

Carbon Negative Mixes Comprising 1, 1-Dibutoxybutane

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Abstract

Recent changes at the top of the US Executive administration have been combined with the not very wise decisions to cut down the petroleum imports from the Russian Federation. The free market economy of the US immediately reacted by skyrocketing of the Gasoline and the Diesel fuels prices at the gas stations to the levels affecting all other prices nationwide. For instance the cost of the TX DL skyrocketed from \$11 USD to \$33 USD (the coefficient of recalculation all the prices this year vs. year of 2021 and below that year is up to 3 and above - the rule of the market economy).

Keywords: Carbon negative mixes; Gasoline; Diesel fuel

Introduction

That coefficient 3 and above 3 is typical for the increase of other prices Nationwide as the major price-wise rule of the free market economy [1]. Subsequently, the proper running of the US economy is possible only with the very wise decisions of the top of governmental administration. We offer herein the carbon negative replacements of the Gasoline and of the Diesel fuel manufactured from petroleum by the same fuels manufactured from the air CO₂. Nationwide replacement of the technologies based on the use of petroleum as the source of chemicals or the fuels manufactured by the carbon negative technologies is absolutely essential since the Earth has passed the level of the air CO₂ 400 ppm, the "Point of No Return" per the NASA discoveries of 2010 [1-6]. Now the air CO₂ exceeds 450 ppm and goes up based of the wide distribution of the intensive transportation based on the use of petroleum-derived Gasoline and Diesel fuel. The Author has written much about the Carbon Negative replacements of Gasoline or Diesel fuel manufactured by international petroleum corporations from petroleum via its distillation at the refineries the number of which is around 80 in the continental US and each of them operating produces a lot of air CO₂. Now there is the time to elaborate this topic. The combustion energy of fuel butanol is represented by the following numbers for the isomers of fuel n-Butanol shown below as indicated in: 1-Butanol: -2.671 kJ/mol, 2-Butanol: -2.661.1 kJ/Mol, 62.Isobutanol: -2.662.6 kJ/Mol, Tert-butyl alcohol: -2.644.8 kJ/Mol. The combustion energy of Gasoline is slightly higher. It is around -3.200kJ/Mol 64. The combustion energy of DAA or Mesityl oxide is -3.600 kJ/Mol. In addition to that the octane number of the most prosperous fuel Isobutanol is 98. Therefore, adding the fuel Isobutanol to the mixture of other Carbon Negative fuels as above will substantially increase the overall summary octane number of said mixture. Besides that the viscosity of pure fuel Isobutanol and other isomers of fuel n-Butanol prevents its safe use at outside temperatures below 34°F. That is why we offer this Carbon Negative mixture comprising 40% of fuel Isobutanol, 10% fuel n-Butanol, 72.30% Mesityl oxide and 20% fuel Diacetyl alcohol (DAA). This will eventually compete with the products of the international petroleum corporations originated from petroleum as we discuss below its causing the outlined environmental crisis related to the increase of the air CO₂ content. Concerns of the lower total combustion value of the Carbon Negative fuels [Fuels - Higher and Lower Calorific Values (engineeringtoolbox.com)] made us think about increasing the molecular mass of certain mixture components anticipating in result the increased combustion heat value as that was anticipated by us. We have decided to use instead of fuel n-Butanol its

product of the Guebert condensation. Improvement of n-butanol Guerbet condensation: a reaction integration of n-butanol Guerbet condensation and 1,1-dibutoxybutane hydrolysis. The use of Carbon Negative fuel n-Butanol has been known already [Berzin Selective n-butanol production by Clostridium sp. MTButOH1365 during continuous synthesis gas fermentation due to expression of synthetic thiolase, 3-hydroxy butyryl-CoA dehydrogenase, crotonase, butyryl-CoA dehydrogenase, butyraldehyde dehydrogenase and NAD-dependent butanol dehydrogenase. Appl Biochem Biotechnol. Indeed the use of 1,1-dibutoxybutane Improvement of n-butanol Guerbet condensation: a reaction integration of n-butanol Guerbet condensation and 1,1-dibutoxybutane hydrolysis. React increased the total combustion value of our Carbon Negative mixes we offer to the customers at the new them of the gas stations as we have anticipated that. Figure1. Chemical formula of the recommended herein Carbon Negative 1,1-dibutoxybutane - the replacement of the Carbon Negative fuel n-butanol. Therefore, we have decided to sacrifice our both corporate cars for the test driving them on the highway and in the city of Brownsville, TEXAS, to see if any damage could possibly happen to the cars, and especially their engines operated with the Carbon negative mixture of the fuel Isobutanol, fuel Diacetyl Alcohol (DAA), fuel 1,1-dibutoxybutane and fuel Mesityl oxide. The manufacturing

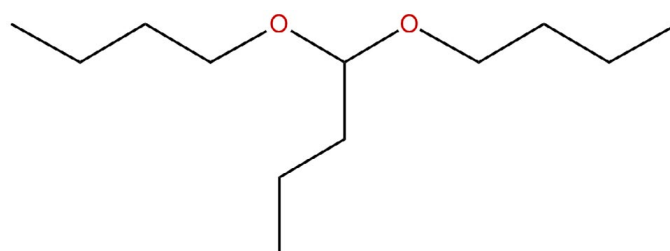


Figure 1: Presents the picture of the 1,1,-dibutoxybutane.

