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ORIGINAL ARTICLE

Carbon Negative Gasoline and Diesel Fuel Replacements

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Abstract:

Petroleum recovery from the Ground and its distillation to get Gasoline and Diesel fuel burned in Gasoline and Diesel cars / trucks, airjets, etc. leads to the Global Environmental Catastrophe in 10-15 years from now which the humankind will not survive. The Author plans to save the Earth's fresh water by developing Nationwide manufacture of the Carbon Negative replacements of Gasoline and Diesel fuel and add additional distilled water and the genetically engineered foods to help the humankind pass said .environmental crisis. The Author plans to raise additional investor's money to organize Nationwide network of the new type of gas stations selling not only Carbon Negative fuels but additionally to that the foods for home cooking and essential household items to save time to the valued customers preventing them to drive additionally to Walmart and grocery stores. The ordering system to provide additional goods is also planned. The environmental problem outlined has the solution: elimination of international petroleum corporations and their change to Carbon Negative corporations.

Key words: Carbon Negative fuels; additional distilled water from sea water; genetically engineered Carbon Negative foods; new type of the gas stations; the ordering system for the new type of gas stations.

Introduction

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 ghat year is up to 3 and above - the rule of the market economy). 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 [21]. 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 CO_2. 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 CO_2 400 ppm, the "Point of No Return" per the NASA discoveries of 2010 [21]. Now the air CO_2 exceeds 450 ppm 51.and goes up based of the wide distribution of the intensive transportation based on the use of petroleum-derived Gasoline and Diesel fuel [21].

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 CO_2 [5-16,19]. 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 [6,7]: 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.[6]. The combustion energy of DAA or Mesityl oxide is -3.600 kJ/Mol [6]. In addition to that the octane number of the most prosperous fuel Isobutanol is 98 [1,2]. Therefore, adding the fuel Isobutanol [18] 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 it safe use at outside temperatures below 34^{o}F [21]. That is why we offer this Carbon Negative mixture comprising 40% of fuel Isobutanol, 10% fuel n-Butanol, 72.30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA) [15-17, 73.29]. 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 CO_2 content [24].

The Mesityl oxide chemical formula is give in Fig. 1.

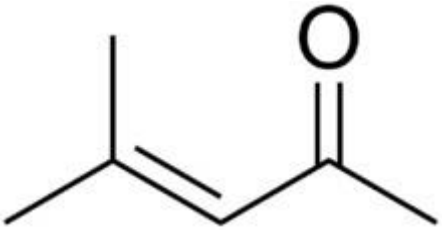

Fig. 1. Mesityl oxide [24,34,35].

Therefore, we have decided to sacrifice 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 fuel isobutanol and other carbon negative fuels as above. The manufacturing price of the acetone manufactured from the air CO_2 is approximately $0.35 per gallon [3]. The condensation of the two acetone molecules over the alkaline catalyst per [4] gives fuel Diacetyl alcohol at the manufacturing cost of $0.02 per gallon. The combustion energy of the fuel Diacetyl alcohol 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. Mesityl oxide combustion energy elevates that of the Diesel fuel, and we have decided to test the said mixture of the Carbon Negative fuels comprising as above 40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA) and that 98.mixture has been tested on the Diesel truck 2022 RAM 3500.

However, we are not the explosion experts to discuss this herein [5]. Indicated elevation of the explosive pressure in the case of using Diacetyl alcohol (DAA) and Metsityl oxide happens in the purchased manufactured diesel vehicles. This note is to keep checking the engine combustion chamber gaskets 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 [6].

Biocatalysts used to manufacture the Carbon Negative fuels have different synthetic genes introduced by the means of genome tailoring using the unique Electrotrasformation / Electrofusion Generator developed by the Author when he still was in the Russian Federation [18,19]. Four carbon alcohol fuel n-Butanol and its isomers are widely recommended to replace Gasoline manufacture by the international

petroleum corporations from petroleum. Said isomers of fuel n-Butanol are shown in Fig. 2.

