I talk about the proposed 18 rulemaking, I would like to spend a moment telling you 19 about the progress that Ford is making in executing our 20 long-term sustainability plan. All of the investment 21 that we are putting into our plan is contributing to 22 improving the fuel economy and reducing the greenhouse 23 gas emissions of our fleet. This includes converting 24 three truck and SUV plants to build small cars, 25 re-tooling our powertrain facilities to manufacture

the start, we commit to work with the agencies, the

1	EcoBoost engines and more advanced six-speed
2	transmissions, leveraging our global platforms,
3	increasing our hybrid offerings and moving forward with
4	an aggressive electrification strategy. While there
5	are significant costs in making this transformation, it
6	is the right thing to do for our customers, and you
7	will continue to see us offer more great products with
8	advanced, innovative technologies to improve the fuel
9	efficiency of our vehicles and to deliver outstanding
10	quality and features that our customers desire.
11	Turning now to the proposed
12	rulemaking, Ford supports the manner in which the
13	agencies have proposed to harmonize the greenhouse gas
14	emissions and CAFE regulations, which is a broader
15	program compared to what was outlined in the 2007
16	Energy Independence and Security Act. It brings
17	together a range of compliance mechanisms such as
18	improvements to fuel economy, improvements in air-
19	conditioning systems designed to minimize refrigerant
20	leakage (another potential source of greenhouse gases)
21	and advanced technology vehicles that can run on
22	bio-fuels and electricity. Taken together, the broader
23	elements of this one National Program provide a more
24	efficient compliance framework compared to individual
25	state programs or potentially overlapping Federal and

1 state programs.

2 As we continue to move towards an 3 integrated approach that considers the vehicle, the 4 fuel, and the consumer; it is worth highlighting other 5 policies that could do more to reduce greenhouse gas 6 emissions from actual in-use operation of motor 7 vehicles compared to some of the additional requirements that EPA is proposing under this 8 9 rulemaking. For example, EPA is proposing useful life 10 standards for CH4 (methane) and N2O (nitrous oxide) in addition to the fleet-average CO2 requirements. The 11 relative contribution of methane and nitrous oxide to a 12 13 vehicle's overall greenhouse gas emissions is small 14 compared to CO2 - on the order of 1-3% and 0.3-0.4% 15 respectively. So the benefit of expanding the existing 16 criteria pollutant emissions durability requirements to 17 include these greenhouse gases is negligible, relative 18 to other potential measures that could have a much more significant impact on actual in-use greenhouse gas 19 emissions. Such measures would go beyond the vehicle's 20 21 design. For example, significant additional greenhouse 22 gas emissions reductions could be achieved by reducing 23 the carbon intensity of the nation's overall fuel supply (through the introduction of alternative, low-24 25 carbon fuels). In addition, further reductions could

1	also be achieved through more efficient transportation
2	control measures designed to manage increased travel
3	demand. And these could include congestion mitigation
4	initiatives, eco-driving education and awareness
5	programs, and other incentives to encourage customers
6	to drive more efficiently.
7	We do not believe EPA is compelled
8	to establish full useful life standards for N2O and
9	CH4, and our written comments will address this in more
10	detail. To the extent that EPA desires to pursue this
11	issue nonetheless, the regulations could continue to
12	allow manufacturers to make an "engineering judgment"
13	attestation in lieu of formal compliance testing
14	beyond just the first couple of years as proposed. And
15	alternatively, EPA could establish generic emissions
16	factors for N2O and CH4 and roll these into the
17	proposed CO2 standard.
18	That being said, we really want to
19	say that Ford strongly believes that measures need to
20	be put in place to ensure that the National Program
21	approach outlined in this rulemaking continues beyond
22	2016. We were pleased when the President brought us
23	all together to agree on a roadmap for harmonizing

25 EPA and NHTSA proposal gives us greater clarity,

24 greenhouse gas emissions and CAFE standards. And the

1	certainty and flexibility to achieve the aggressive
2	greenhouse gas emissions reduction goals that we all
3	share. Most importantly, it avoids the patchwork and
4	overlapping requirements that we would have faced under
5	the status quo. Nonetheless, it is only a first step
6	and we look forward to working with the same
7	stakeholders as we move beyond 2016.
8	Once again, we appreciate the
9	opportunity to provide our testimony on this very
10	important rulemaking, and we are continuing to review
11	all of the different aspects of the proposal, and we
12	plan to provide detailed written comments aimed at
13	achieving and finalizing regulations consistent with
14	the commitment that all parties have made to this
15	National Program.
16	Thank you very much.
17	MR. MEDFORD: Thanks, Sue. We're
18	going to wait. We'll ask our questions at the end.
19	So, Luke, you're next.
20	MR. TONACHEL: Good morning, and
21	thank you for the opportunity to testify today on the
22	joint proposal rule. My name is Luke Tonachel. I am a
23	vehicles analyst with the Natural Resources Defense
24	Council, our Air and Energy Program. I represent NRDC
25	and its 1.2 million members and activists and support

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1
     2009 the California program is less stringent.
 2
                       MS. OGE: California.
 3
                       MR. TONACHEL: Than the CAFE program
 4
     and possibly for 2011. I think the NPRM also speaks to
 5
     that issue.
 6
                       MS. OGE: Thank you. No more
    questions.
 7
 8
                       MR. MEDFORD: We're all done. You
 9
     have something, John?
10
                       MS. OGE: Thank you very much.
11
                       Now the second panel.
12
                       MS. OGE: Good morning. We'll start
13
     with Mr. Bartoli.
14
                       MR. BARTOLI: I'm Steve Bartoli,
     Chrysler Group, LLC, Vice-President of Regulatory
15
    Affairs and Engineering Planning. I'm very glad to be
16
17
    here this morning and appreciate the opportunity to
18
     comment today on the Environmental Protection Agency
19
     and the National Highway Traffic Safety
     Administration's proposal, national greenhouse gas and
20
21
     fuel economy rules. The proposed rules would increase
22
     energy security, reduce greenhouse gas emissions, and
23
     offer certainty for vehicle manufacturers.
24
                       We strongly believe at Chrysler
25
    Group that a single national fuel economy/greenhouse
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1	gas program will place more clean and efficient
2	vehicles on the road more quickly and at lower cost.
3	Our resources are best utilized when applied to one
4	single national standard versus differing state level
5	fuel economy and greenhouse gas requirements. We
6	support this form of regulation versus regulations that
7	mandate specific technologies without regard to
8	marketplace realities. Fleet average performance
9	standards allow manufacturers to choose how they apply
10	technologies to their product for maximum environmental
11	benefit. While allowing the technology to evolve, the
12	market forces it to work properly. We look forward to
13	continuing these efforts beyond 2016 model year through
14	a collaborative approach.
15	We believe it's important to observe
16	that the 2016 model year standard of 250 g/mi carbon
17	dioxide or 35.5 mpg represent an historic and
18	unprecedented challenge for our industry. Translating
19	this into more easily understood terms, this is a 10
20	mpg or 40 percent increase in the entire fleet's fuel
21	economy from today's level within six years.
22	Chrysler confirmed support for this
23	historic program in the May 19th, 2009 White House
24	ceremony with President Obama. Our current CEO, Sergio
25	Marchionne is also the CEO of Fiat, the fuel economy

1	leader in Europe. He understands and endorses these
2	commitments and is determined to implement the product
3	actions necessary for Chrysler to meet those 2016
4	standards. In fact, Chrysler and Fiat continue to
5	progress towards those product actions, and work is
6	already underway on developing new environmentally
7	friendly, fuel-efficient, high quality vehicles that we
8	intend to become the hallmark of Chrysler's product
9	line.
10	We have significantly revised our
11	five-year plan to meet these new standards. Chrysler's
12	compliance requires successful application of a broad
13	range of technologies from advanced technology ICE all
14	the way through electrification in an unprecedented
15	time. This means that Chrysler's vehicles will adopt
16	Fiat's world-class technology, platforms and
17	powertrains for small and medium sized vehicles,
18	allowing us to offer an expanded product lineup
19	including environmentally friendly vehicles with these
20	rules and, also, by increasing demand to consumers.
21	One type of technology is multi-air
22	technology, an electrohydraulic variable valve lift
23	system for internal combustion engines. It controls
24	air flow and combustion cylinder by cylinder, stroke by
25	stroke, improving both fuel efficiency and performance

1 in our engines. 2 Chrysler is also working with the 3 Department of Energy to improve the commercial 4 viability of our plug-in hybrid programs through the 5 electrification grant that we received earlier this 6 year. 7 In addition to these steps that are primarily powertrain efficiency actions, Chrysler will 8 9 also continue to lessen the vehicle energy demands 10 through actions such as improved aerodynamics, reduced loading resistance, and also material substitution, 11 lightweighting while maintaining overall strength and 12 13 safety of our products. 14 Chrysler believes that reducing vehicle mass without reducing the size of the vehicle 15 or the structural integrity is technically feasible in 16 the rulemaking time frame on these products. 17 18 So far I've talked about the level 19 of standards we've committed to achieve and how 20 Chrysler plans to reduce them. However, we also 21 believe that there are some opportunities in the 22 proposed rules. I believe that improvements can be 23 made consistent with the Clean Air Act and the Energy Policy Conservation Act as amended in 2007. Just a few 24 25 examples this morning, the proposed rule increases the

standard between 2011 and 2012 very steeply. We've had 1 2 some suggestions on how to smooth or ramp up to the 3 2016 standard while maintaining the absolute level of 4 2016 can be achieved. 5 In addition, the proposed rule would 6 apply in-use testing requirements to these standards. 7 We would propose that EPA gather data on specific test plans and we're willing to work with EPA on those 8 9 matters. 10 As a final example of proposed rule temporary lead time allowance for small --11 12 manufacturers have some competitive impacts that we 13 believe can be mitigated. On all these rules and other 14 details, we will be submitting our comments in a timely 15 fashion to the EPA and NHTSA, and Chrysler will continue to work cooperatively with the agencies and 16 17 will provide written comments. 18 In closing, like I said, we will 19 continue to work with the administration, EPA and NHTSA, to ensure the success of this historic rule. We 20 21 support the collaborative process and are very 22 encouraged by it, led by the Federal Government, and we 23 look forward to working together as we begin to set our sights beyond 2016, 2017, and beyond, as it continues 24 25 its collaborative efforts. Thank you very much for

1 your time.

2	MS. OGE: Thank you very much.
3	Ms. Cooper, good morning.
4	MS. COOPER: Good morning. Thank
5	you for the opportunity to be here. I'm Jo Cooper, and
6	I am Group Vice-President of Public Policy and
7	Government and Industry Affairs for Toyota Motor North
8	America. It's a wonderful opportunity for us to be
9	here with you in this hearing on the proposed language
10	to establish Light-Duty Vehicle Greenhouse Gas
11	Emissions Standards and Corporate Average Fuel Economy
12	Standards, a very long name.
13	Last May Toyota Motor Sales'
14	President, Jim Lentz, joined President Obama, Cabinet
15	members, governors, and other CEOs and environmental
16	leaders to support a commitment to establish one
17	national program for fuel economy standards and
18	greenhouse gas reductions from passenger cars and light
19	trucks.
20	Toyota is committed to addressing
21	climate change by increasing the fuel efficiency of our
22	products, developing new markets for advanced vehicle
23	technology, and reducing the greenhouse gas footprint
24	from our manufacturing and distribution operations.
25	We welcome the development of a

1	single coordinated fuel economy and greenhouse gas
2	standard. This agreement is something we have
3	encouraged and sought for a very long time, and it is a
4	landmark achievement for all of us. Without it, we
5	would be subject to overlapping and in places
6	conflicting regulations from two separate Federal
7	agencies and over a dozen states. In exchange for
8	eliminating the patchwork, we agreed to pull forward
9	the ambitious fuel economy targets set by Congress for
10	2020 to 2016.
11	We applaud the efforts NHTSA and EPA
12	have made to unify two programs under two quite
13	different statutes, and to establish a completely new
14	EPA program for motors vehicles. The proposed
15	regulations appear to capture the key elements of our
16	historic agreement, including the various compliance
17	flexibilities that were integral to reaching a
18	consensus. We therefore believe the proposal sets the
19	stage for a successful final joint rulemaking that will
20	provide certainty for our product planners and
21	significant environmental and energy benefits for our
22	nation and the world. We are now examining the details
23	of this complex proposal, and to the extent that issues
24	need to be clarified we will be submitting written
25	comments.

1	Make no mistake, meeting the overall
2	fleet average of 35.5 mpg by 2016 will be a challenge
3	for our engineers and product planners. It will
4	require every ounce of their ingenuity and creativity.
5	In the end, consumers will be the true beneficiaries of
6	this program. A unified national program ensures
7	American consumers will have the choice of vehicles
8	they need and want, as well as the fuel efficiency and
9	low emissions they expect, without the confusion of
10	multiple standards. That's why the process of
11	collaboration must continue beyond 2016 and we must
12	continue to seek additional areas of harmonization
13	between the two programs.
14	Now I would like to step back and
15	comment from a broader perspective just a moment. The
16	fact that diverse groups could find common ground on
17	these challenges is a notable example of how government
18	and industry can and should work. It illustrates
19	one of the cornerstones of how Toyota approaches public
20	policy, by fostering partnerships, with government,
21	universities, non-profits, and other companies. The
22	other cornerstone is a long-range planning for and
23	investing in the future. At Toyota, we don't stop at
24	regulatory compliance nor do we wait for government
25	regulation to address the challenges of tomorrow's

1 transportation.

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2 Our top public policy priority is 3 sustainable mobility. That means building vehicles 4 that meet customer needs and expectations, while also 5 being safe, durable, and better for the environment. 6 To minimize our environmental footprint, we are 7 accelerating the roll-out of conventional hybrids across our entire vehicle lineup. In addition, we are 8 pursuing hydrogen fuel cells, plug-in hybrids, pure 9 10 electrics, and advanced batteries beyond lithium ion -all with the goal of overcoming the barriers that 11 12 currently prevent their mass deployment. 13 Sustainability mobility defines 14 where we are today and where we plan to be in the 15 future: We are the leader in fuel-efficient vehicles 16 in the U.S. We are the leader in hybrid technology, having launched our first hybrid a dozen years ago and 17 put more than 2 million in the worldwide market to 18 date. We are bringing a plug-in, a pure EV, and other 19 20 advanced technologies to market in the near future to 21 complement our hybrid dominance. And we've already cut 22 CO2 emissions and energy use from our manufacturing 23 plants on a per vehicle produced basis by 19 percent

25 first car manufacturer to join the SmartGridCity in

since the year 2000. Just yesterday Toyota became the

1	Boulder, Colorado. 10 plug-in Prius hybrid electric
2	vehicles will help teach us how to reduce carbon
3	emissions and our dependence on foreign oil, while at
4	the same time, not just meet, but exceed customer
5	expectations.
6	We believe it is important to keep
7	in mind that the road to sustainable mobility is a long
8	one, and it is not one, but actually two separate and
9	distinct roads traveling in the same direction. One
10	road is the path to compliance. The other is the path
11	to market preparedness. One is constructed to meet the
12	priorities of government regulation. The other is
13	constructed to search out and respond to the specific
14	needs and desires of the consumer.
15	I believe we need both of these
16	roads to arrive together in the same place to realize
17	the goal of sustainable mobility.
18	We look forward to working with EPA
19	and with NHTSA as this momentous joint rulemaking is
20	finalized.
21	Thank you for this opportunity to
22	express our views.
23	MS. OGE: Thank you.
24	Dr. Ross, good morning.
25	DR. ROSS: I'm Mark Ross. I'm a

1	that. We're certainly suggesting that more work needs
2	to be done on safety analyses and needs to be done
3	specifically looking at the separate effects of size
4	and weight, and an easy first step would be to update
5	the DRI analyses with more recent safety data, respond
6	to some criticisms from NHTSA, make sure that they're
7	doing things properly, but we would also like to see
8	NHTSA itself embark on a new model that would try to
9	look at separate facts. And I think we'd be supportive
10	of any and all efforts in this area, just to try to
11	figure out the best way to
12	MS. OGE: Great. Thank you. Again,
13	thank you for testifying.
14	Start with the next panel.
15	MR. MEDFORD: We'll take a 10-
16	minute break at this time.
17	(A short recess was taken)
18	MR. MEDFORD: We'd like to welcome
19	the third panel.
20	MR. KRAFCIK: Good morning. I'm
21	John Krafcik. I am the President and CEO of Hyundai
22	Motor America. Improvement in economy and control of
23	greenhouse gases are very important issues to Hyundai.
24	On behalf of Hyundai, we're delighted to come here and
25	happy to participate in the process.

1	So in 2008 our company recognized
2	California for beginning a critical national debate on
3	fuel economy and greenhouses gas policy. Moreover, we
4	supported early implementation of NHTSA's then 2020
5	fleet fuel economy target under the 2007 Energy
6	Independence and Security Act. That same year we
7	became the first automaker to pledge to achieve 35 mpg
8	by 2015. Our goal is now to become the industry's fuel
9	economy leader propelled by what we call our "blue
10	drive" initiative. We will accomplish this with
11	hundreds of incremental fuel economy improvements.
12	Hyundai will be introducing our very first hybrid next
13	year with the industry's first application of a third
14	generation lithium polymer battery technology.
15	However, while we're really proud of this hybrid
16	technology, at least for now hybrids won't be a
17	significant part of our lineup because of the reality
18	of the cost challenges associated.
19	Hyundai applauds the joint NHTSA/EPA
20	ruling. It represents unprecedented regulatory
21	cooperation between the Federal and State agencies. It
22	seeks a national solution for reducing greenhouse gas
23	emissions, and it works for a global solution in
24	addressing climate change.
25	The unified program allows

1	manufacturers to develop a concerted cost effective
2	approach, and the employment of advanced technologies.
3	We believe that a single National Program is the most
4	efficient and practical approach now and in the future.
5	We strongly encourage dialogue between EPA, NHTSA, and
6	California on the creation of post 2016 model year
7	national standards, and we look forward to
8	participating in those discussions.
9	Now, moving on to some of the
10	specifics in this proposal, let me address the subject
11	of intermediate environmental factors. Now, as many
12	are aware, Hyundai would not be subject to the
13	California GHG regulations through the 2016 model year.
14	The EPA proposal does not provide us with this same
15	relief, but, nonetheless, we support EPA's proposal as
16	it is consistent with our blue drive initiative and our
17	overall corporate responsibilities to address fuel
18	efficiency, energy security, and environment.
19	Hyundai is pleased that EPA had the
20	foresight to include mechanisms for various forms of
21	compliance flexibility outlined in the joint proposal,
22	including trade transfers and trading and credits for
23	advanced technology. These are critical to provide a
24	cost-effective means of achieving the standards. More
25	specifically, we support the proposed credit carry-

1 forward and carry-back time periods under both the EPA 2 and NHTSA programs. 3 In addition, we would support 4 expanding the carry-over provisions under the GHG 5 program to include a phase-out or discounting of 6 credits after the five-year period. This practice was 7 permitted under the California regulations and would have provided further compliance flexibility. 8 9 Now, we support EPA's regulatory 10 plan to begin verification of an actual use of alternative fuels such as E85 starting with model year 11 2016. We believe there should be a correlation between 12 13 real world alternate fuel use and available credits. 14 We also believe that the CAFE flexible fuel credit 15 calculation currently overstates real world use of alternative fuels. However, we understand that this is 16 a statutorily prescribed calculation right now. 17 18 Finally, Hyundai supports a 19 pragmatic government role in accelerated market demand for fuel efficient vehicles. Consumer incentives can 20 21 have the ability to stimulate advanced technologies 22 even beyond what the CAFE GHG regulations would 23 require. Under the purview of EPA or NHTSA, Hyundai 24 supports incentives such as tax credits or rebates for 25 the purchase of fuel efficient vehicles.

1	Alternatively, a flexible gasoline tax that maintains a
2	more stable pricing structure has the potential to ease
3	uncertainty about fuel prices and would stimulate sales
4	of fuel efficient vehicles. Of course, in addition to
5	these verbal comments, we will submit written comments
6	addressing details addressed in the NHTSA/EPA proposal.
7	And, again, we really appreciate the opportunity to
8	address the panel. And we look forward to being a part
9	of the dialogue in the future.
10	MR. MEDFORD: Thank you.
11	And Ms. Becker.
12	MS. BECKER: My name is Julie
13	Becker. I'm Vice President, Environmental Affairs for
14	the Alliance of Automobile Manufacturers. The Alliance
15	is an association of 11 vehicle manufacturers including
16	BMW Group, Chrysler Group LLC, Ford Motor Company,
17	General Motors, Jaguar, Land Rover, Mazda,
18	Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota,
19	and Volkswagen.
20	The Alliance and its members are
21	committed to developing and implementing policies that
22	enable the introduction of new technologies needed to
23	support sustainable mobility and to doing our part to
24	help address climate change. We believe the best way
25	to achieve this is to initiate and leverage consensus-
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1	oriented dialogue with industry, Federal and state
2	governments, and other stakeholders to address shared
3	objectives, both domestically and internationally.
4	Today's hearing is the result of one such dialogue.
5	We want to thank EPA and NHTSA for
6	the opportunity to comment today, and for the
7	dedication and teamwork that it took to put this
8	complex joint rulemaking together. While this proposal
9	covers model years 2012-2016, we agree with EPA and
10	NHTSA that it is important to create a strong
11	coordinated National Program that continues to provide
12	a national standard for light-duty vehicles in model
13	years beyond 2016. This is a key to reducing the
14	impact of vehicle greenhouse gases on our global
15	climate.
16	The proposal provides manufacturers
17	with a roadmap for meeting significant increases for
18	model years 2012-2016. It calls for an increase in the
19	average fuel economy in new vehicles by 40 percent to a
20	combined 35.5 miles per gallon. As EPA and NHTSA have
21	stated, final rulemaking prior to April 2010 is
22	essential to providing manufacturers with the certainty
23	and lead time necessary to plan for the future and to
24	cost effectively add new technology.
25	The Alliance members are committed

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1	to continuously improving fuel economy and thereby
2	reducing our greenhouse gas emissions. In fact, the
3	motor vehicle industry has committed to reduce
4	greenhouse emissions more than any other sector of the
5	U.S. economy. By the Agencies' own estimates, these
6	new standards would lead to reductions of 62 billion
7	gallons of fuel, or CO2 emissions totaling 656 million
8	metric tons, during the useful lives of vehicles 2012 -
9	2016 vehicles. The elements of the proposal before
10	us a harmonized and coordinated National Program,
11	attribute-based approach, the available compliance
12	mechanisms and general implementation elements provide
13	this industry with certainty and flexibility necessary
14	for achieving ambitious reductions in greenhouse gases
15	and significant savings in oil consumption proposed by
16	the rule.
17	In going forward to 2017 and beyond,
18	this joint coordinated effort by EPA and NHTSA on a
19	national plan is a process we endorse for the future
20	well-being of the industry. It is important to include
21	all key stakeholders including California and states
22	adopting the California standards into this process. A
23	goal for going beyond 2017 would be to achieve even
24	greater harmonization between the EPA and NHTSA

25 program. Already the auto industry is transforming

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1	itself and reinventing the automobile. Automakers have
2	made major investments into developing new fuel
3	efficient technologies, and the results are continuing
4	to show in the marketplace. More than 50 technologies
5	offered in vehicles for sale today reduce emissions,
6	increase mileage, and allow these vehicles to run on
7	cleaner fuels. Today consumers can buy more than 130
8	models that achieve 30 mpg or more on the highway, and
9	they can choose from more than 27 models of hybrids and
10	8 models of clean diesels.
11	As we stated in our May 18th letter
12	of commitment, the Alliance fully supports the adoption
13	of a National Program to address both greenhouse gases
14	and fuel economy, and further we commend the Federal
15	Government for taking a leadership role. By
16	eliminating unnecessary complexity and providing
17	flexibility for the development of individual
18	manufacturers compliance plans, the proposed rule will
19	allow manufacturers to develop products that consumers
20	will want to buy and only enhance vehicle performance
21	with respect to greenhouse gas reductions and oil
22	savings.
23	In closing, the time has come to
24	move all stakeholders forward. The Alliance believes
25	that any effective, efficient program to address