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price of the DAA manufactured from the air CO₂ is approximately \$0.35 per gallon as we have estimated that during our calculations at the corporate manufacturing facility we did before. As you already know the manufacturing process of DAA from the fuel Acetone the condensation of the two acetone molecules over the alkaline catalyst per gives fuel Diacetyl alcohol at the manufacturing cost of \$0.02-0.03 per gallon. The combustion energy of the fuel DAA is approximately -3.473 kJ/Mol as compared to the combustion energy of the Diesel fuel of -808 kJ/Mol. which substantially exceeds the typical for the diesel fuel combustion engine energy release as the mechanical energy of driving and corresponds to the higher engine power under the given engine mechanical dimensions, probably because of the increase of the combustion mixture explosive pressure. The fuel Mesityl oxide combustion energy elevates that of the Diesel fuel [L. Faba, J. Gunsedo, J. Cuesado, E. Diaz, S. Ordonez (2021) One Pot Conversion of Acetone to Mesitylene over Combination of Acid and Basic Catalysts. Catalysis. And we have decided to test the said mixture of the Carbon Negative fuels comprising as above 40% of fuel Isobutanol, 30% fuel 1,1-butanoxymethane Butanol, 30% Mesityl oxide X. Han, S. Li, H. An, X. Zhao, Y. Wang Improvement of n-butanol Guerbet condensation: a reaction integration of n-butanol Guerbet condensation and 1, 1-dibutoxybutane hydrolysis. React Chem Eng and 20% fuel DAA and that octane number of that .mixturecomposing 98 has been tested on the Diesel truck 2022 RAM 3500 to replace the Diesel fuel of the petroleum origin. However, we are not the explosion experts to discuss this herein. Indicated elevation of the explosive pressure in the case of using Diacetyl alcohol (DAA) and Mesityl oxide happens in the purchased manufactured diesel vehicles. The increased molecular weight of 1,1-dibutoxybutane has resolved our noted herein concerns of the lowering of the combustion energy of the resulted Carbon Negative mixture. Therefore we are very confident that is is very reasonable to keep checking the engine combustion chamber gaskets very often to notice any damage by the qualified dealership mechanic or to notice sudden loss of engine power with the need to get the engine to the qualified dealership mechanic for repairs of damaged combustion chamber gaskets. We are confident that the anticipated by the market economy prevalence of the carbon negative fuels over the fuels originated from petroleum will affect the engineering and quality control process of all the diesel cars / trucks manufacturers to save the time for your valuable customers for said checking of the engines and the engine gaskets. Biocatalysts used to manufacture the Carbon Negative fuels have different synthetic genes introduced by the means of genome tailoring using the unique Electrotransformation / Electro fusion Generator developed by the Author when he still was in the Russian Federation. The mixture we have used alcohol herein is widely recommended to replace the Gasoline manufacture by the international petroleum corporations from petroleum by the dominance of the Carbon Negative Gasoline replacements we have recommended and describe herein. Our biocatalyst making fuel Isobutanol has several genetically engineered genes for that purpose. The fuel Isobutanol biosynthesis by this strain is shown in (Figure 2). Fuel Isobutanol, the perfect Carbon Negative fuel, has a shortcoming bringing it to the zero use: high viscosity, tendency to form gel at temperatures below 0°C (or 34°F). The fuel Isobutanol has viscosity cP or mPa•s @ 20°C 3.102. Forming gel in the fuel line is absolutely not acceptable. The engines have to run perfectly at any reasonable temperatures. If in the State of TX the low temperatures are typical for only a few months, then in the Northern States the winter has low air temperatures for a much longer time. Therefore, there has to be the tool to eliminate the Gasoline viscosity to the levels acceptable at the low air temperatures below 0°C. This remedy is found already. Mixing of 80 % (vol/vol) of Carbon

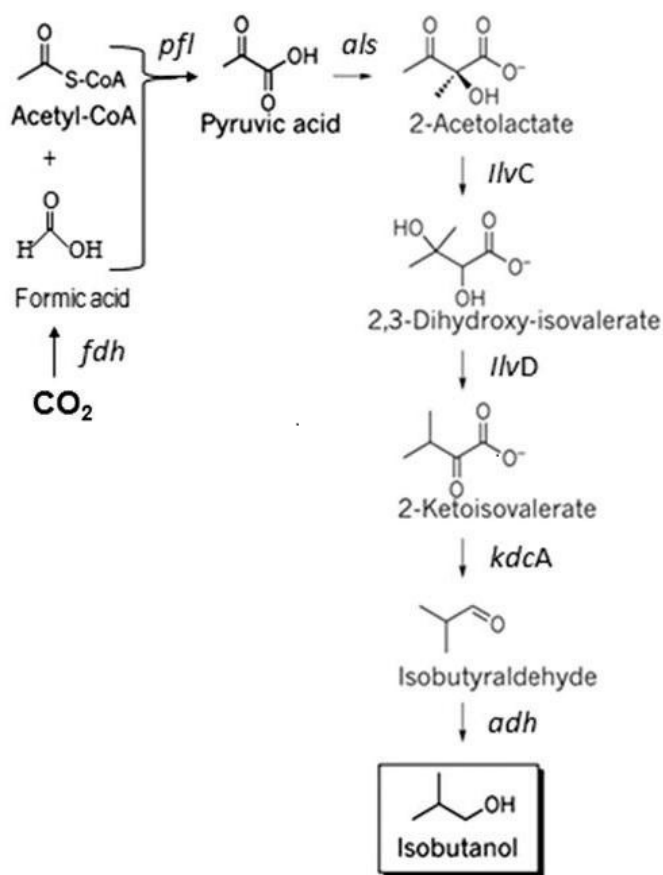


Figure 2: Genetically engineered fuel Isobutanol pathway in our biocatalyst.