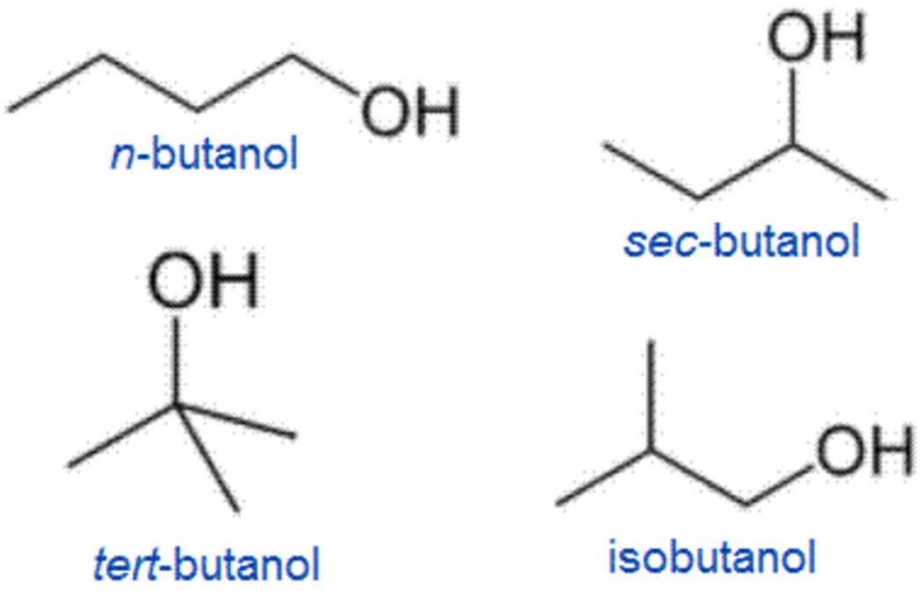

Fig. 2. Fuel n-Butanol and its isomers sec-Butanol, tert-Butanol and Isobutanol [20].

Our biocatalyst making fuel Isobutanol has several genetically engineered genes for that purpose [18,20]. The fuel Isobutanol bioisynthesis by this strain is shown in Fig. 3

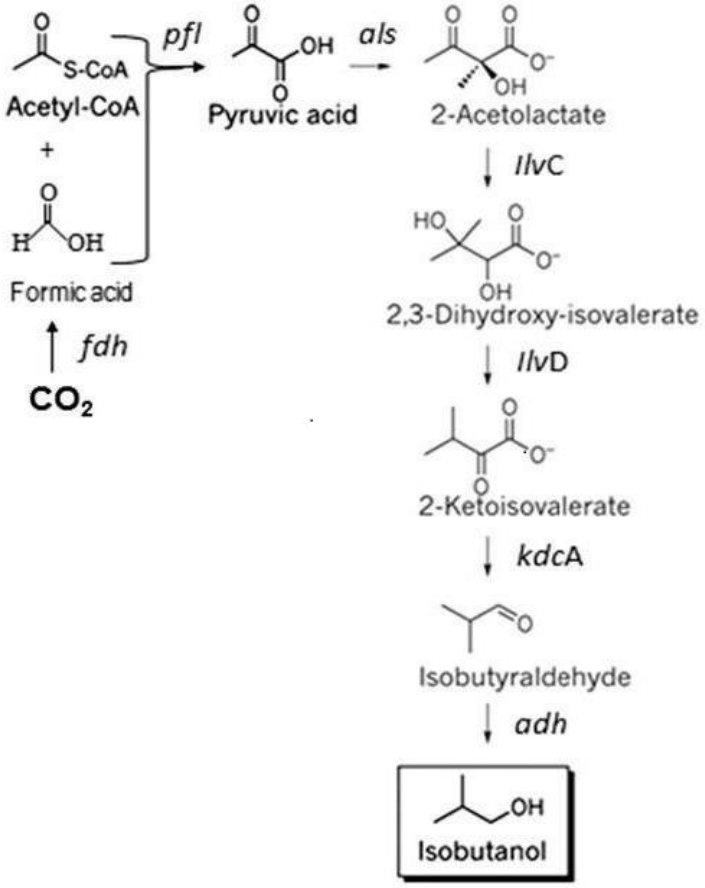

Fig. 3. Genetically engineered fuel Isobutanol pathway in our biocatalyst [18,20].

124.Fuel Isobutanol has elevated viscosity and at lower temperatures near O ^{o} C and below that forms gels [21]. It is obvious that any gel structure in the fuel line at said low outside temperatures will be the obstacle for the proper internal combustion engine operations. Therefore we offer the blends of 80 % (vol/vol) carbon negative Isobutanol manufactured by our carbon negative corporations and 20% (vol/vol) of Diacetone Alcohol manufactured by our carbon negative corporations, etc. Said mixture of the Carbon Negative fuels as above survives the negative temperatures without the increase of the viscosity in the fuel line and therefore, this mixture is totally compatible with the Diesel and Gasoline using trucks nationwide, including the territories where the low winter and Spring / Autum temperatures exist Nationwide. Said mixture of Carbon Negative fuels maintains liquid state even at very low negative (much below 0^{o}C) temperatures and does not form any gel structures in the fuel line ensuring the normal operation of the engine.

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^{o}C (or 34^{o}F) [22,23]. The fuel Isobutanol has viscosity cP or mPa•s @ 20°C 3.102 [24]. 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^{o}C. This remedy is found already. Mixing of 80 % (vol/vol) of Carbon Negative fuel Isobutanol with 20 % (vol/vol) of Diacetyl Alcohol (DAA), which we produce Carbon Negative from condensing of the two Carbon Negative acetone molecules over the alkalyne catalyst [25,26]. 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 Diacetone 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 [4]. 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 [27,28]. 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 [6].

Fig. 4 explains how our Acetogen biocatalyst synthesized Carbon Negative fuel Acetone from the air CO_2 [29]. Resulting Carbon Negative fuel Acetone is used for the manufacture of DAA by the condensation of the two Acetone molecules over the alkaline catalyst [4].

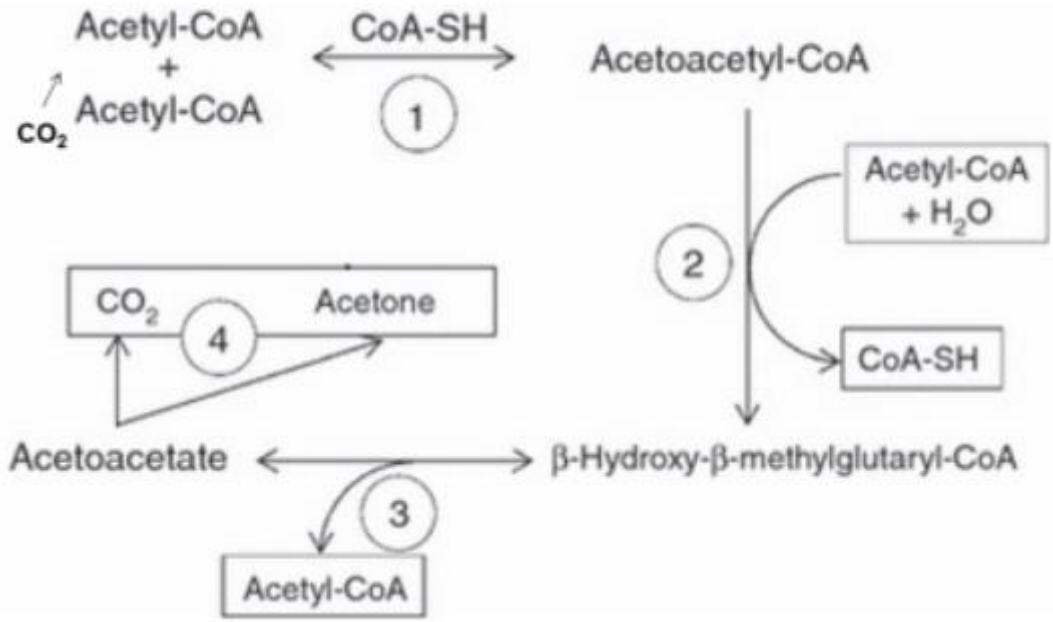

Fig. 4. Biosynthesis of fuel Carbon Negative acetone from the air CO_2 [29].

The following chemical reaction allows us make certain calculations per the Acetone yield [29]:

12 CO_2 + 56 H_2 = 3.6 Acetone + 0.06 Cell Carbon

Again, we have to note, that our manufacturing facility is the grid-independent, getting all the electric energy solely from the solar panels covering all the area over our bioreactors. We used our original not having any World's analogs gas blend fermentation vessels [1,3,5,7-18]. 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 [29]. 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 [4] to reach the production of the Diacetyl alcohol. At the concentration of the Diacetyl alcohol 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 CO_2.

Materials and Methods

In this article we describe the bioreactors used to manufacture our Carbon Negative fuels. The image reflecting one of said bioreactors is shown in Fig. 5.

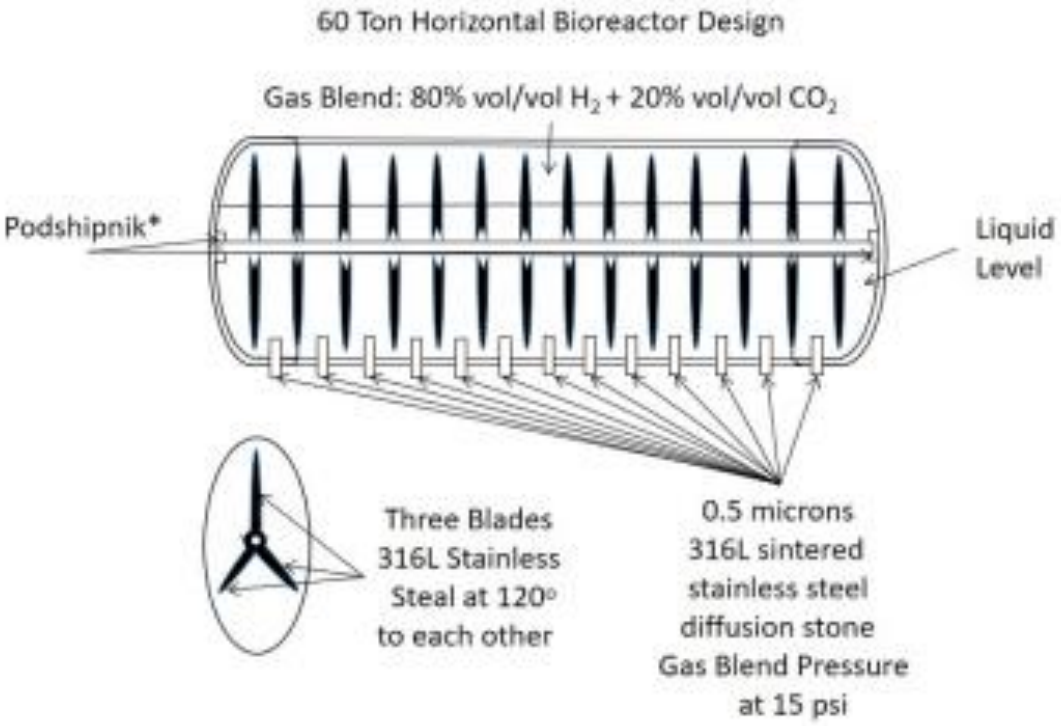

Fig.5. Our horizontal bioreactor design [30].

This is the modification of the known already horizontal bioreactor of

Beckman Coulter Life Sciences [11]. The idea is the same: the feed is gaseous like for growing of Algae cells [11]. However we grow the Acetogen biocatalysts in one set of bioreactor modules producing from the gas blend of H_2 and CO_2 (the gas blend we use has 80 % vol/vol of H_2 and 20 % vol/vol CO_2 fuel Isobutanol [7-10, 2-16,19] and in the other set of said bioreactor modules to manufacture acetone [29].

As Fig. 5 shows, in our system we used 14 impellers causing random distribution of the gaseous blend over the bioreactor volume we have used. Said gas blend was composed of 80% vol/vol H_2 and 20% vol/vol of CO_2. This is very important that said CO_2 was extracted from the surrounding air. The process of said $C0_2$ 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 have to be always overcome by the patents of competitors if any. The horizontal bioreactor shown in Fig. 5 has been filled by the nutrient medium by 67- 68%. 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 Fig. 5 was 15 psi. The total number of said diffusion stones was 39 per each bioreactor we have used.

Fuel Isobutanol was manufactured using the genetically engineered biocatalysts per [18]. Diacetone Alcohol (DAA) was created from the Carbon Negative acetone manufactured before using the technology we have already described [29] by the condensation of the two Carbon Negative acetone molecules over the alkaline catalyst as described [29]. Said Carbon Negative fuel Isobutanol and DAA were used as the Carbon Negative fuels sold to the customers. In case of fuel Isobutanol its known high viscosity causing problems in fuel lines of the cars at low air temperatures if fuel Isobutanol was used pure were resolved as discussed before [6] by mixing of 80% vol/vol of fuel Isobutanol with 20% vol/vol of Carbon Negative DAA as described herein above. Said problem with elevated viscosity does not exist for the said mixture of the

carbon negative fuels as above: 40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA).

It is important to note that the impeller blades were placed on a 316S stainless teal shift fixed in the horizontal bioreactor by the Podshipniks [31].

These are the specially designed and properly manufactured for handling and rotation elements providing long and productive life for shift with the impellers shown in Fig. 4 and used in the bioreactor. Podshipniks are shown in Fig. 4 and in Fig. 5.

Fig. 6. Podshipnik used in our horizontal bioreactor [30].

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 CO_2 (the Declaration of Interests Statement section of this original article). As the response the Author has came up with the proposition to displace the existing petroleum corporations operating in the USA by the corporations manufacturing Carbon Negative fuels from the air CO_2 in sincere Author's intent to bring the air CO_2 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 CO_2 [6].

It is also important to mention herein that the Carbon negative fuels were sold at the new type of the gas stations shown in Fig 3. below.

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 270.2020 Toyota Camry, Peugeout 3008 and the diesel truck 2020 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 that we sell our Carbon Negative fuels at the new type of the gas stations, combining 1) the sales of the Carbon Negative fuels and 2) the sales of the certain goods for which the valued customers had to drive

additionally to Walmart and the grocery stores along with ordering (includes also the on-line ordering) of the goods the customers could not find at the new type of the gas stations but needed and had to drive to the next to the gas stations store to purchase them. In addition to that the new type of the gas stations was selling the bottled distilled water manufactured at our new type of business activity - the sea based set of solar panels powered boats for the distillation of the sea water. The new type of the gas stations was also used to sell to the valued customers - consumers of the Carbon Negative fuels the food for home cooking, not the prepared at the gas stations or ready to eat food sold at the old type of the gas stations. Our intent was 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 were prepared using the genetically engineered fungi (to be approved for the Nationwide use). We used the Ordering option for the goods not currently sold bu had to be added 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.

Development of Carbon Negative Foods.

The genetic engineering of the fungi was performed as described before for the genetic engineering of the Acetogens-biocatalysts

At the first step the Author has eliminated fungi genes not essential for the fungi maintenance and propagation [4]. At the second step of 308.genetic engineering of fungi is the cloning in fungi of the recombinant genes of lamb and other animals (not listed herein) or tomatoes, potatoes, cabbage, bread and spice. Said genetically engineered fungi will be cultivated in the sterile evironment at the corporate site.

The special care will be taken about the contracting capabilities of the genetically engineered muscle tissues allowing the muscle tissues of said genetically engineered creatures to grow as the natural muscle tissue has to grow with the training of the muscle owners.

Genetically engineered meats.

The Author trusts that his energy and cell components Carbon Negative system developed recently for the engineered Acetogen Biocatalysts should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of lamb structures as thought originally should work without any problems in genetically engineered fungi (the species has to be .determined yet) containing the genes of meat production. Original thinking of the Author was about the lamb originated genes, but that might change at the level of operations. A variety of genes encoding various meat structures must be engineered to add the smell and the feeling at the teeth during chowing the exact feeling of the meat structures consumed. Like the sensation of cracking the rib, cartilage, etc.

The special care will be taken about the contracting capabilities of the genetically engineered muscle tissues allowing the muscle tissues of said genetically engineered creatures to grow as the natural muscle tissue has to grow with the training of the genetically engineered said 333.muscle owners - genetically engineered muscle fibers.

Genetically engineered tomatoes, potatoes, cabbage, etc.

The Author trusts that the energy generation and cell components structures creation could be produced by the carbon negative system developed recently for the engineered Acetogen Biocatalysts [6-18] should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of respective vegetables production. The Author eventually will not be able to provide the exposure to the Sun light and the fresh air of said genetically engineered tomatoes, potatoes, cabbage and other vegetables which have to be maintained under the sterile conditions over the lifetime of the genetically engineered fungi-based systems.

Genetically engineered bread and bread-based products

The Author trusts that the energy and cell components Carbon Negative system developed recently for the engineered Acetogen Biocatalysts should work well without any complications in genetically engineered fungi (the species has to be

determined yet) containing the genes of respective bread and bread-based products production. The Author has to engineer and design the system for baking of said genetically engineered bread and bread-based products. Eventually there will be certain problems with not properly cooked genetically engineered bread and bread-based products.

Genetically engineered Spices

The Author has given great thought about spices. Any food especially genetically engineered one has to have salt and spices. The Author did not think about the genetic engineering of salt, it has to be available with no limitations. But genetically engineered spices based on pepper and other components used to produce spices have to be engineered. The Author trusts that the energy and cell components Carbon Negative system developed recently for the engineered Acetogen Biocatalyst should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of respective genetically engineered pepper and other components giving the taste of spices. The salt will be added to such genetically engineered spices as the powder which can be sterilized as usually to get into the sterile genetically engineered environment, or there will not be any need for that.

Results

The Author was really surprised when all his planned herein in this original article experimental parts worked well as described before [7-10, 12-14] with the Carbon Negative replacement of Gasoline and Diesel fuel.

Data on testing of the carbon negative fuel using real Gasoline and Diesel fuels vehicles. Results on no any visible defects or vehicles misbehavior while driving

The certified mechanics from the respective car 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 fuel Diacetyl alcohol (80% v./v.) and Fuel Isobutanol (20% v./v.). The 40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA) 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 fuel Diacetyl alcohol (80% v./v.) and fuel Isobutanol (20% v./v.) or the mixture as we stated above40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (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 Porshe 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 2020. This will become the risk of the other car owners, who will decide to replace their gasoline with the produced from the air CO_2 mixture of fuel Diacetyl alcohol (80% v./v.) and fuel Isobutanol (20% v./v.). If you remember our corporate goal is to replace all the petroleum use by the use of the air CO_2, initially to resolve the issue of the transportation problems, substantially increasing the air CO_2 content via the air CO_2 accumulation and eventually to decrease the air CO_2 content causing the fresh water loss to the outer Space vacuum as stated before. The similar

picture was seen if we used said mixture 40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (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 fuel Diacetyl alcohol (80% v./v.) and fuel Isobutanol (20% v./v.) as the Diesel fuel replacement for over the 20,000 miles runs, the 10,000 miles old 2020 Shevrolet Silverado1500 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 2020.

Discussion

NASA has stated in 2010 after measuring the air CO_2 content above 400 ppm that that was the "*Point of No Return"* to healthy environment on the Earth. Now the air CO_2 level exceeds 450 ppm. What that means and how do we pan to reduce the air CO_2 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 fore distillation to manufacture Gasoline and Diesel fuel by the international petroleum corporations.

The air CO_2 is the heaviest gas of the air gas blend having density of 1.22 $g/m^{3.}$ Air CO_2 density exceeds 1.97 $g/m^{3.}$ Therefore by the gravity force the air CO_2 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 CO_2 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 ^{o} 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 only 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^{o}C) and the fresh water vapors came form 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 CO_2 production. For that purpose we have developed our Carbon Negative fuel and food corporations and manufacture the Carbon Negative fuels. Therefore we are offering the Carbon Negative fuels 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 and sold to customers Nationwide.

The described for the Acetogen biocatalysts 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 of the feeding Acetogen biocatalysts with the gas blend components. The total number of said diffusion stones was per each bioreactor. They are located evenly with three inches apart from each other solely in the liquid part of the horizontal bioreactor. Fig. 1 has the only one of said diffusion stones, but the horizontal bioreactor for the manufacture of the Carbon Negative fuels has three at the perimeter of the immersed to the medium part three inches apart from each other with the total number of said stones Thirty Nine [30].

The Author suggests his own Carbon Negative fuels sold at the new type of gas stations shown in Fig. 7.

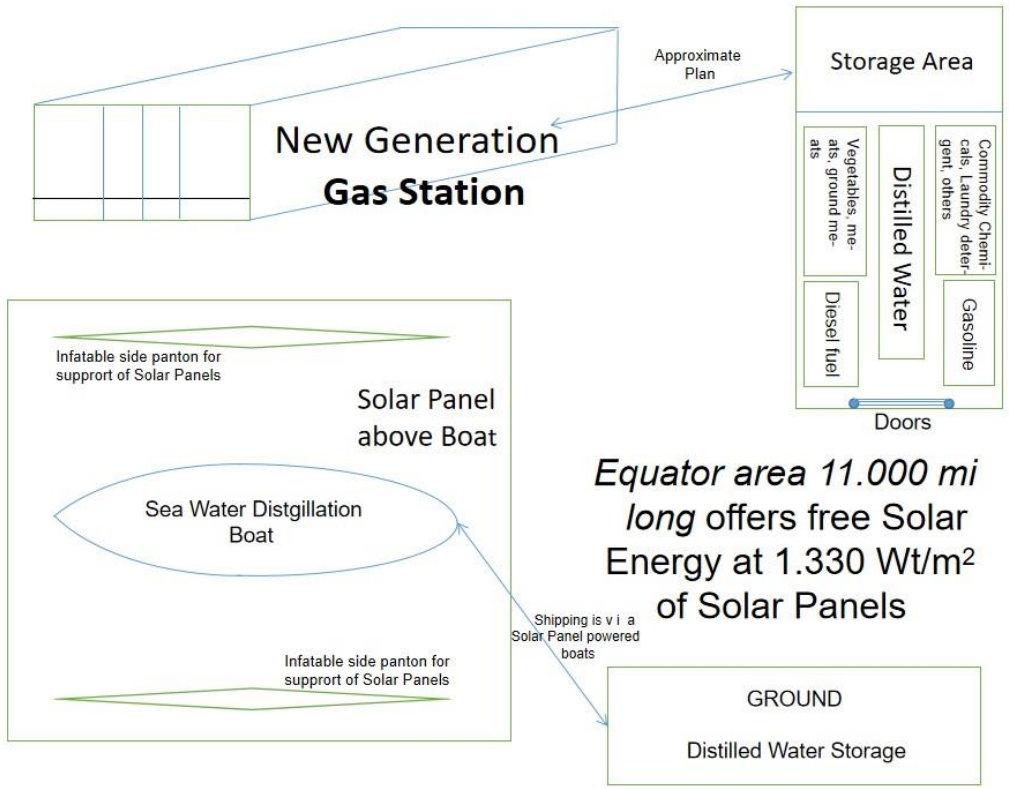

Fig. 7. New type of the Carbon Negative fuels gas station offered herein.

The new gas stations (Fig. 7) selling Carbon Negative DAA and the Carbon Negative mixture as we noted above: 40% of fuel Isobutanol, 10% fuel n-Butanol, 30% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA) [15-17, 29] along with the genetically engineered foods and normal foods for home cooking of the customers showed pretty much promising tendencies of the improved sales of both the carbon negative fuel and the foods for the home cooking and consumption. Additionally said gas stations will 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 appreciated 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 will probably replace the existing gas station selling only snacks and Gasoline and Diesel fuel manufactured from petroleum.

Actually, said above the new type of the gas stations along with the offered there Carbon Negative fuels is the delicate response of the Author to SHELL with its attempted murder of the Author of this original article in response to the Author's offer to SHELL go start the manufacture of the Carbon Negative fuels.

We are concerned about the amount of the fresh water reserves on Earth. Fig. 8 shows the Governmental data on that [33]. Fig. 9 elaborates these data.

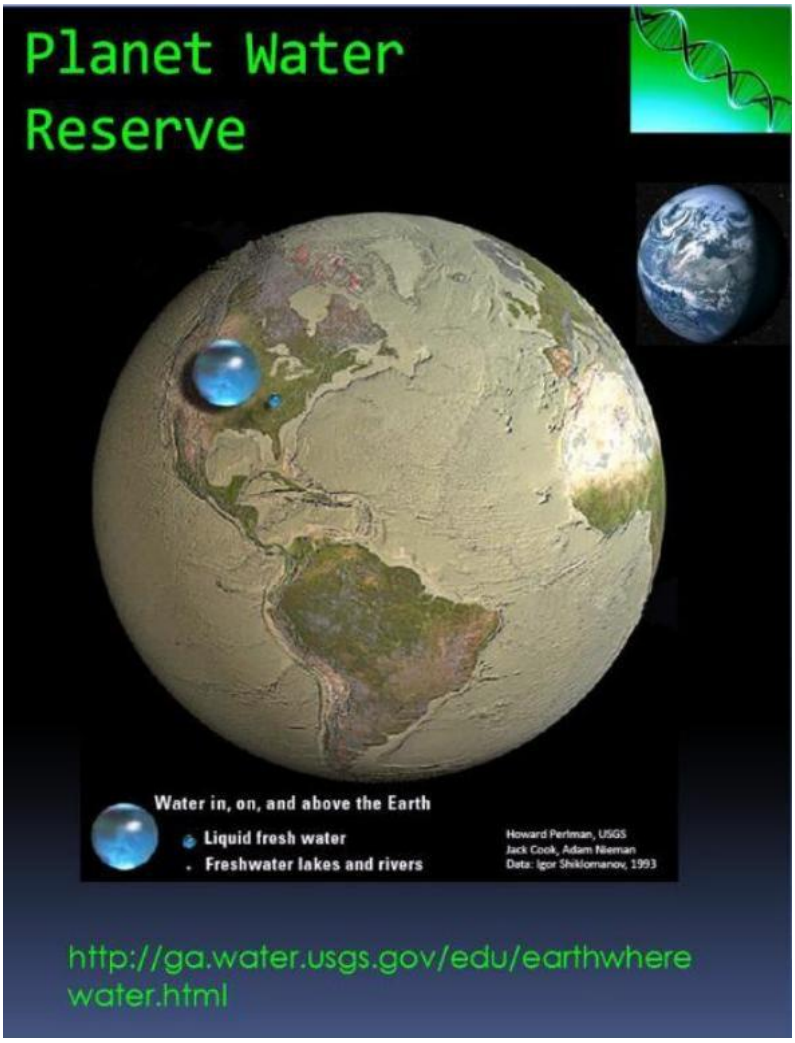

Fig. 8. Fresh water reserves of Earth [33].

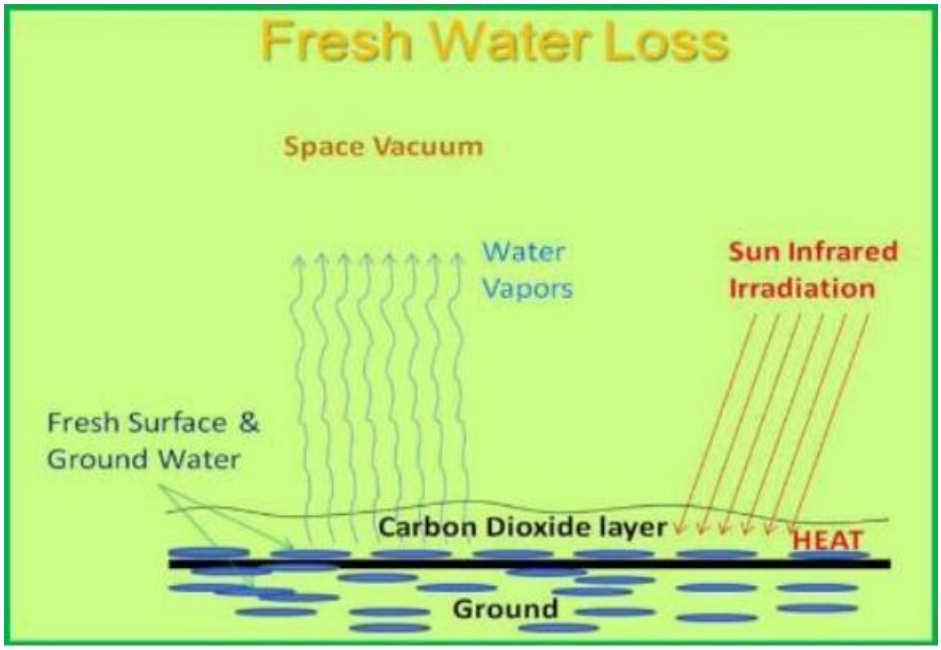

Fig. 9. Loss of fresh water from Earth to the Space vacuum due to the elevated air CO_2 concentrations [6,21].

The Author came to Houston in 1998. He was pleased by the Houston warm weather and always blue bottomless sky. Just in passed from that 26 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 CO_2 exceeds certain levels. Said atmosphere structure is not even. 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 blend. Specifically, with the changes in Houston weather you can easily see that over accumulated air CO_2 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/m^2 of the solar panels. The same happens with the air CO2 which selectively absorbs the solar light infra red energy converting it to heat. That heat boils sea water on the surface of Mexican Gulf causing changes in Houston weather. 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. 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. Fig. 10 explains the thoughts of the Author.

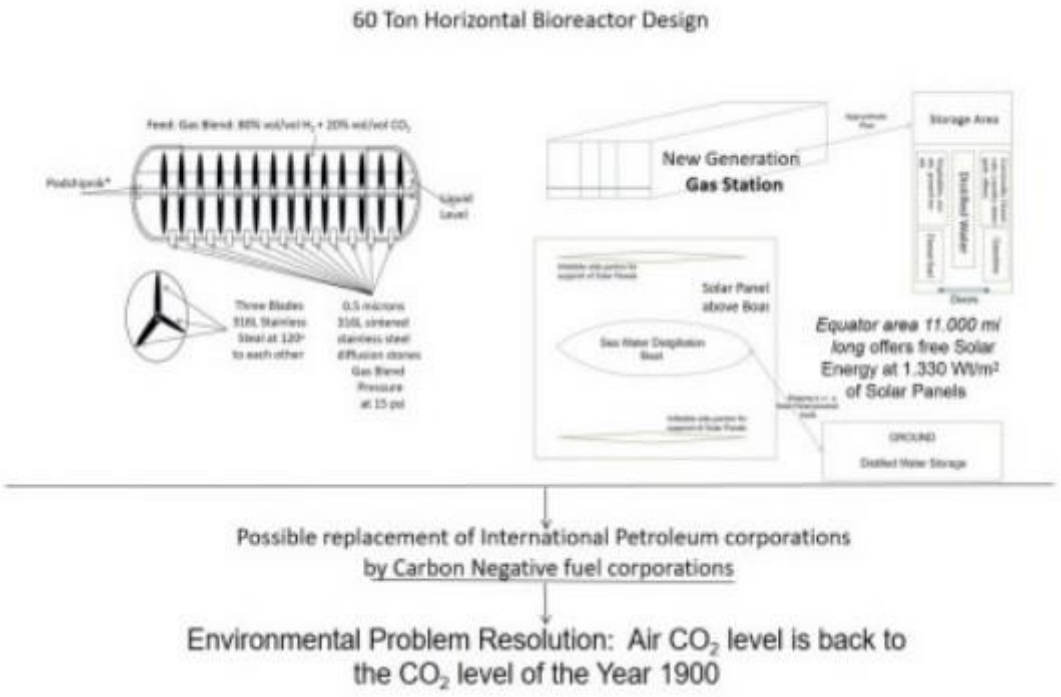

Fig. 10. The intelligent response of the Author to the attempt of SHELL to kill him after his visit and proposition to SHELL to commercialize the proprietary technology of Gasoline manufacture from the air CO_2 for just $0.35 per gallon of product while SHELL and other international petroleum corporations spend over $1.75 to manufacture gallon of Gasoline or Diesel fuel from petroleum. Replacement of petroleum corporations by the Carbon Negative corporations offering Carbon Negative fuels and Carbon Negative genetically engineered foods for the humankind consumption during the time of the proposed fresh water shortage.

The planned price for the Gasoline and Diesel fuel replacements is planned at the level of $2.65-$2.87 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 [36]. 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 in this article.

Therefore we are gong 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 means. The Author claims he will save this world, he will save the Earth's fresh water.

Declaration of Interests Statement

***Ethics approval and consent to participate*.**

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.

***Availability of data and materials*.**

The Author makes all his data and materials herein available for any third party. The data and materials might be obtained from the Author at PO Box 300230, Houston, TX, 77340. Email drmtyurin64@gmail.com. If any third party needs any materials used to publish this article, please, do contact the Author.

***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 has totaled the Author's corporate car and did some other illegal things to the Author which have 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 http://syngasbiofuelsenergy.com 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 the proprietary technology of Gasoline or Diesel fuel manufacture from the air CO_2, 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 CO_2 [2]. 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 Gregg 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 CO_2 came out [11-47]. 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 Authorgenome 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 form 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. Therfore 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 ateist) 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 understands 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 being 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.

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Authors' contributions.

The Author has conducted all the experiments himself. The Author has planned, wrote this original article and edited the written text, including proper placement of the illustrations mentioned. The Author read, edited and approved the final manuscript. The Author is the only owner of all materials disclosed in this original article. The Author has plans to distribute his proprietary products after their approval as needed. The Author might be contacted for the data and materials at PO Box 300230, Houston, TX, 77230, drmtyurin64@gmail.com. The Author contributed to the study conception and design. Material preparation, data collection and analysis were performed by the Author. The first draft of the manuscript was written by the Author. The Author read and approved the final manuscript.

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The Author has the B. Sci. In Biological Engineering (1984), M. Sci. In Biology (1985), M. D. in Internal Medicine (1986) (all from Saratov State Medical University, the USSR) in addition to the Ph. D. in Molecular Biology, Molecular Pharmacology, Microbiology (1990) from the USSR Research Institute for Antibiotics (Moscow, the USSR). The Author Dr. Tyurin Michael Vladislavovich has changed his second name from "Vladimirovich" to "Vladislavovich" after his father, Professor, Dr. Tyurin Vladimir Iljich has changed his first name from "Vladimir" to "Vladislav" in 2017. The Author at his corporations can be reached at PO Box 300230 .in Houston TX 77230 and via Email drmtyurin64gmail.com.

Originality-Significance Statement

The Author has wrote this original article based on his originality of the business approach and the existing resistance of the International Petroleum corporation to the technology of manufacturing carbon negative fuels to replace their production of fuels originating from petroleum. The reduction of the air CO_2 levels towards the pre-petroleum era of the year 1900 is paramount,since our planet looses fresh water to the outer Space vacuum. NASA has confirmed that in 2010 sating that the Earth has reached the "Point of No Return" to the healthy environmental conditions suitable for life on our planet. The new family of the gas stations selling not only Carbon Negative fuels but also foods for cooking at home and commodity chemicals for the households will save a lot of time for the customers of said new gas stations.

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