Explanation of
America First, Comprehensive, Worldwide, Fossil Fuel Tax Act

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[1]Mr. Convisser has run POP Diesel since 2008. He served as General Counsel until 2018. The first company to win U.S. EPA approval to sell straight vegetable oil as fuel to power diesel engines (in 2013), POP Diesel compelled Mr. Convisser to interact intimately with the petroleum and renewable fuel industries, EPA, and other federal and state agencies on all sorts of matters. Because the Company's products fall outside the box of existing regulations and statute, he has been forced to think of new and original policy angles. Collectively, these are embodied in AFCWFFT. In good faith, POP Diesel has tried all avenues to reform the existing framework of laws and regulations of its flaws described in this Memo, including meeting repeatedly with, petitioning, and even suing EPA, ASTM International's Petroleum Products Committee, and ExxonMobil, to no avail. POP Diesel conferred widely with whichever interest groups were available in drafting this Act. Federal legislators' offices gave feedback towards preparation of this second draft.

Mr. Convisser is a graduate of ASTM International's course on Diesel Fuels: Standards and Specifications. He served as an active member for three years of ASTM's Petroleum Products Committee that sets nationwide fuel standards. He is a certificated graduate of the Society of Automotive Engineers' Diesel Emissions Engineering Academy and is the primary inventor of a patent held by POP Diesel on engine controls for a multi-fuel diesel engine, one of which fuels is plant oil. He worked briefly in the Air Section of EPA's General Counsel's Office. He is a permaculture consultant certified by the Traditional Native America Farmers Association and farmed an alfalfa-grass mix for four years. He first lobbied Congress professionally in 1987 and ran a diverse litigation practice for 10 years. He earned a B.A. from Harvard College and J.D. from the University of Virginia School of Law, both with honors. POP Diesel Africa Limited will support smallholder farmers to plant jatropha trees for their inedible fruit seed oil and food crops across the West African Savannah, and process the harvests using renewable electricity derived from plant oil extraction.

POP Diesel Board member Harry D. Saunders, Ph.D. contributed on Carbon Mole Fraction and broader issues of the energy market. An energy economist, Dr. Saunders is a Contributing Author to the Intergovernmental Panel on Climate Change and a Senior Fellow at the Breakthrough Institute. He has lectured in Stanford's economics department and published many scholarly articles in the field of energy economics. As Managing Director of Decision Processes Incorporated, Dr. Saunders has advised Fortune 500 companies, including Chevron, General Motors, Disney and Hewlett Packard. His Ph.D. is from Stanford in Engineering-Economic Systems, his M.Sc. from the University of Calgary in Resources, the Environment, and Planning, and B.Sc. from the U. of Alberta in Physics, with honors.

This Memorandum assumes that the reader is familiar with a separate, 4-page summary of the principles underlying the America First, Comprehensive, Worldwide, Fossil Fuel Tax Act ("AFCWFFT"[2] or "the Act"). Because this Act differs dramatically from incremental bills presently circulating and contemplated by the Washington policy community, and it was drafted fresh from the ground up to the sky, its strategy and novel provisions benefit from the following, detailed explanation.

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[2] A mnemonic device for this acronym is the famous line in John F. Kennedy's inaugural address: "Ask not what your country can do for you. AFCWFFT you can do for your country."

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PART I. STRATEGY

1. Why Not Solve the Problem, Rather Than Adopt a Half-Measure That Is Bound to Fall Short?

Since contentious legislation will require 60 votes in the Senate, incremental reform of failing climate change policies is likely to incur as much political opposition as adopting a new paradigm that sets up a gradual, yet certain, complete and timely break from fossil fuels. AFCWFFT is the free market answer to a problem that the Green New Deal seeks erroneously and impossibly[3] to solve by government fiat.

The radical bargain set forth in AFCWFFT is to do exactly what conservatives always say will be a necessary corollary to a carbon tax, in exchange for accomplishing a goal that environmentalists seek. In enshrining into statute a framework for a complete and certain termination of fossil fuel use by the year 2050, there is no reason to maintain any of EPA's regulatory authority over carbon dioxide pollution, not only over stationary sources, but also, mobile sources. Therefore, end it and all state, federal and international regimes, including cap-and-trade systems, credits and subsidies, that purport to address the problem by other means. In other words, end all policy incentives that impair the most efficient operation of a worldwide fossil fuel tax.

Democrats tend to abide by the notion, embodied in the Green New Deal, that governmental investments, subsidies, tax credits, and regulations favoring specific fuels, enabling technologies, and infrastructure help to spur a faster transition from fossil to renewable fuels and energy. The urge to take action is understandable. However, as is explained below in detail in Section 7(c) and (d), instead, these policies serve mainly to entrench fossil fuels, especially petroleum, and those less-than-desirable renewable fuels that blend in subordination to petroleum. Literally (as explained in Sections 7(c) and (d)) and because private investment tends to follow the government's lead, these policies keep from the market new energy sources and technologies that come along later and fall outside the scope of the government-sanctioned ones. Thereby, tax credits, subsidies, and regulatory preferences have the effect of excluding some of the most optimal, renewable solutions.

Our country has had decades of these sorts of policies. They may have aided some beneficiaries in their start-up years. Yet we are today far from accomplishing the necessary transition. AFCWFFT represents a break from these policies that have outlived their benefit and

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[3]Section 7(d) of this Memo exposes the fallacy of the government's choosing fuels and technologies for favor under the Green New Deal approach. In the United States, total discretionary government spending, already committed to other purposes, comprises a mere eleven percent of GDP. https://www.cbpp.org/research/federal-budget/program-spending-outside-social-security-and-medicare-historically-low-as-a Instead, AFCWFFT creates a level, global market that frees the 70 percent of the worldwide economy in private hands to solve the problem, under the incentive and influence of a uniform worldwide tax making fossil fuels more expensive than renewables.

that now inhibit the free market and the 70 percent of the worldwide economy resting in private hands, as influenced by a worldwide fossil fuel tax, from solving the problem by means of private finance and investment. The determination in late 2019 of a first petroleum company, Repsol of Spain, to transform into a Zero Net Carbon Emitter by 2050, including emissions from its products, shows that the financial resources of the fossil fuel industry and those who have funded it in the past are fully capable of shifting their priorities to renewable energy. All it takes is the correct incentive by way of a fossil fuel tax delivered with certainty worldwide on a level playing field, all of which AFCWFFT aims to put in place.

Eliminating reams of specific federal regulations causes the replacement law to include a higher level of detail than is typical for an environmental statute. This detail is to avoid the need for new agency rulemakings, like those in the past, as discussed below in Sections 7(c) and 7(d), that became captured by opponents of the enabling statute, thereby undermining Congressional intent and defeating the law's very purpose. An example of a regulation that everyone mistakenly assumes is helpful towards combating global warming, discussed in Section 7(d)(i)below, is the CAFÉ fuel economy standards for cars. By focusing exclusively on tailpipe carbon dioxide emissions, the CAFÉ standards actually serve to disincentivize engine manufacturers from building new engines to run on low-carbon fuels. First adopted in 1975, the CAFÉ standards formed the basis for the Obama Administration to extend this tailpipe metric, which favors petroleum over renewable motor fuels, to its Greenhouse Gas Emissions Standards for both cars and trucks. Volvo Trucks has commented in agreement with POP Diesel in the futility of the CAFÉ standards' tailpipe metric as a means of combating global warming.

An example of detailed language proposed in AFCWFFT that obviates the need for agency rule-making is the definition of "**FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS EMISSIONS REPLACEMENT VALUE OF BIOMASS**," appearing on **PAGE 7** of the AFCWFFT text. This detailed definition permits arriving at a number that is fed into a succinct decision tree for the tax level, if any, to apply to biomass grown anywhere in the world. The decision tree is set forth in **SECTION 9903, TAX ON NON-FOSSIL FUEL, RENEWABLE SOURCES**, and its subsection **(b)**, appearing on **PAGES 22 through 24** of the bill text**.** It serves to replace the Renewable Fuel Standard, which has fallen well short of its original ambition and has application only to the United States and a few other countries that copy this Standard. This definition and the decision tree also replace idiosyncratic regulation of biomass in all other countries with a single standard that can apply across borders and in tropical, temperate and arctic ecosystems.

The break with fossil fuels is certain and complete for three reasons. First, the Act sets a specific schedule for the price of carbon, including annual increases above the rate of inflation, for every year leading to 2050. From $36 per metric ton of carbon dioxide in 2021, which is the carbon-equivalent of a $0.36 per gallon tax on gasoline, the tax increases to the equivalent of $1.01 per gallon in 2031, $4.66 per gallon in 2041, and $100 per gallon in 2051, or $10,013 per metric ton of carbon dioxide pollution in constant, 2021 dollars, remembering that 2050 is the year that the Act sets for ending fossil fuel emissions. Second, an accelerating pace of increases in the price of carbon will impose more and more deterrence over time on the purchase of new equipment or capital that runs on any fossil fuel. As older equipment dependent on fossil fuels

retires, net carbon emissions will peter out. Third, the Act does not leave any door open to abandon or weaken this schedule and these tax rates by way of Congressional re-authorization or periodic agency audit.

However, only a comprehensive measure applying and enforceable *world-wide* will actually solve the problem. The America First, worldwide, enforcement features are discussed in Section 3 below. The world grappled with the ozone hole and the Montreal Protocol agreed in 1989 came to an effective remedy by banning the manufacture of chloroflourocarbons. In the 1990s, the United States addressed its acid rain problem by ending the combustion of high-sulfur fossil fuels. Four European countries, Germany, Spain, Denmark and Scotland, already have proven they have the capability of getting all of their electricity from renewable sources on a windy day. There is no reason why the world cannot together, following the American lead, adopt a definite, certain, uniform and accelerating schedule of fossil fuel tax increases to end the human contribution to global warming.

Petroleum now accounts for 45 percent of the United States' greenhouse gas contribution, as compared to natural gas's 31 percent and coal's 24 percent. https://www.eia.gov/tools/faqs/faq.php?id=79&t=11. An effective carbon tax package must avoid the kinds of end-runs that the petroleum industry made in the past by capturing agency rulemakings, as discussed in Sections 7(d)(i)and (iii) below. The Act does so principally by including nearly all of the fundamentals in the statute itself, nullifying the need for adopting future, interpretive regulations subject to industry lobbying and influence.

This Memo draws contrast throughout with the main carbon tax bill currently circulating on Capitol Hill, which has as sponsors a number of Democrats, a sole Republican in the House, and no Republicans in the Senate. The Energy Innovation and Carbon Dividend Act, H.R. 763 ("the Deutch bill"), whose lead sponsors are Congressmen Ted Deutch (D, FL) and Francis Rooney (R, FL),[4] enjoys the support of Citizens Climate Lobby, a petroleum industry-backed group that has organized citizens around the country. Section 15 in Part VII ("Competing Proposals") at the end of this Memo lists factors by which any carbon tax bill should be compared against the strategy of AFCWFFT. The Deutch bill falls short of them all. A particular example of the Deutch bill's shortcomings, discussed in Section 7(h)(ii) below, is the number of critical issues it leaves to agency rulemaking, nearly all of which AFCWFFT dispatches in the statute itself, thus mooting chancy agency rulemaking.

The Act takes no position on the allocation and distribution of revenue collected from it. That is a political question left to legislators to decide. For illustrative purposes only, a separate Memorandum, titled **"A Formula for Allocating All Revenues as Carbon Dividends"** and posted to the News tab of www.popdiesel.com, suggests collecting all revenue in a [*Insert Name*

[4]Senators Chris Coons (D, DE) and Diane Feinstein (D, CA) introduced a comparable bill in the Senate, S. 3791.

of President] Coal Miner Legacy Trust Fund and with it, making a payment to nearly all adult Americans every month or paycheck.

2. Tax the Emission of Greenhouse Gases in Proportion to the Energy Source's Relative Harm

If the "invisible hand" of the free market (in Adam Smith's words) is to be empowered to solve the problem of global warming, then energy should be taxed or not-taxed at a rate that corresponds with its relative harm or benefit. In addition, those goods that embody more fossil fuel emissions in their manufacture than others should also account correspondingly for more of the tax.

Two variables can set these proportional incentives. These are, first, imposing the tax at the point of a fossil fuel's origin, rather than as it leaves the refinery, and second, using the Carbon Mole Fraction of the energy source to calibrate the tax's gravity. **Section 1(c) of AFCWFFT** states the definitions of 27 terms used in the Act in alphabetical order, including "**POINT OF EXTRACTION" (AT PAGE 11), "POINT OF IMPORTATION" (AT PAGE 11),** and **"MOLE FRACTION" (AT PAGE 9)**.

a. Tax Upstream, Rather Than Downstream

The most important reason for taxing upstream at the source of energy, rather than downstream after it has been refined, is that there is a handy and universal formula that can apply there to all different kinds of energy that obviates the need for complicated and potentially distorting agency rulemaking on life-cycle emissions and permits immediate, uniform, worldwide implementation. The formula is the Carbon Mole Fraction of the energy source. Discussed in subsection 2(b) below, Carbon Mole Fraction, a measure of the mass of the carbon atoms as compared to the mass of all the atoms in a source of energy, is a surrogate for carbon intensity. Carbon Mole Fraction can be determined simply by sending a sample of the energy source to a laboratory for analysis.

Imposing the fossil fuel tax upstream at the well head and mine mouth, rather than downstream at a fossil fuel refinery, easily permits calibration of the degree of tax to the merit / harm of the energy source, rather than the refined end product. In such case, there is need for a rulemaking to determine life cycle greenhouse gas emissions downstream at the refinery. A complicated rulemaking on an imprecise subject like life cycle analysis can easily become subject to influence of, and subversion by, the fossil fuel industry. AFCWFFT renders this kind of rulemaking largely unnecessary.

Imposing the tax upstream at the energy source is useful in penalizing the use of crude fossil fuels during mining, transport and refining that would escape a downstream tax. The best example is oil sands, whose bitumen is often mixed with natural gas condensate to reduce viscosity for pipeline transport to the refinery. Natural gas condensate is a liquid present in raw natural gas produced from many natural gas fields. If diverted at its point of extraction to blend with oil sands bitumen and the tax is imposed later, the natural gas condensate avoids the tax in

its own right and as a contribution to the oil sands bitumen. These tax avoidances prevent the tax from weighing proportionately as it should on the refined end product from oil sands bitumen.

In contrast with AFCWFFT, the bipartisan Energy Innovation and Carbon Dividend Act, H.R. 763 (“the Deutch bill”) imposes the tax on petroleum at the refinery, instead of upstream at the well-head.

Similarly, rather than imposing the tax on natural gas at the well-head, the Deutch bill imposes it at the point of entry of "pipeline quality natural gas into the natural gas transmission system." This language exempts natural gas condensate from being subject to the tax, since as a liquid, it never enters the natural gas transmission system. It would permit the liquid natural gas condensate to be collected untaxed at the well head and then transported for blending with bitumen derived from oil sands, thus lowering the tax's burden on both natural gas and oil sands extraction unjustifiably.

In addition, with the recent discovery that scientists have been under-estimating the amount of methane leakage during extraction by as much as 40 percent, a tax imposed at the point of natural gas extraction, rather than when it enters the pipeline, will best help to account for the environmental cost of such activity.

If the tax is calibrated at the point of origin, then the tax will have the highest likelihood of influencing producers to make the most optimal decisions about whether to exploit the particular energy source and bring it to market, or not. It will influence consumers by weighing more heavily on fossil fuels sources coming from more impractical or wasteful sources. For instance, the final fuel refined from bitumen in western Canadian oil sands will include a higher proportion of the tax per unit of delivered energy by virtue of the Carbon Mole Fraction measurement than will cleaner West Texas Intermediate crude oil.

Taxing at the well head and mine mouth is easy to administer, as most states with mineral resources already impose their own franchise or severance tax at the point of extraction. A federal overlay on this existing state tax structure will not be burdensome.

The disadvantage of taxing upstream is not really a disadvantage at all. Under AFCWFFT, fossil fuels that are not combusted into the atmosphere, but are instead, for instance, turned into plastics, suffer payment of the tax oriented to emissions. 100 percent renewable vegetable oil is a hydrocarbon oil, just as crude petroleum is. It can be turned into any and every product that petroleum is currently used to make, including all kinds of plastics. Vegetable oil from all sources is capable of replacing mineral oil in all respects. Therefore, because of the existence of this renewable alternative, there is no harm in taxing fossil fuels that are removed from the earth and processed into a stored form like plastic, rather than combusted, sending their emissions into the atmosphere. In addition, if AFCWFFT were to allow the reverse and exempt from the fossil fuel tax petroleum processed into solid forms like plastic, it would be embracing the use (as compared to the capture and storage) of greenhouse gas emissions. AFCWFFT eschews the world of carbon use, for the reasons discussed in Section 7(d)(4) below, namely, “use” functions as a subsidy for fossil fuel extraction and refining.

b. Carbon Mole Fraction
Measures an Energy Source's Carbon Intensity and Emissions

Mole fraction is the share of the mass of a molecule comprised of a particular element or atom. **"MOLE FRACTION"** is defined **AT PAGE 9**. For instance, a water molecule consists of two atoms of hydrogen and one atom of oxygen. The mole fraction of oxygen in water is the mass of one atom of oxygen divided by the sum total of the mass of two atoms of hydrogen plus one atom of oxygen.

The Carbon Mole Fraction of an energy source measures the share of carbon in it. Using Carbon Mole Fraction as the tax measuring stick enables taxing every single atom of carbon that man delivers to the atmosphere by this same, single metric. It is an accurate surrogate for the carbon polluting character of energy upon combustion for the following reasons:

i. This number will vary from energy source to energy source according to the carbon intensity and carbon emissions performance of each source.

ii. Since Carbon Mole Fraction can be measured at the energy source's point of origin (the well head, mine mouth, or in the case of biomass, cultivation land), it dovetails with upstream, rather than downstream, levying of the tax. Therefore, it invokes the benefits of upstream taxation discussed in the preceding Section 2(a).

iii. Measuring by Carbon Mole Fraction avoids the need to conduct complicated, subjective, and inaccurate agency rulemakings comparing life cycle greenhouse gas emissions that are attendant upon downstream refining and back-channel energy supplies.

iv. Carbon Mole Fraction is amenable to measuring carbon pollution in a uniform way worldwide, applying the same scientific test method at the point of extraction or cultivation to every and all energy sources.

Per unit of energy in the fuel, coal has a higher Carbon Mole Fraction than petroleum (meaning therefore that it will emit more carbon dioxide per unit of energy combusted) and petroleum has a higher Carbon Mole Fraction than natural gas. In this way, Carbon Mole Fraction as the measuring stick for relative tax burden will favor use of the less carbon-polluting sources, across the board.

Measuring the Carbon Mole Fraction is easy to do from a sample drawn at the fuel's point of origin and sent off to a laboratory. It is a handy tool for comparing the relative pollution and energy content merits of fossil fuel and biomass sources. This single measure permits a standard practice worldwide, easy way to track compliance, and uniform enforcement globally.

The **CARBON MOLE FRACTION OF CARBON DIOXIDE** is 0.2727 **(AT PAGE 5)**. The inverse of this number, 3.667, is multiplied by the **PRICE PER METRIC TON OF**

CARBON DIOXIDE (AT PAGE 12) in an algebraic formula to calculate the **ANNUAL TAX RATE (AT PAGE 3)** that applies to a particular source of combustible fuel, according to its Carbon Mole Fraction measured from a sample taken at the point of extraction (for fossil fuel) or the point of harvest (for biomass).

The definition of the **ANNUAL TAX RATE (AT PAGE 3)** further specifies where representative samples of biomass and oil sands are to be drawn for testing of their Carbon Mole Fraction and how the sample is to be prepared. The basic idea is that the energy source is tested for its Carbon Mole Fraction at the earliest point that a specimen can be drawn, so that the energy expended in transporting and refining it from there will be captured by the tax.

AFCWFFT makes available a scaled credit against paying the fossil fuel tax for biomass grown on land that is non-forested, corresponding to the fossil fuel emissions replacement value of the biomass. These biomass provisions substitute for the existing Renewable Fuel Standard in a way that can apply in every country of the world. **SECTION 101, CREATING NEW TAX CODE SECTION 9903 (AT PAGE 22).** Thus, for example, biomass grown for energy on non-forested, tropical, savannah land may be eligible to receive a full credit, but biomass grown for energy that replaces tropical rain forest must suffer the basic tax, plus a stiff penalty.

3. The Price of Carbon

Some environmentalists, such the Environmental Defense Fund ("EDF"), have reservations about a carbon tax because they say it does not guarantee a rate of greenhouse gas emissions reduction such as would be certain, they say, by regulatory cap on emissions. An "Environmental Integrity Mechanism" ("EIM"), favored by EDF, would re-impose regulations in the case of missing the emissions targets. (The Shultz-Baker-Halstead Climate Leadership Council calls this an "Environmental Assurance Mechanism" in their Roadmap published in February 2020.). The discussion below in Section 8 of addresses these issues. It points out serious flaws with inserting an EIM into a fossil fuel tax program.

There is a simple way to construct a pure fossil fuel tax without resort to an EIM or other fallback so as to guarantee attainment of the desired goal: set the price of greenhouse gas pollution by the desired date at such a high point, at the theoretical price of infinity, that it will absolutely dissuade everyone from consuming any more fossil fuel by that date. Work backwards from that date to state in the statute a clear and certain tax rate for every year from now until then. This kind of exponentially-increasing tax rate enshrined in statute creates an irresistible incentive to switch energy-consuming devices, machines and equipment from fossil to renewable sources by the desired date.

If the goal is, as EDF supports, zero net carbon emissions by mid-Century, then setting the price of carbon pollution at infinity in the year 2050 will achieve zero net carbon emissions by that date. Of course, it is not possible in reality to have a price of carbon equaling the number infinity. Instead, we have to settle on a dollar value for a price on carbon pollution that in people's minds will be the same as "infinity," and to work backwards from there. AFCWFFT

sets the price per metric ton of carbon dioxide pollution as $10,013 in 2051, which is the carbon dioxide emissions equivalent of a gasoline tax of $100 per gallon in constant, 2018 dollars.

Please note that this tax equivalent, if set lower, at say, $10 per gallon of gasoline in 2050, might still be high enough to dissuade the purchase of all motor vehicles running on gasoline by that year. However, the point is to incentivize the purchase of equipment running on renewable fuel in the years leading up to 2050 and to have terminated *the use* of all equipment operating on fossil fuel by 2050, thereby ending fossil fuel emissions by that year 2050. This important point, which compels ramping up the tax rate in the years well before 2050, is discussed in Section 3(c) below.

AFCWFFT proposes to start applying the fossil fuel tax on January 1, 2021 at the price that the U.S. Department of Energy ("DoE") determined is, and the Office of Management and Budget ("OMB") formerly determined was, the social cost of carbon pollution: $36 per metric ton, equating to a gasoline tax of $0.36 per gallon. Note that others have estimated the social cost of greenhouse gas pollution to be in the hundreds of dollars per metric ton of carbon dioxide. Therefore, DoE's and OMB's $36 per metric ton is a reasonable starting point in the first year of the fossil fuel tax program.

a. A Legislative Signal to the Market Prompting People to Switch

For the signal of the fossil fuel tax to transmit effectively to market players, three conditions are necessary. First, the fossil fuel tax rate needs to be certain. The Act accomplishes certainty by expressly stating the schedule of increases in the price of carbon for every year from 2021 to 2051 and beyond.

Second, the opportunity cost of failing to switch to renewable sources, the annual price of carbon setting the tax rate, needs to increase over time. If the tax rate increases at an accelerating rate over time, economic actors (consumers and businesses) will have the greatest encouragement to switch from fossil to renewable fuels as early as possible. As translated into an equivalent tax on gasoline in inflation-adjusted, 2018 dollars, the Act's price of carbon increases in annual increments at an accelerating rate, from $0.36 per gallon of gasoline in 2021 to $1.01 per gallon in 2031, $4.66 per gallon in 2041, and $100 in 2051.

Third, businesses and consumers must be aware of and understand the future tax rates at the very outset, to be able to make informed decisions about how to spend their capital and operating costs now and in future years to adapt most optimally to the tax. The Act makes an annual adjustment to the price of carbon dioxide pollution to account for the preceding year's change in the Consumer Price Index. The remaining formulas and information permit any consumer and business to determine its long-term tax liability under the Act in real dollars, depending on the choices for energy supply that the person or business has available to it.

AFCWFFT avoids periodic adjustment to the price of carbon based on an agency report on emissions targets, and the Act avoids the political maneuvering such a report might open the

door to. It does not leave any significant factor determining the annual tax rate and price of carbon to chance. The wobbly measures that AFCWFFT eschews are discussed below in the Section7(d), Section 7(h) on "Leave Little to Chance to Agency Regulation," and Section 8 on "Environmental Integrity Mechanisms."

b. Revenue Profile of a Well-Constructed Fossil Fuel Tax

A rough estimate of revenue from a tax of $36 per metric ton of carbon dioxide, AFCWFFT's starting point in 2021 and equating to 36 cents per gallon of gasoline, is that it will raise $150 billion per year, or $1.5 trillion dollars over ten years.[5]

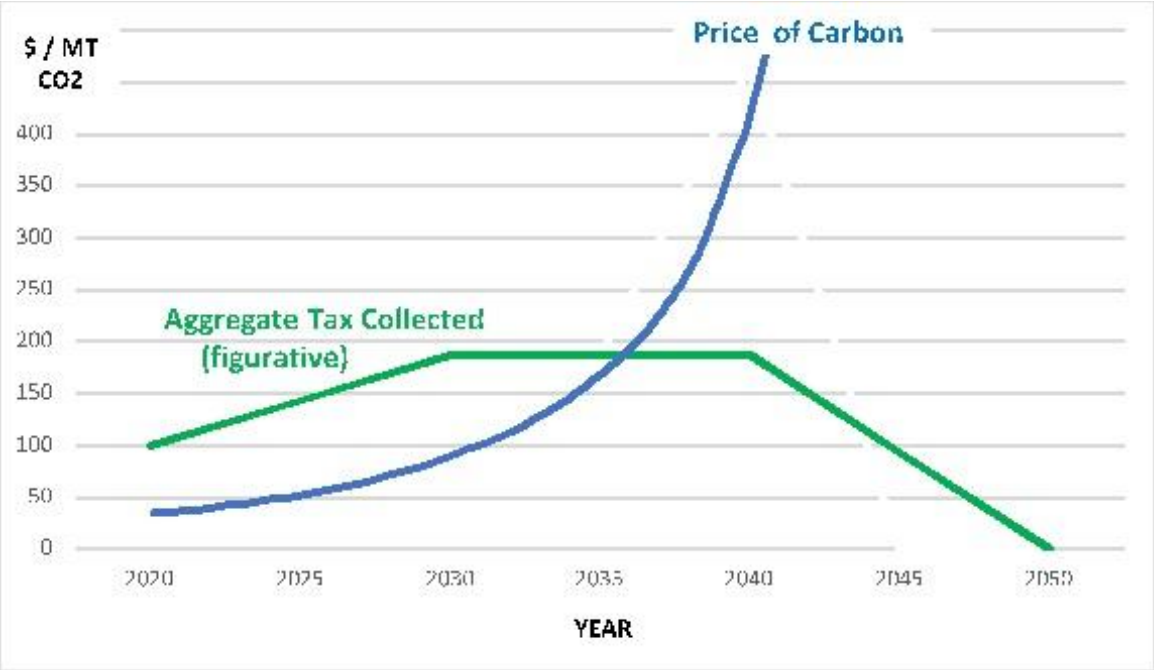
However, if the tax rate increases over time, aggregate fossil fuel tax collections will increase. People and their specific economic activities subject to the tax will be paying the tax at its increasing rate. Many people will be slow to switch to un-taxed renewable alternatives. Eventually, as more people conserve and switch to renewable sources of energy not subject to the tax, fewer people and activities will have to pay the tax. Since the tax rate will have increased, however, these fewer people will be paying around the same amount of tax in aggregate as when more people used to pay it at the tax's former, lower rate. Therefore, as pictured figuratively in the graph below, the green line for Aggregate Tax Collected plateaus in the middle years.

Finally, the proposed tax rate increases to the point that it reaches "infinity," which the Act defines as the carbon dioxide emissions equivalent of $100 per gallon of gasoline in 2051, so that no one will then be willing to engage in the activity that incurs the tax. At that point, when the tax has accomplished its goal of Net Zero Emissions by 2050, revenues return to their pre-tax starting point of zero.

(Intentionally left blank – graph appearing on next page.)

[5]The Congressional Budget Office estimated that a tax of $25 per metric ton of carbon dioxide would raise between $125 billion and $150 billion per year in revenue. Although the price of carbon included in AFCWFFT starts at a higher number, $36 per metric ton, and increases annually, the 15-year phase-in of the tax's application to coal, discussed below, will function to dampen revenues.

Graph Showing Revenue Profile
of a Well-Constructed Fossil Fuel Tax
Compared to the Price of Carbon



c. Rate of Increase in Price of Carbon

The Act sets the rate of increase in the price of carbon to ensure that all categories of pollution emitter will have finished fossil fuel polluting by 2050.

A study by Lawrence Berkeley Laboratory and the Pacific Northwest National Laboratory, whose point is displayed in Table 1 below, considered the number of cycles or generations of new replacement equipment that will happen in the American economy between now and the year 2050. Each generation in any category of equipment presents an opportunity to switch from fossil to renewable energy equipment and technology. All switch-overs from fossil to renewable energy must be completed for each category of equipment during that category's last replacement cycle ending at the year 2050, in order for net life cycle greenhouse gas emissions to diminish to zero by that year.

To reach Net Zero Emissions by 2050, an irresistible incentive to switch from fossil to renewable fuels must be in place by the time of the start of the last generation of equipment ending in 2050. For the categories of equipment that last the longest (heavy duty trucks, industrial boilers, and power generating facilities), 16 years, their last generation ending in 2050 starts 16 years before 2050, in the year 2034. The irresistible incentive to switch consists of the disincentive imposed by both the 2034 tax rate and the certainty embodied in AFCWFFT that this tax rate will increase at an accelerating pace after 2034.

Table 1

Year by Which Fossil Fuel Tax Must Impose an Irresistible Incentive to Purchase Renewably-Fueled Capital Equipment in Order for Net Greenhouse Gas Emissions to Reach Zero by 2050

category of energy-consuming equipment	# of generations of new equipment between 2021 and 2050	# of years one generation lasts	year by which irresistible incentive must be in place for category of equip't
lighting equipment	4	6	2044
residential hot water heaters	4	6	2044
light duty vehicles	2	11	2039
furnaces for interior spaces	2	11	2039
heavy duty vehicles	1	16	**2034**
industrial boilers	1	16	**2034**
power plants	1	16	**2034**
residential buildings	0	n.a.	n.a.

In other words, the tax must be so high that no one buying a car in 2039 (eleven years before 2050 and the start of the last 11-year generation of cars before the 2050 end-point for fossil fuel consumption) or any year after 2039 will buy a car that runs on fossil fuel. Similarly, the tax must incentivize all power plants re-equipping in 2034 (the start of the last 16-year cycle before 2050) and thereafter to shift entirely to renewable energy sources (including taking advantage of carbon capture and storage). In this way, all equipment in the entire economy will be operating on renewable energy by 2050, or if running on fossil fuel, having its carbon emissions entirely captured and stored, producing no net, anthropomorphic, greenhouse gas emissions by then.

Due to the 2034 start of the last generation of equipment leading to 2050 for the three equipment categories of heavy duty vehicles, industrial boilers, and power plants, **2034** is the effective year that the price of fossil fuel carbon must be set so high that all persons purchasing such equipment thereafter will only buy it to run on the most renewable of fuels and energy sources.

The schedule of increases in the price affixed to carbon dioxide set forth below is intended to provide a modest incentive to all decision-makers purchasing each of the categories of equipment listed above to make the switch upon replacing their current generation of equipment. Since the annual carbon price increase accelerates in pace, the cost and penalty will become more and more harsh, the longer each decision-maker waits to make the switch.

As defined in the **"PRICE PER METRIC TON OF CARBON DIOXIDE" AT PAGE 12**, AFCWFFT proposes the following schedule for the price of carbon, which price would be

multiplied
by the Carbon Mole Fraction of the energy supply measured at its source to arrive at the amount or level of tax paid by mass of the energy source:

Table 2

Tax Rate Increasing Exponentially Over Time

Year	$ Tax per MT CO2	% Tax Increase at Start of Year	$ Increment Tax Increase at Start of That Year	Equivalent Approximate $ Tax per Gallon of Gasoline
2021	36.00			0.36
2022	38.00	5.56	2.00	0.38
2023	41.00	7.89	3.00	0.41
2024	45.00	9.76	4.00	0.45
2025	50.00	11.11	5.00	0.50
2026	56.00	12.00	6.00	0.56
2027	63.00	12.50	7.00	0.63
2028	71.00	12.70	8.00	0.71
2029	80.00	12.68	9.00	0.80
2030	90.00	12.50	10.00	0.90
2031	101.00	12.22	11.00	1.01
2032	113.00	11.88	12.00	1.13
2033	126.56	12.00	13.56	1.27
2034	143.01	13.00	16.45	1.43
2035	163.03	14.00	20.02	1.63
2036	187.49	15.00	24.46	1.87
2037	217.49	16.00	30.00	2.17
2038	256.64	18.00	39.15	2.57
2039	307.96	20.00	51.33	3.08
2040	375.72	22.00	67.75	3.76
2041	465.89	24.00	90.17	4.66
2042	587.02	26.00	121.13	5.87
2043	751.38	28.00	164.36	7.51
2044	976.80	30.00	225.41	9.77
2045	1,289.37	32.00	312.57	12.89
2046	1,727.76	34.00	438.39	17.28
2047	2,349.75	36.00	621.99	23.50
2048	3,242.66	38.00	892.91	32.43
2049	4,572.15	41.00	1,329.49	45.72
2050	6,675.33	46.00	2,103.19	66.75
2051	10,013.00	50.00	3,337.67	100.13

d. Phase-in the Fossil Fuel Tax on Coal

A tax of $36.00 per metric ton of carbon dioxide, the starting point on January 1, 2021, amounts to 14 percent of a $2.60 gallon of gasoline that was the average nationwide price in 2019. However, due to coal's much lower price per unit of energy and much higher carbon dioxide emissions, this same tax rate is 320 percent above the $35 market price in 2018 for one average short ton of coal

Since imposing a 320 percent tax on coal in one fell swoop would be enormously disruptive and destructive and politically unpalatable to lawmakers from coal-producing and -consuming states, AFCWFFT phases in the fossil fuel tax on coal. It proposes a 15-year phase-in period. Under AFCWFFT as drafted, coal begins in 2021 with a tax rate that is 3 ½ percent of the full tax rate imposed on other fossil fuels. It ends in 2034 with a tax rate that is 100 percent of the full tax rate on other fossil fuels. Like the full annual price of carbon dioxide pollution itself discussed above, this phase-in on coal increases at an accelerating rate over time, to encourage early switch-over from the fossil fuel source.

According to the Lawrence Berkeley Laboratory data listed in Subsection (c) above, there is only one single generation of new power plants that will be installed between the starting point of the proposed tax in 2021 and the year 2050. Therefore, by the year 2034, the fossil fuel tax on coal needs to be high enough that all electric power companies will make the decision in that year and all subsequent years to switch 100 percent away from coal and natural gas in favor of renewable sources of electricity and energy. The fact that natural gas is taxed at the same price as petroleum (as adjusted by differing Carbon Mole Fractions) and does not benefit from the same gradual phase-in of the tax that coal does will serve as a further sop to coal, since without any fossil fuel tax in place, natural gas is currently replacing coal as the energy source of choice for utility electrical power generation.

Paragraph (FF) of the definition of the **"PRICE PER METRIC TON OF CARBON DIOXIDE" AT PAGE 12**, sets forth the formula for this price schedule for implementing the fossil fuel tax phase-in on coal. Here it is in numbers:

Table 3

Phase-In of Fossil Fuel Tax on Coal

Year	$ Tax per MT CO2	$ Coal Tax per MT CO2	Approximate Incremental % Increase at Start of Year	% Coal Tax Is Of Full Tax	$ Tax per $35 Short Ton of Coal	% Tax Is per $35 Short Ton of Coal
2021	36.00	1.20		3.33	3.89	11.12
2022	38.00	2.53	3.33	6.67	8.23	23.52
2023	41.00	4.10	3.33	10.00	13.31	38.04
2024	45.00	6.15	3.33	13.33	19.98	57.04
2025	50.00	8.67	3.33	16.67	28.14	80.40
2026	56.00	11.20	3.33	20.00	36.37	103.88
2027	63.00	14.91	3.33	23.33	48.42	138.36
2028	71.00	19.40	3.33	26.67	63.01	180.02
2029	80.00	24.00	3.33	30.00	77.93	222.66
2030	90.00	30.00	3.33	33.33	97.41	278.30
2031	101.00	38.05	3.33	36.67	123.55	352.98
2032	113.00	50.85	7.33	44.00	165.12	471.78
2033	126.56	69.61	11.00	55.00	226.03	645.80
2034	143.01	107.26	20.00	75.00	348.30	995.14
2035	163.03	163.03	25.00	100.00	529.41	1,512.60
2036	187.49	187.49	0.00	100.00	608.82	1,739.48
2037	217.49	217.49	0.00	100.00	706.23	2,017.80
2038	256.64	256.64	0.00	100.00	833.35	2,381.02
2039	307.96	307.96	0.00	100.00	1,000.02	2,857.22
2040	375.72	375.72	0.00	100.00	1,220.03	3,485.80
2041	465.89	465.89	0.00	100.00	1,512.84	4,322.40
2042	587.02	587.02	0.00	100.00	1,906.18	5,466.22
2043	751.38	751.38	0.00	100.00	2,439.90	6,971.16
2044	976.80	976.80	0.00	100.00	3,171.88	9,062.50
2045	1,289.37	1,289.37	0.00	100.00	4,186.88	11,962.50
2046	1,727.76	1,727.76	0.00	100.00	5,610.41	16,029.76
2047	2,349.75	2,349.75	0.00	100.00	7,630.16	21,800.46
2048	3,242.66	3,242.66	0.00	100.00	10,529.63	30,084.64
2049	4,572.15	4,572.15	0.00	100.00	14,846.77	42,419.36
2050	6,675.33	6,675.33	0.00	100.00	21,676.29	61,932.26
2051	10,013.00	10,013.00	0.00	100.00	32,514.43	92,898.38

The rate of tax phase-in on coal included in the Act and stated above, like the rate of the tax itself, is illustrative and can be adjusted in political bargaining. It was originally set according to a benchmark price of coal of $70 per short ton prevailing in 2017, double the price factored in above.

PART II. WORLDWIDE SCOPE

4. Inherent Flaws of the Paris Climate Accord Renders It Not Up to the Task

Global warming requires a global solution, in which every country makes sacrifices and incurs costs in proportion to its present and past use of fossil fuels. The submission by each country of its own plan under the Paris Climate Accord for reducing its greenhouse gas emissions results in a patchwork of policies that mesh poorly and fail to create synergies on an international scale. The Paris Accord does not have a means of monitoring national performance, other than self-reporting, and it entirely lacks an enforcement mechanism.

The weaknesses of this system are apparent from the fact that the Nationally-Determined Commitments under the Paris Accord, as voluntary and lax as they are, failed to muster projected emissions reductions that even come close to no more than a 2 degree Celsius maximum temperature rise by mid-Century, the cornerstone of the Paris Accord regime. Since many of these self-determined emissions reductions were more likely than not to be over-estimates, the slippage from the path that is now required is likely even greater.

The inability of the Madrid Conference of the Parties in December 2019 to settle terms for a carbon trading market echoes failures of past cap-and-trade efforts. The European Union's cap-and-trade scheme has not had an effective market price for carbon for long stretches of its existence. The U.S. Senate controlled by the Democratic Party failed in 2010 to pass a domestic cap-and-trade bill that had cleared the House of Representatives, reportedly because key swing Senators determined that EPA had no clear idea how to administer it.

The American Renewable Fuel Standard ("RFS"), a limited cap-and-trade regime, has succeeded in supporting biofuels falling within its ambit, namely ethanol, biodiesel and non-ester renewable diesel fuel. However, as discussed in Section 7(d)(iii) below, the RFS completely excludes POP Diesel's straight vegetable oil offering the lowest possible net life cycle greenhouse gas emissions. Waivers allowed by the Trump Administration have diminished the mandate on petroleum companies to buy RFS tradable credits from biofuel producers. Lastly, a big question mark hovers over the future of the RFS when statutory targets for biofuel production end in a few years.

AFCWFFT avoids all of the difficulties in defining a cap-and-trade system or a carbon-trading market and getting it running effectively.

5. International Scope

The America First, Comprehensive, Worldwide, Fossil Fuel Tax replaces the ineffective Paris Accord regime. Foreign sovereign governments will reciprocally adopt American-led enforcement. In this and other regards, AFCWFFT's marked differences from bills and proposals in current circulation are now explained.

a. Flaws of a Border Carbon Adjustment

Carbon tax bills introduced before AFCWFFT have weak and bureaucratically unmanageable mechanisms for inducing other countries to take effective action. These bills rely on a "Border carbon adjustment" ("BCA"). Under a BCA, first, a government official would determine if a foreign country had a mechanism for affixing a price to carbon comparable to the price set by the United States. If, for instance, the European Union's cap-and-trade regime priced carbon at the same rate as American law did in a particular year, then American goods would be exported to the EU and EU goods imported to the United States without any adjustment for the tax.

The **first** problem with the BCA is that in weighing an American fossil fuel tax versus a foreign cap-and-trade regime, it compares apples and oranges. If the American tax is to solve the problem, it must apply comprehensively across the American economy. Who is to say that the foreign cap-and-trade would apply similarly broadly, beyond simply the electricity-generating sector? The philosophy of AFCWFFT is that for a fossil fuel tax to function effectively worldwide, all countries must be operating under its regime. Those countries which have already set up cap-and-trade systems need to abandon them in favor of adopting AFCWFFT. **SECTION 302(a)(11) AT PAGE 49** sets this as an objective of the Act.

The second step under a BCA occurs if the U.S. government official determined that the foreign country did not have an effective carbon pricing regime comparable to the one adopted in American law. In this case, an adjustment would take effect in industries determined to be energy-intensive. A 2010 inter-agency report gives some data on the energy intensity of certain high-export industries to aid the Treasury Department in devising a formula to reimburse and tax the energy intensity of industries whose products cross the border. Such a formula, included in recent carbon tax proposals, would apply uniformly to companies within an industry category. Sincemglass requires much energy to manufacture, all glass goods crossing the border would bear the same rate of tax, while all steel products would face a different tax rate.

Thus arises the **second** problem with a BCA. While taxing and thereby raising the price of carbon-intensive goods overall, it fails to distinguish between individual manufacturers' energy sourcing decisions as between fossil versus renewable fuels. American exporters to a country of products in energy-intensive export industries would receive reimbursement of the tax at a uniform rate applied to all manufactured goods in each industry, no matter each manufacturer's own efforts to switch from fossil to renewable fuel inputs. Competing imports from the foreign country would have the tax imposed at the U.S. border at a uniform rate applying to the industry they are from, again regardless of an individual manufacturer's decisions about fossil versus renewable energy inputs in the country of origin.

This feature of the BCA runs counter to the very idea of a carbon tax, which is to give a signal to market players, who are businesses and consumers, allowing them to make individual decisions choosing between sticking with the taxed fossil fuel or switching to the untaxed renewable source of energy. In reimbursing or imposing the tax at the border by industry

category, regardless of an individual manufactured good's actual, embodied life cycle greenhouse gas emissions, the BCA dis-empowers the invisible hand of the free market from functioning at the international level.

The effect of these BCA's would be to increase the prices of all goods in the affected industries, without prompting anyone to switch within the industry from fossil to renewable energy. In fact, those that chose to switch would face a penalty. The switchers would first invest in the renewable energy equipment and enabling technology, but then, would not reap any benefit, since the tax rate applied to them within their industry, for all their admirable initiative, would remain the same.

The **third** objection to a BCA is that it would involve the federal government in regulating ordinary foreign commerce to an unprecedented degree. The tax-reimbursing and -collecting bureaucracy created by a BCA would be highly intrusive to American international trade on an unprecedented scale.

Fourth, being a rigid and fixed regulatory system, rather than a flexible market, if the history described in the "Eliminate Regulations" Section 7(d) below is any lesson, the agency administering the BCA would have difficulty adapting its regulations to fit new, low-carbon products within existing industries, and new industries in their entirety.

b. False Hope in Dominoes Falling and Even If They Do, False Hope in Dominoes' Efficacy

George Shultz, Jim Baker, and Ted Halstead's Climate Leadership Council points out that most of the other large economies in the world already have some sort of carbon pricing system in place, starting with cap-and-trade system that the European Union has instituted. Even though these policies collectively are failing to roll back human greenhouse gas emissions at the pace required, if at all, the Council places stock in the ability of the current policies of these other countries to defeat global warming. This Council takes the position that if the United States adopts a carbon tax, the remaining countries that do not have one will, of their own volition, follow suit by implementing their own price on carbon.

Simply put, if the world is going to rely on existing programs like the EU's cap-and-trade program that has not even had a functioning price for carbon at times, then the world is not going to come close to solving the problem in the time required. In that case, the question arises, Why even try? