August 4, 2015

CC:PA:LPD:PR (REG-132634-14)
Room 5203
Internal Revenue Service
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Comments on Proposed Regulations (REG-132634-14) under Section 7704(d)(1)(E) of the Internal Revenue Code of 1986, as amended, With Respect to the Status of Income as "Qualifying Income"

G2X Energy, Inc. and G2X Energy LP (together, "G2X") respectfully submit this letter in response to the request for comments on the proposed regulations published in the Federal Register (80 Fed. Reg. 25970 (to be codified at 26 C.F.R. pt. 1)) on May 6, 2015 (the "Proposed Regulations") under section 7704(d)(1)(E) of the Internal Revenue Code of 1986, as amended (the "Code"),[1] relating to qualifying income from the exploration, development, mining or production, processing, refining, transportation and marketing of minerals or natural resources. In addition, G2X hereby requests a public hearing regarding the Proposed Regulations.

G2X develops, owns and operates production facilities that convert natural gas into methanol and drop-in automotive gasoline. In 2013, prior to committing to the construction of a production facility in Lake Charles, Louisiana, G2X requested and received two private letter rulings from the Internal Revenue Service (the "Service"). In the first, Priv. Ltr. Rul. 201315015 (Apr. 12, 2013), the Service concluded that producing gasoline and liquefied petroleum gas ("LPG") from natural gas and marketing the gasoline and LPG would constitute qualifying income within the meaning of section 7704(d)(1)(E). The second ruling, Priv. Ltr. Rul. 201346007 (Nov. 22, 2013), which G2X received on July 18, 2013, concluded that income derived from producing methanol and synthesis gas from natural gas and marketing the methanol and synthesis gas would constitute qualifying income under section 7704(d)(1)(E).

In reliance on these rulings G2X committed to construct and has begun to construct a $1.3 billion facility in Lake Charles, Louisiana that will produce methanol, synthesis gas, gasoline and LPG from natural gas.[2] G2X also recently completed a facility in Pampa, Texas that produces methanol and synthesis gas from natural gas.[3] In addition, G2X has committed to and begun investment in excess of $1.5 billion with WPX Energy for the production of natural gas in the Piceance Basin in Western Colorado to supply natural gas feedstock to its production facilities.[4]

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[1] Unless otherwise noted, references to "section" or "§" are references to the Code or the Treasury regulations promulgated thereunder.

[2] *See* Exhibit A.

[3] *See* Exhibit B.

[4] *See* Exhibit C.

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G2X, and its partners in these ventures, invested in the facilities with the intention—as fully described in G2X's private letter ruling requests—of forming a publicly traded partnership once the facilities were operational.

As stated above, in July 2013, the Service ruled that the income derived from producing methanol and synthesis gas from natural gas and marketing the methanol and synthesis gas would constitute qualifying income. This ruling was consistent with section 7704(d), the legislative history and at least one other private letter ruling issued in 2013 (Priv. Ltr. Rul. 201324002 (Jun. 13, 2013)). Nonetheless, in May 2015—less than 24 months later and absent any Congressional action or other indication that the Service's rulings were incorrect—the Service reinterpreted section 7704(d)(1)(E), reversed its position and concluded that producing methanol and synthesis gas from natural gas and marketing the methanol and synthesis gas does not generate qualifying income.

In addition to constituting an arbitrary reversal of the Service's previous position, upon which G2X and others relied to their detriment, the Proposed Regulations are irreconcilable with section 7704(d)(1)(E) and the legislative history. G2X has reviewed the recently-submitted comment letter prepared by OCI Partners LP and OCI USA, Inc. and, insofar as such comments relate to methanol and synthesis gas, G2X concurs in full. To reiterate what G2X believes are the most salient points:

- The Proposed Regulations incorrectly focus on the output rather than the input. Section 7704(d)(1)(E) requires only two things: that a qualifying activity (e.g., refining, processing) be directed at a mineral or natural resource (e.g., natural gas). The Proposed Regulations' preoccupation with the output of such activity is unsupported by the statute and the legislative history. G2X produces methanol and synthesis gas from natural gas (a mineral or natural resource) using processes, catalysts and equipment currently used in oil refineries in the United States and around the world. Therefore, income derived from such activities constitutes qualifying income.

- One example of this incorrect focus on process outputs is that under the Proposed Regulations the conversion of methane produces qualifying income only if the output is a liquid fuel otherwise produced from petroleum. The Proposed Regulations go on to say that the production of methanol from natural gas does not generate qualifying income because methanol is not a liquid fuel otherwise produced from petroleum. This is simply incorrect, and example 3 of the Proposed Regulations is, therefore, wrong on the facts. Methanol can be produced from a number of sources including oil, coal and natural gas.[5] Additionally, methanol has been and continues to be used throughout the world as a liquid transportation fuel.[6] For instance, more than a million automobiles in China currently run on methanol. In fact, in the very year Congress enacted section 7704, California was in the midst of an experimental program during which thousands

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[5] *See* GEORGE A. OLAH ET AL., BEYOND OIL AND GAS: THE METHANOL ECONOMY 218-229 (2006); R. Rapier, *The Global Petroleum Picture*, *in* THE ECONOMICS OF ALTERNATIVE ENERGY SOURCES AND GLOBALIZATION 3, 6 n.6 (Andrew Schmitz et al. eds., 2011).

[6] *See* Exhibit D.

of methanol-fueled automobiles were in operation.[7] As an MIT interdisciplinary study chaired by Ernest J. Moniz, the current U.S. Secretary of Energy, found "[t]he potential for natural gas to reduce oil dependence could be increased by conversion into room temperature liquid fuels that can be stored at atmospheric pressure. Of these fuels, methanol is the only one that has been produced for a long period at large industrial scale. Methanol has the lowest cost and lowest [greenhouse gas] emissions . . . ."[8] Therefore, as methanol is a liquid fuel, even by the Proposed Regulations' own terms, the production of methanol from natural gas generates qualifying income.

- The Proposed Regulations read refining out of the statute with respect to natural gas. Section 7704(d)(1)(E) lists processing and refining as separate activities. The proposed regulations ignore this and address only the processing of natural gas. Refining is generally understood in the oil and gas industry to mean an activity that uses heat, pressure and/or the presence of a catalyst to effect a physical or chemical change in a particular hydrocarbon. Such a definition encompasses G2X's production of methanol and synthesis gas from natural gas, which activities, therefore, generate qualifying income.

- The Proposed Regulations ignore relevant sections of the legislative history and incorrectly restrict the definition of mineral or natural resource. Under section 7704(d)(1)(E) oil, gas and products thereof are minerals or natural resources. The legislative history clarifies that "products thereof" include a wide variety of products ranging from the simplest hydrocarbons to complex compounds of hydrocarbons and non-hydrocarbon additives. The legislative history draws the line of what constitutes a "product thereof" at plastics and similar petroleum derivatives produced by additional processing *beyond* that undertaken by refineries and field facilities. Methanol is produced directly from natural gas using standard oil refinery processes and equipment and is, therefore, not processed *beyond* what the legislative history permits. Therefore, methanol is itself a mineral or natural resource and G2X's production of a mineral or natural resource using another mineral or natural resource as a feedstock generates qualifying income.

Sincerely,

Timothy E. Vail
President and CEO

Cc: Tim Fenn, Latham & Watkins LLP

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[7] L. BROMBERG & W. K. CHENG, SLOAN AUTO. LAB. MASS. INST. TECH., METHANOL AS AN ALTERNATIVE TRANSPORTATION FUEL IN THE US: OPTIONS FOR THE SUSTAINABLE AND/OR ENERGY-SECURE TRANSPORTATION 7-9 (2010).

[8] THE FUTURE OF NATURAL GAS: AN INTERDISCIPLINARY MIT STUDY 128 (2011), *available at* https://mitei.mit.edu/system/files/NaturalGas_Report.pdf.

EXHIBIT A

Governor Jindal Highlights G2X Energy Plans For $1.3 Billion Natural Gas-To-Gasoline Facility In Southwest Louisiana

Company's project at The Port of Lake Charles would result in nearly 1,000 new direct and indirect jobs

BATON ROUGE [January 15, 2013]— Today, Governor Bobby Jindal praised G2X Energy Inc.'s plans for a $1.3 billion natural gas-to-gasoline facility at The Port of Lake Charles in Southwest Louisiana. The Calcasieu Parish project would create 243 new direct jobs averaging $66,500 per year, plus benefits. LED estimates the project also would result in 748 new indirect jobs, for a total of nearly 1,000 new permanent jobs in Southwest Louisiana.