Negative fuel Isobutanol with 20 % (vol/vol) of Diacetyl Alcohol (DAA), which we produce Carbon Negative from condensing the two Carbon Negative acetone molecules over the alkalyne catalyst. Let me go to the carbon negative fuels - Carbon Negative replacements of Gasoline and Diesel fuel manufactured from petroleum by the international petroleum corporations. Earlier we have published the Diacetyl Alcohol (DAA) as the carbon negative replacement of the Gasoline and Diesel fuel. DAA might be produced by the condensation of the two Acetone molecules over the alkaline catalyst. The explosion energy of DAA is way above the explosion energy of the Diesel fuel manufactured by the major international petroleum corporations from the petroleum. Therefore, we have to pray that our customers will check their engines regularly with the qualified mechanics for the damages which potentially might be caused by the use of DAA in the existing trucks. Therefore the manufacturers of the diesel trucks will have to make certain changes to the design of their trucks to accommodate much higher explosion energy of added part of DAA. This might be unnecessary however their manufacturers have to acknowledge the massive use of the carbon negative Gasoline replacement and make certain changes improving the mechanical resistance of the gaskets in the engine compartment. Not to mention herein that the international petroleum corporations now spend \$1.75 to manufacture 1 gallon of Gasoline or 1 gallon of the Diesel fuel. That eventually affects the prices [of the Gasoline and the Diesel fuel manufactured from petroleum. Explains how our Acetogen biocatalyst synthesized Carbon Negative fuel Acetone from the air CO₂. Resulting Carbon Negative fuel Acetone is used for the manufacture of DAA by the condensation of the two Acetone molecules over the alkaline

catalyst. The following chemical reaction allows us make certain calculations per the Acetone yield:



We have to note that our corporate manufacturing facility is the grid-independent and gets all its electric energy solely from the solar panels covering all the area over our bioreactors and accopmpnying with the set of the alkaline batteries from the US shipyards for the 24/7/365 operations with no interruptions to get connected to the grid to power the process of the industrial importance . We used our original not having any World’s analogs gas blend fermentation vessels to feed our genetically engineered biocatalysts with the gas mix of Figures 3 and 4 the composition 20% (vol/vol) of the air CO₂ and 80% (vol/vol) of the H₂ manufactured by ourselves at the cost of about \$0.02 per 500 moles (0.5 kg). The bottom of each vessel was covered with the gas Pall spargers providing the size of gas blend bells of around 0.5 micrometers. The overall fermentation work went extremely well with the high microbial densities of the genetically engineered strains of Clostridium sp. MT896 and of Clostridium sp. MAceT113. When the acetone reached the concentration of about 8 - 9 g/l in each fermentation block of our fermentation plant, the fermentation was deceased and the acetone was collected from the fermentation fluid. Evaporated acetone was collected and then subjected to the treatment under the alkaline catalyst per the US Patent 1550792A to reach the production of the DAA. At the concentration of the Diacetyl alcohol (DAA) 97% it was collected, dehydrated from the trace amounts of

water and used as the diesel engine fuel. So, now we are ready to offer to the customers the replacement of the diesel fuel, manufactured in the US solely from the air CO₂. In testing we have used the Carbon Negative fuel mixture composed of 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide and 20% fuel DAA.

Materials and Methods

Besides the gas mix we used in our horizontal bioreactors we have used our proprietary horizontal fermentation vessels or as we call them bioreactors [Tyurin MV (2023) New Bioreactor for Carbon Negative Gasoline and Diesel Fuel Replacements. Advance in Environmental Waste Management & Recycling. The most important elements of said proprietary horizontal bioreactor are shown in the following picture. Important that the gas feeding has to be assembled in the way to provide uninterrupted supply of the 0.5 micrometer gas mixture bubbles to the biocatalyst of it starts decaying with no gas mixture food. We do not anticipate any such interruptions in the technological process and have 39 0.5 micrometer stainless steel diffusion stones in said horizontal bioreactor to provide the uninterrupted feed to our biocatalyst we have made by the genetically engineering methods as described. Per the immersed in the liquid fermentation medium “perimeter” of said horixontal bioreactor we have the three stainless steel diffusion stones to ensure the uninterrupted gas blend feeding. The composition of the fermentation medium we use might be different for any kind of the Carbon Negative biofuel (proprietary compositions) but in most cases we use the following liquid medium for the biocatalysts, g/l: adjusted by the hydrochloric acid before the autoclaving of said liquid medium at 0.55 atm fro 35 min right in the 60 tons horizontal bioreactor. Imagine the volumes we are operating constantly with to get said biofuels. As shows, in our system we used 42 (14 per the length of the horizontal bioreactor, three by the “perimeter”) (the 70% of the horizontal bioreactor are filled with the liquid medium), the total number of the impeller used is 42) s causing random distribution of the gaseous blend over the bioreactor volume we have used. Said gas blend was composed of 80% (vol/vol) H₂ and 20% (vol/vol) of CO₂. This is very important that said CO₂ was extracted from the surrounding air. The process of said CO₂ extraction is proprietary and we will describe it in our subsequent publication since we do not have enough money for the US patenting process and trust that the publications in the peer-reviewed Journals totally replace the related patents and the published articles have to be always overcome by the patents of competitors if any. The horizontal bioreactor shown in Figure 1 has been filled by the nutrient medium by 70%. The rest of the bioreactor space was for the used by us gas blend as above. It is important to note that each impellers used were composed of the properly balanced for the rotation three polished stainless 316S steel blades at the speed of 450 rpm. The pressure of the gas blend used in the horizontal bioreactor shown in was 15 psi. The total number of said diffusion stones was 42 per each bioreactor we have used. The shape of the bioreactor blades is very similar to that of the air jet aircrafts turbines shown in below but the exact shape of said stainless teal blades is proprietary as is not shown herein. Fuel Isobutanol was manufactured using our genetically engineered biocatalysts as that is discussed in. the fuel DAA was created from the Carbon Negative acetone manufactured before using the technology we have already described by the condensation of the two Carbon Negative acetone molecules over the alkaline catalyst as described. Said Carbon Negative fuel Isobutanol and the fuel DAA were used in the mixture with other Carbon Negative fuels and that is sold to the customers. In case of fuel Isobutanol its known its relatively high viscosity causing problems in the cars / trucks

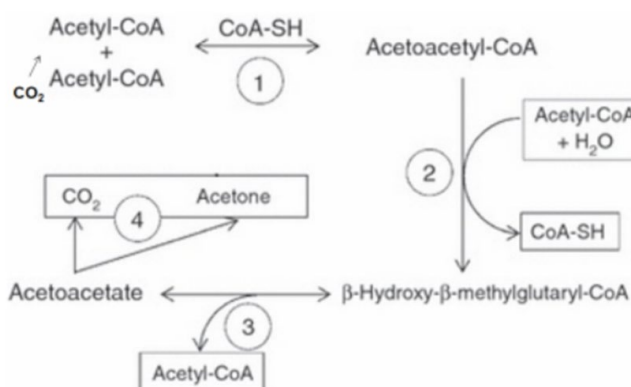


Figure 3: Biosynthesis of fuel carbon negative acetone from the air CO₂.

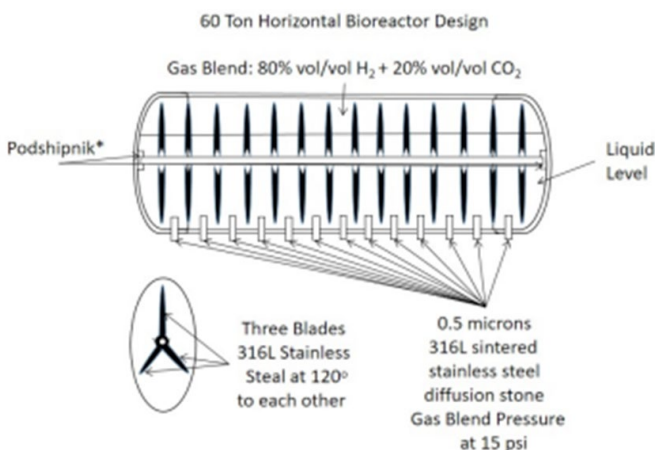


Figure 4: Our proprietary horizontal 60 tons bioreactor.

fuel lines at low air temperatures if fuel Isobutanol was used pure. But the combination of it in the described mixture removes the high viscosity problem. Said problem with elevated viscosity does not exist for the said mixture of the Carbon Negative fuels as we have discussed above: 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide and 20% fuel DAA. It is important to note that the impeller blades were placed on a 316S stainless steel shaft fixed in our horizontal bioreactor by the Podshipniks. Said Podshipniks are the specifically designed for handling the rotating shafts and properly manufactured for handling and rotation elements providing long and productive life for shaft with the impellers shown in and used in our horizontal bioreactor. Podshipnik is shown it is important to note that the Author was assassinated by SHELL after offering SHELL commercialization of his proprietary technology of Gasoline manufacturing from the air CO₂ (the Declaration of Interests Statement section of this original article). As the response the Author has come up with the proposition to displace the existing petroleum corporations operating in the USA by the corporations manufacturing Carbon Negative fuels from the air CO₂ in sincere Author's intent to bring the air CO₂ content to the level of the year 1900 or just before the active petroleum fields discovery and exploration followed by the distillation of petroleum in the refineries itself producing the air CO₂. In response to that the Author has made this article using the US Constitutional freedom of speech. It is also important to mention herein that the Carbon negative fuels were sold at the new type of the gas stations shown in Figure 1. below as the intelligent response of the Author to said his attempted murder by SHELL in response to offer of the Author to commercialize his proprietary technology of Gasoline manufacturing from the air CO₂ to resolve the ecological crisis the international petroleum corporations selling the petroleum originated fuels have brought our planet Earth. We have tested our Carbon Negative fuels of the set of corporate vehicles we have sacrificed for that purpose even without knowing the results of the testing performed but with the great hope that all said vehicles will survive said testing and will be used again but with only the Carbon Negative fuels. For said testing we have sacrificed corporate .2022 Toyota Camry, Peugeot 3008 and the diesel truck 2022 Chevrolet Silverado 1500 Duramax Diesel. The gas mileage in the town of Brownsville and on the highways was meticulously recorded by the respective chauffeurs Certified mechanics from the Toyota, Peugeot and Chevrolet dealerships were invited to the corporate garage of our corporations to meticulously check 1) stated cars driving and 2) any mechanical damages, especially in the engine compartments, like gaskets on the engines anticipating damage of some of them after at least 10,000 miles of testing. The testing was performed for 20,000 miles for each test vehicle. The records on the gas mileage for all types of 280. tested cars are discussed herein. We have mentioned herein that we sell our Carbon Negative fuels at the new type of the gas stations combining the sales of the Carbon Negative fuels and the sales of the certain goods for which the valued customers had to drive additionally to Walmart and to the grocery stores. And that we offer along with the ordering (includes also the on-line ordering) of the goods the customers could not find at the new type of the gas stations but need and had to drive to the next to the gas stations stores to purchase them. As we have noted before the environment crisis the international petroleum corporations selling the fuels originated from petroleum will result in shortage of the fresh water on Earth due to its enormous evaporation to the Outer Space vacuum. Therefore the sales of the distilled water by the new type of the gas stations is a mandatory process for us - we want to make as easy as possible the time of converting the World's economy from the dominance of the international petroleum corporations to the set of

Carbon Negative fuel and genetically engineered foods corporations. As we have stated herein our intent is to ensure the valued customers will find the new type of the Carbon Negative gas stations a valuable option to save their time for not visiting on their cars the Walmart and the grocery stores. Certain foods for consumers there were prepared using the genetically engineered fungi (to be approved for the nationwide use). We use the ordering option for the goods not currently sold at the new type of the gas stations but had to be added from sales there to save the time for our valuable customers. For that purpose the sales people took the orders and there was also the on-line ordering system.

Results

The Author was really surprised when all his planned herein in this original article experimental parts worked well as described before with the Carbon Negative replacements of Gasoline and Diesel fuel.

Data on testing of the Carbon Negative fuel using real Gasoline and Diesel fuels vehicles. Results of checking by certified mechanism from respective car / truck dealerships on no any visible defects or

Vehicles misbehavior while driving

The certified mechanics from the respective car / truck dealerships meticulously tested the respective corporate cars at the corporate manufacturing site and drove said cars on the roads nearby the manufacturing site meticulously to reveal any damages caused by the replacement of the Gasoline or the Diesel fuel by the suggested mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide and 20% fuel DAA. Said mixture was also used to power the Diesel truck 2022 RAM 3500. The cars were placed on the treadmill with the device to check the engine emissions. No unusual exhaust gas emissions were ever tested and discovered in the exhaust gas of all tested vehicles.

No unusual emissions in the cars exhausts

No unusual engine emissions were noted by said mechanics for all tested corporate cars. Then the mechanics made the test drives of the each said vehicle. No any mechanical or any other damages to the engines of the all said cars were ever revealed upon said thorough testing. Test drives of each said vehicle by the certified mechanics did not reveal any abnormal driving behavior in any of said cars. The mechanics still did not make any further recommendations on the following use of the Gasoline and the Diesel fuel replacement leaving for the Author the possibility of reporting this very good news to the general public. The gas mileages of the cars used to test the mixture of the fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide and 20% fuel DAA as the replacement of Gasoline were 37 mpg on the highway and 31 mpg in the city of Brownsville. You can easily calculate the average gas mileage from said numbers. But the overall picture looks to us very promising since the gas mileage even slightly exceeded the Gasoline from petroleum use mileage in Toyota Camry and Porsche Cayenne Turbo. Due to the limited number of the tested cars we cannot make any predictions for the other car makes and the cars made before the year of 2022. This will become the risk of the other car owners, who will decide to replace their Gasoline with the produced from the air CO₂ mixture fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide and 20% fuel DAA. If you remember our corporate goal is to replace all the petroleum use by the use of the air CO₂, initially to resolve the issue of the transportation problems, substantially increasing the air CO₂

content via the air CO₂ accumulation and eventually to decrease the air CO₂ content causing the fresh water loss to the outer Space vacuum as stated before. The similar picture was seen if we used said mixture fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutanoxybutane, 30% Mesityl oxide and 20% fuel DAA to fuel the Diesel truck 2022 RAM 3500: highway mileage 37 mpg, town mileage 35 mpg for the long testing time of 20,000.

Fuel efficiency of the new carbon negative replacement of the gasoline and diesel fuel

For the use of said mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutanoxybutane, 30% Mesityl oxide and 20% fuel DAA as the Diesel fuel replacement for over the 20,000 miles runs, the 5,000 miles old 2022 Chevrolet Silverado 1500 truck was used for test runs on our carbon negative Diesel fuel for 20,000 miles. The Diesel fuel mileage was achieved on the highway at the average diesel fuel mileage ~38 mpg, and at ~32 mpg driving in the city. The calculated the combined driving efficiency was about ~36 mpg. The Author does not take any risk in forecasting the Diesel fuel mileage behavior of the other diesel cars/trucks makes and per the mileage forecasting for the Diesel cars/trucks makes older than the year of 2022.

Discussion

NASA has stated in 2010 after measuring the air CO₂ content above 400 ppm that that was the "Point of No Return" to healthy environment on the Earth. Now the air CO₂ level exceeds 450 ppm. What that means and how do we plan to reduce the air CO₂ content to the level we have in our dreams - the air CO₂ level of the year 1900 or just before the active discovery of the oil wells and fields and the massive petroleum production and use for distillation to manufacture Gasoline and Diesel fuel by the international petroleum corporations. The air CO₂ is the heaviest gas of the air gas blend having density of 1.22 g/m³. The air CO₂ density exceeds 1.97 g/m³. Therefore by the gravity force the air CO₂ is covering the Ground. The Ground is the natural refuge for all kinds of fresh water: fresh water from rains, snow/ice melting, etc. The Ground is the place where from the creeks; rivers start from to go to the sea, lakes and ponds. With the air CO₂ excessively covering the Ground it produces much more fresh water vapors as that was in the year of 1900. In the Southern States of the US the temperature of the Ground reaches 100°C and up. The fresh water trapped in the Ground might even boil increasing the evaporation of the fresh water vapors to the air. The air is attached to the Ground by the gravity force. The average thickness of the air layer above the Ground is about 400 miles. The other end of said air layer is the outer Space vacuum. In 2010 NASA has found a lot of ice on the dark surface of the Moon. NASA has concluded that ice was captured by the dark surface of the Moon (-293°C) and the fresh water vapors came from Earth. The Moon worked as the "cold trap" for said vapors. Compare diameters of Earth and the Moon, thinking that the Moon is located in 200,000 miles distance from Earth. What that means? Earth is wasting its fresh water to the Outer Space. How to stop it? This might be stopped by the stopping the air CO₂ production. Can we stop using the produced by the international petroleum corporations originated from petroleum fuels? Apparently the answer is NO. For that purpose we have developed our Carbon Negative fuel and food corporations and manufacture the Carbon Negative genetically engineered foods. Therefore we are offering the Carbon Negative fuels and genetically engineered Carbon Negative foods at our new type of gas stations instead of the widely used Gasoline and Diesel fuel manufactured by the international petroleum corporations from petroleum on the over 80 in the continental US

refineries to distill said petroleum to the gasoline fractions (C₇-C₉) and Diesel fuel (C₁₀-C₁₅) and sold to customers Nationwide and World-wide. The described for the Acetogen biocatalysts the new type of the horizontal bioreactor design has the three gas blend diffusion stones per the perimeter of the bioreactor to ensure the even distribution via the total number of said diffusion stones was per each bioreactor of the feeding Acetogen biocatalysts with the gas blend components to feed the biocatalysts. Shows only one of the three said diffusion stones. Our horizontal bioreactor for the manufacture of the Carbon Negative fuels has three said diffusion stones per the perimeter of the immersed to the medium part thirty inches apart from each other with the total number of said stones 42. The Author suggests his own Carbon Negative fuels sold at the new type of gas stations shown. New type of the Carbon Negative fuels gas station offered herein. The new gas stations selling the Carbon Negative mixture as we noted above: 40% of fuel Isobutanol, 30% fuel 1,1-dibutanoxybutane, 30% Mesityl oxide and 20% fuel DAA along with the genetically engineered foods and normal foods for the home cooking of the customers showed pretty much promising tendencies of the improved sales of both the Carbon Negative fuels and the foods for the home cooking and consumption. Additionally said gas stations sell to the customers the chemicals widely used by the household - and this all just to save the valuable time for the valuable customers. Apparently customers really appreciate the opportunity to save their time while visiting said new version of the gas stations selling also foods for the households. Saving of the customers time was our primary priority and the new route to improve sales of the Carbon Negative fuels. Basically we have reached our goal; the new kind of the gas stations probably will replace the existing gas station selling only snacks and Gasoline and Diesel fuel manufactured from petroleum and killing Earth by the waste of fresh water to the Outer Space. Actually, said above the new type of the gas stations along with the offered there Carbon Negative fuels is the delicate and intelligent response of the Author to his attempted murder committed by SHELL in response to the Author's offer to SHELL go start the manufacture of the Carbon Negative fuels. We are very much concerned about the amount of the fresh water reserves on Earth shows the governmental data on that elaborates these data. Loss of fresh water from Earth to the Space vacuum due to the elevated air CO₂ concentrations. The Author came to Houston in January of 1998 (the time for the weather change is only 25 years) . He was pleased by the Houston warm weather and always blue bottomless sky. Just in passed from that time years the Houston weather has changed. There is rain almost every day now. Rain is good as more fresh water comes to the Ground. However we need to realize that the Earth atmosphere which is only 400 miles thick above the Ground and ends up with the Outer Space vacuum sucking the fresh water vapors from Earth's atmosphere if the air CO₂ exceeds certain levels. Said atmosphere structure is not even. Important is the closeness to Houston of the Mexican Gulf. Air CO₂ spreads over the ground and the sea water. Sea does not boil but what the processes are at the thing layer of the air CO₂ and the neighboring sea water the Author is not sure. It might be evaporating so much that now the Houston weather has dramatically changed. The days are cloudy, and the clouds come from the evaporated by the Mexican Gulf sea water. There is the shortage of fresh water coming to Earth. Shortage of the fresh water means shortage of livestock and crops production - there will be nothing to eat in 10-25 years from now. This is the projection offered by the Author in this article. Rains are at the atmosphere's bottom. Above that there are different events and above that is the Space vacuum. Therefore, the rainy now weather in Houston reflects the substantially increased amount of the fresh water vapors in the air gas blend. Specifically, with the changes in Houston weather you can easily see

that over accumulated air CO₂ boils sea water in the Mexican Gulf. Most part of Mexican Gulf is in the Equator area where the Sun gives for free to us up to 1,330 Wt/m² of the solar panels. The same happens with the air CO₂ which selectively absorbs the solar light infrared energy and converts it to heat. That heat boils sea water on the surface of Mexican Gulf changing in Houston weather now. South winds bring evaporated from Mexican Gulf fresh water condensed in the clouds often offering rain these days. Only 25 years from the Author's arrival to Houston and such a dramatic weather change there. So, you can easily see that the changes to the fresh water evaporation to the Space vacuum are coming as we now project - in the next 10-25 years from now. Fresh water shortage will mean the shortage of the crops and the livestock production. The ecological crisis is coming and it will be the worst in the history of the humankind. The Author plans to prevent that from happening. By the establishing the domination of the Carbon Negative corporations both fuel and genetically engineered foods for feeding the anticipated starving customers. The planned price for the Gasoline and Diesel fuel replacements is planned at the level of \$2.60-\$2.70 per gallon regardless if the fuel will be used for the Gasoline or Diesel fuel powered cars / trucks. We have not had a chance to investigate the suitability of this new Carbon Negative mixture use for powering of the air jet turbines yet. We are confident it will work even there but we have to check it thoroughly and meticulously there like we did with the Gasoline or Diesel fuel powered cars as noted in this article. Therefore we are going to save the Earth's fresh water escaping to the outer Space. What fresh water shortage mean? No crops and no livestock production. Global starvation is coming to Earth. And we are going to revert it by noted herein in this article means. The Author claims he will save this world and he will save the Earth's fresh water.

Declaration of interests statement

The Author has received all the proper documents granting the ethical approval and the consent to participate from the State of Texas officials. The Author has made sure that the ethical approval and his consent to participate in preparation and submission for publication of this article were properly approved by the respective authorities of the State of Texas.

Consent for publication

The Author has expressed his complete consent to participate in work with this article and its publication in this Journal.

Competing interests

This article is another step in the war which has started by SHELL International Petroleum Corporation some time back by attempted murder of the Author. The people hired by SHELL have totaled the Author's corporate car and did some other illegal things to the Author which has concluded the Author that the war with the international petroleum corporations has started already. No Houston FBI or Houston Police investigation of said attempted murder has happened and this is behind the responsibility of the Texas Governor with all the legal remedies the Author might use in his fight to sue the State and its Governor Gregory Abbott. The attempted murder has the statute of limitations 20 years, and there are jurisdictions above the level of the State of TEXAS. The Author had certain legal problems with the at that time Attorney General of the State of Texas in 2013, now Texas Governor, Greg Abbott and the Author is going to resolve all the legal problems with the Texas Governor, regardless would he be dismissed or not. The corporate Author's website was destroyed by the person, the Attorney of Hirsch and Westheimer Law Firm, PC by the last name

Levy. She belongs to the same family which owned or owns the grocery stores chain named "Fiesta" in Houston Texas. The Author was unable to find a lawyer in Texas to file the respective federal law suit and recover his corporate website, but the Author has the US Constitutional right to recite this website in the references herein. Therefore the Author has multiple legal problems with the State of Texas and the Author is going to resolve said legal problems at the respective Court level in the US. The Author was already involved into the war which has been started by the International Petroleum Corporation SHELL. The Author has approached SHELL offering them for the commercialization of the proprietary technology of Gasoline or Diesel fuel manufacture from the air CO₂, not from petroleum which SHELL and other international petroleum corporations use. SHELL representative met the Author, got his draft of the at that time in publication article on creation Gasoline from the air CO₂. SHELL hired two Mexicans to kill the Author in the car accident, paying the possibly around \$6,000 for this dirty job, which has been done in Houston TEXAS at the US59 down South (9494 Southwest Fwy). The Houston FBI and the Houston Police were contacted by the Author multiple times over his mobile phone however there was no any detailed and thorough Police or the FBI investigation of said attempted murder of the Author since as the Author trusts, both Houston FBI and Houston Police are totally corrupted by the international petroleum corporations. Therefore any law is not used in the State of Texas to hurt said corporations. Therefore the Author has to look for the law enforcement outside of the State of Texas, at the National level and he will do that to affect the Texas Governor Abbott for his actions of 2013 and have him resign from his position. Therefore the Author has conflict of interests with the State of Texas, TEXAS Governor Greg Abbott, Texas FBI and Texas Police. Since that time more scientific publications by the Author on the Gasoline and Diesel fuel production from the air CO₂ came out. The US patents are extremely expensive, therefore the Author uses instead of patents scientific publications. Publications are as good as the US patents, each the US patent has to claim something better than the Author already did in his scientific publications. The Author working on the Acetogens-biocatalysts has no any competition in the world because of his prior invention, the electroporation / electrofusion Generator, already sold as a sample (with no right for reproduction) to the US corporation BTX, Inc. / Genetronics, Inc. (San-Diego, CA). Said Generator and the invented by the Author genome tailoring technology make him with no any competition in the whole World. The Author has conflict of interest with his Ph. D. Supervisor, Professor Boris A. Shenderov, who apparently worked for the KGB in the former Soviet Union. In 1992, when the Author has applied from the first International Passport of the USSR, we went to the local Police department and set in line much before the International Passport department started working. When the Author has entered said local Police Department he immediately was arrested and jailed in the local prison without any announcement of his fault why he was arrested. The Author has recently changed his job leaving Professor Shenderov and joining the USSR Research Institute GNIIGENETICA. Therefore Prof. Shenderov started making every possible efforts to harm the Author with the use of KGB. Therefore the Author instead of getting his first International Passport of the USSR was arrested and without any notification of the crime he has committed he was arrested and forwarded with the machine guns armed Police workers to the local jail. In the local jail the Author was placed with another five persons, criminals, who knew what for they were arrested and jailed and smoked tobacco heavily right in the prison jail cell with the size of about 5.5 x 5.5 x 5.5 meters (about 10 x 10 x 10 feet). Because of said tobacco smoke the Author became very sick and in five hours after being jailed he asked the God he never prayed

to (the Author is the atheist) to take the Author to Haven. The Author wanted to die at said moment. His blood pressure and heart pulse were astonishingly high, and the Author was really sick at said time. He started knocking inside the jail cell to the cell entrance door trying to get attention of the Policemen on duty. But that was not effective and no medical help was rendered by the Police to the Author at the Author's requests. He asked the God to make him dead, he asked God to take him to Haven. Suddenly the Author has heard the God's voice right in the Author's head. The God said in English: "This is not your time to die yet. You have not done your major business yet. Calm down, try to relax and wait till the police understand that they were mistaken with you and will release you". Indeed in a few days the Author was released and has received his first International passport of the USSR. In 2001 the Author has recovered that he has been doing wrong things at his work and started working on the Carbon Negative fuels and genetically engineered foods on the base of Acetogens. That was the major business the Russian God told to the Author in 1992 at the jail cell when the Author has asked his God to take him to Haven and die. Therefore the Author has the conflict of interest with his former Ph. D. Supervisor Prof. B. A. Shenderov. The Author states herein that certain articles in the reference section cited Berzin V. Berzin VG was the business partner of the Author during his time at Syngas Biofuels Energy. Inc (2007-2013). He even paid his own \$300 to start said business and spoke to his personal attorney to start said business registering it with the state of TX. However Berzin V did not participate in no actual work at said corporation and obviously did not do any contributions to the articles listed in the reference section herein. His authorship was

included as such as he paid for said business. That is all the readers want to know. Berzin V. retired at the age of 65 and went to the retirement house which name is kept by him strictly confidential to avoid the Author of contacting him at any time. The Author recites publications where the authors were Drs. M. Kiriukhin and E. Gak. Said authors were paid significant amounts of cash by the Author for doing their research when the Author has hired them in the Russian Federation to do said R & D projects on the Acetogens when the Author was the CEO, Executive Chairman, President of Tyurin Enterprises, LLC.

References

1. Jang KS, Kim YH (2018) Rapid and robust MALDI-TOF MS techniques for microbial identification: a brief overview of their diverse applications. *Journal of Microbiology* 56:209-216.
2. Kim E, Kim J, Choi I, Lee J, Yeo WS, et al. (2020) Organic matrix-free imaging mass spectrometry. *BMB reports* 53:349.
3. Wang Y, Han Y, Hu W, Fu D, Wang G (2020) Analytical strategies for chemical characterization of bio-oil. *Journal of separation science* 43:360-371.
4. Ishii K, Zhou M, Uchiyama S (2018) Native mass spectrometry for understanding dynamic protein complex. *Biochim Biophys Acta Gen Subj* 1862:275-286.
5. Takeo E, Sasano R, Shimma S, Bamba T, Fukusaki E, et al. (2017) Solid-phase analytical derivatization for gas-chromatography-mass-spectrometry-based metabolomics. *Journal of bioscience and bioengineering* 124:700-706.
6. Micalizzi G, Vento F, Alibrando F, Donnarumma D, Dugo P, et al. (2021) Cannabis Sativa L.: A comprehensive review on the analytical methodologies for cannabinoids and terpenes characterization. *Journal of Chromatography A* 1637: 461864.