Gov. Jindal said, "Today's announcement is great news for Southwest Louisiana and our entire state. Louisiana is an energy-rich state and we're proud of that heritage. In order to keep our energy industry strong, we have made a serious commitment to aggressively pursue companies that want to invest in Louisiana and create jobs here for our people. G2X's investment is proof of that commitment, and this project will mark another milestone in Louisiana's momentum as a leader in oil and gas initiatives that bring innovation and energy independence to Louisiana and the entire country. G2X could have invested in other states, but they chose Louisiana because of our strong business climate, energy infrastructure and incomparable workforce."

This week, G2X Energy will finalize an option to lease 200 acres in the Industrial Canal at the Port of Lake Charles, where the company will have the flexibility of shipping gasoline by pipeline or sea. G2X Energy will build its facility near Trunkline LNG, a major energy tenant operating at the port. Through a proven technology process, G2X Energy will use natural gas to produce methanol, then convert methanol to final gasoline for 90 percent of its production. About 10 percent of the output will be liquefied petroleum gas, or propane.

"We are very excited to be working with the State of Louisiana and The Port of Lake Charles on this project," G2X Energy President and CEO Timothy Vail said. "Our natural gas-to-gasoline conversion process – developed and backed by one of the world's largest energy companies – is a proven solution for the clean and economic production of transportation fuels from abundant domestic natural gas. The Lake Charles location is ideally suited for our plant facilities, and Governor Jindal's teams have been very proactive in working with us to ensure a successful project. We look forward to the completion of our preliminary evaluation of the opportunity and a firm decision to move forward with the project."

The state began formal discussions concerning the project with G2X Energy Inc. in late 2012. To secure the project, LED offered the company a $5 million performance-based grant for infrastructure improvements at the port, including an access road, utilities and a dock facility. In addition, G2X Energy is expected to utilize the state's Quality Jobs and Industrial Tax Exemption program incentives.

"Once again the Calcasieu River Ship Channel has proven to be a valuable asset to our region's growth and success," said Port of Lake Charles Executive Director Bill Rase. "We are pleased that G2X has chosen to bring its innovative conversion technology to Southwest Louisiana's energy corridor, and the Port's board of commissioners welcomes its newest corporate citizen."

Subject to additional feasibility analysis, Houston-based G2X Energy expects to make a final investment decision by the end of 2013, upon obtaining facility permits, and construction would begin in 2014 followed by estimated completion of the project in early 2017. Hiring of the plant management team will take place in mid- to late 2014, with most of the hiring for the facility to be completed by the end of 2015.

"We thank G2X Energy Inc. for bringing this venture to Southwest Louisiana," said President and CEO George Swift of the Southwest Louisiana Economic Development Alliance. "This facility will utilize a different technology process to convert natural gas to gasoline. This diversification will serve the market as well as our region. This project by G2X Energy further makes a statement that Louisiana and the Southwest Region, in particular, are leading in the future energy production for our nation and world markets."

About G2X Energy

Houston-based G2X Energy develops, owns and operates production facilities that convert natural gas to methanol and drop-in gasoline. Leveraging existing infrastructure and proven conversion technologies in Texas and Louisiana, G2X meets demand for cost-competitive fuels and chemicals using abundant, clean, domestic natural gas. For more information visit www.G2XEnergy.com.

CONTACT: Gary Perilloux, 225.342.3437, Gary.Perilloux@la.gov

G2X ENERGY ANNOUNCES MOBILIZATION ON WORLD-SCALE METHANOL PRODUCTION FACILITY

HOUSTON, July 8, 2015 – G2X Energy, a developer of natural gas to methanol and methanol to gasoline projects announced yesterday that mobilization has begun on its previously announced world-scale methanol production facility located in Lake Charles, Louisiana. The announcement was made at the Lake Charles Harbor and Terminal District Board of Directors meeting.

G2X Energy President and CEO Tim Vail announced all state and federal permits required for construction have been obtained, staffing of key management is underway, critical studies and local building permits are being worked towards completion and final details are being put in place to open a local G2X Energy office and commence construction of the facility.

"We are extremely pleased to be moving forward in such a significant way on this project. Our hope is to have our EPC contractor, the Proman Group, to begin site work by the end of this year." stated Vail. "There are many people to thank for their efforts in our early success including Senators David Vitter and Bill Cassidy, Congressmen Charles Boustany and Garret Graves and Governor Bobby Jindal. Each of these individuals were instrumental in the planning process and have contributed greatly to the early momentum of this project," he concluded.

Commenting on the importance of this facility, Senator Vitter said, "This project is a great investment for southwest Louisiana." Vitter went on to say, "Louisiana has shown a clear commitment to the energy and chemical industries, and our abundant natural gas resources make us a perfect fit for the new facility. I'm extremely pleased that we were able to get this major economic project moving forward."

When complete, the facility, named Big Lake Fuels, will produce over 1.4 million metric tons of commercial grade methanol per year and will have the ability to install necessary facilities to convert methanol to automotive gasoline in the future. Congressman Graves stated, "Louisiana is a leader in the energy, chemical and natural gas industries, and we're excited to welcome the G2X Energy facility as the newest participant in Louisiana's industrial renaissance. This important project is not only a Louisiana job creator, but another step forward to provide greater energy leadership for our nation."

Regarding the local economy and the impact this project will create, Congressman Boustany said, "The G2X Energy methanol-to-gasoline production facility in Lake Charles will create 2,000 construction jobs over three years and 125 permanent operations jobs with the possibility of expansion – a huge boost to our local economy. I'm proud to have been able to assist G2X Energy and look forward to groundbreaking on this facility as soon as possible."

Mr. Vail concluded, "G2X Energy and our partners, Southern Chemical Corporation and The Proman Group, are very pleased with the progress of the Big Lake Fuels project and feel this facility will be a large part of the revitalization of the methanol industry along the Gulf Coast."

For more information regarding G2X Energy, please contact Sandy Fitch at (713) 943-2200 or info@G2Xenergy.com. For interview opportunities, please contact Kathryn Smith at (713) 252-5414 or (713) 627-8777.

About G2X Energy, Inc.

Houston-based G2X Energy develops, owns and operates production facilities that convert natural gas to methanol and drop-in automotive gasoline. Transforming gasoline production by leveraging existing infrastructure and proven conversion technologies, G2X meets the demand for cost-competitive fuels and chemicals using abundant, clean, domestic natural gas.

For more information visit www.G2XEnergy.com or call (713) 943-2200.

EXHIBIT B

G2X ENERGY ANNOUNCES COMMERCIAL OPERATIONS AT PAMPA METHANOL FACILITY

First Methanol Shipment Occurred Friday

HOUSTON, June 1, 2015 – G2X Energy, a developer/operator of advanced natural gas to methanol and fuel projects, announced today that their Pampa, Texas based methanol plant is fully operational and has completed their first shipment of methanol. After building commercial quantities of inventory on site, the plant shipped its first two railcars of IMPCA specification methanol and will continue to ship railcars on a daily basis to customers throughout the Texas panhandle region. "We are extremely pleased to have achieved commercial methanol production at our Pampa, Texas facility," stated Tim Vail, President and CEO of G2X Energy who went on to say, "This plant represents the rebirth of the petrochemical business in the Texas panhandle. By revitalizing an abandoned industrial site and leveraging the widespread availability of low-cost of shale gas, we have brought high quality jobs and prosperity back to the Pampa area."

Commercial operations at the Pampa facility is just the start of G2X's rapid expansion in North America. Through its partnership with Methanol Holdings (Trinidad) Limited and Southern Chemical Corporation, G2X is enlarging its North American operations with the construction of a world-scale methanol facility in Lake Charles, Louisiana as well as the acquisition of natural gas reserves in the Piceance basin of Colorado as well as other areas.

Although G2X is rapidly expanding, their top priority remains safety and environmental excellence. "What is most important to us is, and always will be, the safety of our employees and neighbors. The start-up of the Pampa plant proceeded extremely smoothly. I want to thank all of the dedicated Pampa employees as well as our colleagues from Germany and Trinidad that helped G2X start the plant in such a safe and efficient manner. I look forward to many years of safe, stable and efficient operations at the facility," stated Mr. Vail.

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EXHIBIT C

G2X ENERGY TO JOINT VENTURE WITH WPX ENERGY TO DEVELOP COLORADO TRAIL RIDGE PROPERTIES

HOUSTON, August 26, 2014 – G2X Energy, through their subsidiary TRDC LLC, announced today an agreement with Tulsa based WPX Energy (NYSE: WPX) to jointly develop WPX's Trail Ridge Properties located in western Colorado's Piceance Basin Highlands. "We are extremely pleased to be partnering with WPX Energy in the Piceance Basin. WPX has a proven track record for predictable and cost efficient natural gas production in the region and will be an excellent partner for G2X. We look forward to many years of successful development together," stated Mr. Tim Vail, President and CEO of G2X Energy, who went on to say, "We see this transaction as a creative way to secure reliable, low cost natural gas feedstock for our methanol and gasoline plants under construction and in development."

WPX, who will remain as operator, is receiving approximately $40MM in cash for 49 percent of its working interest in approximately 100 proved developed producing Trail Ridge wells. These wells represent approximately 26 billion cubic feet equivalent of proved developed producing reserves. The drilling program has 1,300 remaining drilling locations. The parties plan to jointly develop 8 wells this year; 25 wells in 2015; 50 wells in 2016 and 100 wells per year in 2017 and beyond. The joint development agreement is for the Williams Fork and Iles formations only. G2X estimates that the drilling program will include 230 billion cubic feet equivalent of net proved undeveloped reserves and an additional 620 billion cubic feet equivalent of net probable reserves.

In connection with the drilling program, G2X has also committed to a $170 million drilling carry on nearly 400 future wells. WPX will pay 28 percent of the Trail Ridge development and receive 51 percent of the production and reserves until G2X has completed its drilling carry funding commitment.

For more information regarding G2X Energy, please contact Sandy Fitch at (713)943-2200 or info@G2Xenergy.com. For interview opportunities, please contact Kathryn Smith at (713)252-5414 or (713)627-8777.

About G2X Energy, Inc.

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EXHIBIT D

Methanol: The Clear Alternative for Transportation

Methanol Fuel and FFV Technology

What is Methanol?

The Methanol Molecule

Also known as wood alcohol, methanol is a convenient liquid fuel that is made from a number of different feedstock resources - natural gas and coal as well as renewable resources like forest thinnings or agricultural waste and even directly from CO2 captured from power plant and factory emissions. Methanol is a basic building block for hundreds of essential chemical commodities that touch our daily lives including building materials, plastic packaging, paints and coatings, even windshield washing fluid. Methanol is also a transportation fuel, a hydrogen carrier for fuel cell technologies, and an efficient fuel for electric power generation. With the chemical structure CH^3OH, methanol is the simplest alcohol, with the lowest carbon content and highest hydrogen content of any liquid fuel.

Methanol Production and Capacity

In 2010, over 45 million metric tons of methanol was consumed around the globe, or 15 billion gallons, which is roughly equivalent to global ethanol fuel demand. By 2012, global demand is expected to reach over 50 million metric tons (17 billion gallons). This steadily increasing demand is driven in large part by the expanded use of methanol as both a liquid fuel for passenger cars and conversion to dimethyl ether which is a clean alternative to diesel fuel for trucks and buses.

Kingsport, TN Methanol Facility.

In the United States, we consumed over 5.3 million tons (1.8 billion gallons) of methanol in 2010 for a wide array of uses from chemical feedstocks to plastics to building materials. A common way to make methanol from conventional energy sources is to use methane, the main component of natural gas. High natural gas prices in recent years forced a rationalization process in the global methanol industry, and older plants in the U.S. and Europe were mothballed in favor of new facilities built with less expensive off-shore natural gas. As recently as 1998, there was 9.6 million tons of annual methanol capacity in the United States, but today only four plants remain open with a total annual production capacity of less than one million tons per year. Currently, most of the methanol consumed in the US is imported from the Caribbean and South America – with methanol representing almost 40% of our trade under the Caribbean Basin Economic Recovery Act.

Currently Operating U.S. Methanol Plants

Plant	Location	Feedstock
Range Fuels	Soperton, GA	Timber Biomass
Liquid Carbonic	Geismer, LA	Natural Gas
Millennium	Deer Park, TX	Natural Gas
Eastman Chemical	Kingsport, TN	Coal Gasification

At the same time as demand continues to expand in the U.S. and around the world, global production capacity is growing at an even faster rate and is expected to reach over 85 million metric tons by 2012. Based on these forecasts, there will be 34 million tons of excess production capacity around the world, enough to produce 11 billion gallons of methanol per year. Additional billions of gallons of production capacity is also available today in mothballed plants in North America and facilities in Europe.

Diverse Feedstocks

One of the distinct advantages of employing methanol as a sustainable source of fuel is the diverse array of feedstocks from which this simple alcohol can be produced. Besides industrial production from natural gas and coal, methanol can be made from anything that is, or ever was, a plant. Timber waste, landfill gas, trash, pulp mill black liquor, agricultural waste and even CO2 pollution among a host of other viable sources – all can be converted into methanol, as an effective way to store and distribute the energy from each source.

In Soperton, GA, Range Fuels is harnessing biomass and wood waste to convert into biomethanol. In Iceland, Carbon Recycling International is building a plant utilizing CO2 flue gas and electricity from a geothermal power plant to make renewable methanol for vehicles and trucks on the island nation. In Kingsport, TN – and to a much greater scale throughout China – coal is converted into methanol fuel through gasification, a much cleaner approach than traditional coal-to-liquids technology. In Sweden, Chemrec is creating methanol and dimethyl ether from the black liquor that is a waste product of pulp mills. These innovative approaches mostly rely on a proven and reliable technology called gasification to extract the energy contained in all these feedstocks – but a number of different processes have created cost-competitive approaches to the production of methanol from a number of feedstocks.

> [In the US] a fully-developed pulp mill biorefinery industry could be double or more the [production] size of the current corn-ethanol industry.
> **– Eric Larson, Princeton University / DOE Study**

Polygeneration Meeting Demand

With a diverse landscape and a wide variety of resources around the country, the United States is uniquely positioned to benefit from polygeneration – producing one type of fuel from a number of different feedstocks. Polygeneration protects the transportation sector from fluctuating prices inherent in relying on one feedstock – as is seen with interruptions in oil supplies from overseas or due to production interruptions in the Gulf during hurricane season. The ability to tap into multiple resources also allows for local production based on the abundant resources of a specific geographic region, benefiting local economies and creating distributed generation that is less susceptible to pricing spikes.

In the U.S., we currently have in place the Renewable Fuel Standard, which mandates the production of 12.95 billion gallons of renewable fuel in 2010 to promote the development of renewable transportation fuels. Ethanol – which is the most commonly used renewable fuel in the market today – currently consumes almost 35% of the corn and 28% of the sorghum grown in the U.S. each year to meet demand, putting significant price pressures on both of these commodities. With over 136 billion gallons of gasoline consumed each year, these crops alone will be hard pressed to make a significant impact on the consumption of oil. By 2020, the RFS calls for 30 billion gallons of renewables to be in the transportation fuel pool, an almost three-fold increase over current consumption. **By spreading out the production of fuel over multiple feedstocks, we can more quickly realize our goal of employing domestically-produced fuels in the transportation sector.**

In order to produce 30 billion gallons of methanol fuel, we would need to only tap into less than 5% of three abundant resources in the United States which have proven technologies for conversion to methanol. According to the U.S. Energy Information Administration (EIA), 21.2 trillion cubic feet (Tcf) of dry natural gas was produced in the United States in 2008. With about 100 cubic feet of natural gas needed to produce one gallon of methanol, the production of 10 billion gallons of methanol would require 1 Tcf of natural gas, or less than 5% of current domestic natural gas production. Again, according to the EIA, the U.S. produced 1,171 million short tons of coal in 2008. It takes about 5,000 short tons of coal to produce one million gallons of methanol using proven gasification technology. The production of 10 billion gallons of methanol would require 50 million short tons of coal, or just 4.2% of current coal production. Finally, according to a joint DOE/USDA report, U.S. forestland and agricultural land - the two largest potential biomass sources - represent over 1.3 billion dry tons per year of biomass potential, which alone is enough to produce biofuels meeting more than one-third of the current demand for transportation. Using mature gasification technology, one ton of biomass can be used to produce 165 gallons of methanol, as opposed to only about 100 gallons of cellulosic ethanol. The production of 10 billion gallons of methanol would require 60 million tons of biomass, or less than 5% of the biomass production potential. With these three feedstocks alone, we could produce 30 billion gallons of methanol fuel and meet our fuel diversity goals from less than 5% of the current production capacity of each.

> [Methanol] is the liquid fuel that is most efficiently and inexpensively produced from natural gas…A cost competitive, room temperature liquid transportation fuel, reducing oil dependence.
> **- MIT Study, *The Future of Natural Gas***

Methanol as a Reliable Transportation Fuel

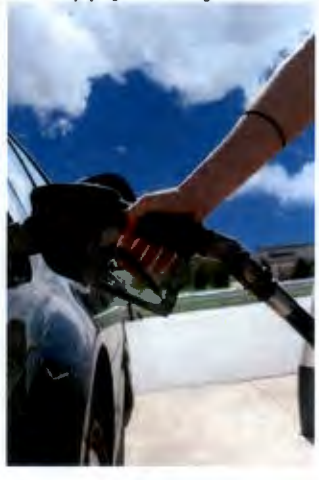
From the mid-1980s to the late-1990s, methanol flexible fuel vehicles (FFVs), capable of running on any combination of methanol (up to M-85, a blend of 85% methanol and 15% unleaded gasoline) and gasoline in the same tank were sold in the U.S. Methanol FFVs on the road peaked in 1997 at just over 21,000 with approximately 15,000 of these in California, which also had over 100 methanol refueling stations. Hundreds of transit and school buses were operated during this time period using 'neat' methanol, or M-100. **From this experience, we know the incremental cost to provide flexible fuel capability to a new car is just $50-$150, while the cost to install a methanol fueling pump is $62,000 or less.**

By the late-1990s after more than 200,000,000 miles of experience, the use of methanol as a transportation fuel in the U.S. quickly faded away for a number of reasons. In the 1980s and 1990s, when gasoline was priced below $1.00 per gallon, methanol fuel costs to the consumer were generally equivalent to premium gasoline. Methanol FFVs were fueled with gasoline most of the time, making it difficult to build volume sales to encourage the operation of retail pumps. Only four vehicle models were ever offered for commercial sale by the automakers. In stark contrast, we now see automakers building multiple models of ethanol FFVs, as well as national advertising campaigns for fuel cell cars that are years, if not decades, away from commercial introduction.

A truly flexible fuel vehicle would be "A-85" or "GEM" capable, able to run on gasoline, ethanol (E-85) or methanol (M-85) in any combination. By creating a car capable of running on M-85 – which is slightly more corrosive than ethanol – a car would then be materially compatible to run on any alcohol based fuel, including ethanol, methanol, butanol and others. A GEM or alcohol compatible FFV would offer significant benefits in fuel diversity, price competition and consumer choice. Conversion to methanol fuel capability is the common denominator that would allow for all these liquid fuels to compete in the market place.

The Open Fuel Standard

First introduced in the U.S. Congress in 2009, the Open Fuel Standard Act would ensure the widespread adoption of alcohol-fuel compatible FFVs. These bills – with slight variation in current House and Senate forms – would require that at least 50% of the vehicles produced for the U.S. market that use an internal combustion engine (which would include plug-in hybrid vehicles) must be compatible with blends up to both M-85 and E-85 fuel by the year 2012. The same rule would apply each year until 2015, at which time 80% of vehicles produced for the U.S. must be fuel-choice enabling vehicles.



With no cost to the government or taxpayers, this legislation would require automakers to produce cars that are capable of running on many different types of fuels from technology already proven through millions of miles of demonstration. The cost for these conversions would be about $50 - $150 per car, and at current prices, a driver would save more than that annually in fuel costs if they filled up with M-85 all year long. The unsubsidized cost of methanol – on an energy party basis – currently averages about 90% of the cost of regular unleaded fuel. Most importantly, when Congress was considering the 2009 bailout of the major U.S. automakers, auto executives testified that this timetable was realistic and they committed to producing these advanced vehicles – the Open Fuel Standard would simply turn that promise into law.

Methanol Fuel Costs vs. Gasoline

When compared to gasoline on an energy equivalent basis – as methanol contains less BTUs per gallon than regular gasoline – M-85 still offers the best value at today's pump prices. Methanol currently sells for about $1.08 per gallon as a commodity, meaning the current pump price for M-85 would be just $1.85 per gallon including all applicable taxes and retail mark-up. On a gasoline equivalent basis (adjusting for methanol's lower energy content that requires 1.74 gallons of M-85 to provide the same energy content or range as a gallon of gasoline), the price of methanol delivered to the consumer would be $3.23 per gallon. According to AAA, the average pump price for regular gasoline is currently $3.80 per gallon, while the energy adjusted price for E-85, including subsidies, is still $4.20 per gallon.

Methanol Fuel and the Environment

Ten or more years ago, a typical methanol manufacturing plant would emit about 0.9 - 1.0 metric tonnes of carbon dioxide for every tonne of methanol produced. In addition to the environmental concerns, large CO2 emissions represent operational inefficiencies in a methanol plant, since the carbon emitted as CO2 is not available for making methanol molecules. In fact, excess CO2 from other industrial facilities can also be captured and consumed to increase methanol production. **Through the implementation of efficiency improvements and through replacing of older facilities with newer plants that use more efficient technologies, over the last decade methanol plants have been able to significantly reduce CO2 emissions by up to 40%.**

When burned as fuel, methanol cuts emissions of nitrogen oxides and volatile organic compounds that form ground-level ozone or "smog." Methanol is much less reactive than gasoline in the atmosphere, with the only toxic component of the emissions being formaldehyde, as compared to dozens of carcinogenic components of gasoline emissions, which also contains formaldehyde. The use of heated catalytic converters has shown that methanol-fueled auto emissions meet and exceed California's stringent Ultra Low Emission Vehicle (ULEV) emission targets for formaldehyde. Methanol fuel also does not contain the toxic BTEX additives found in gasoline – benzene, toluene, ethylbenzene, and xylenes. These compounds are highly carcinogenic, do not readily biodegrade in the environment, and are capable of contaminating groundwater supplies.

Methanol and Safety

An increase in the production, transportation, storage, and use of methanol would increase the potential for accidental releases to the environment. **Relative to gasoline, methanol is a safer and more environmentally benign fuel.** Methanol is readily biodegradable and the half-life (the time required for 50% reduction in mass) in soil, surface water and groundwater is just 1-7 days. By comparison, the half-life for benzene (a toxic gasoline constituent) in groundwater is 10-730 days. Methanol is also already used extensively in the nation's wastewater treatment plants to accelerate the biodegradation of nitrogen to protect sensitive aquifers and waterways.

> ❞ Projections indicate that casualties [from fires] would drop dramatically if methanol were substituted for gasoline as the country's primary automotive fuel.
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> **- EPA Report, *Methanol Fuels and Fire Safety***

The greatest danger from the use of gasoline as a vehicle fuel is from fires. Gasoline fires in vehicles result in hundreds of deaths and millions of dollars in property damage each year. Methanol does not evaporate or form vapors as readily as gasoline does, and methanol vapors must be four times more concentrated in air than gasoline to ignite. Methanol burns 75% slower than gasoline, and methanol fires release heat at only one-eight the rate of gasoline. **Methanol is inherently more difficult to ignite than gasoline, and much less likely to cause deadly or damaging car fires if it does ignite**.

Methanol, like gasoline or diesel fuels, should never be ingested and is toxic. Deaths have been reported from intake of as little as 13 ml. of gasoline (less than one ounce), which is similar to the fatal ingestion range for methanol. Our bodies contain methanol naturally, and it is found in many parts of our diet, including fresh fruit, vegetables, and fermented foods and beverages. Both methanol and gasoline can be absorbed through human skin, and the response for both is the same: remove any contaminated clothing, and wash with soap and water. Spill-free methanol nozzles have been developed that will prevent a consumer from even being able to come into contact with methanol fuel.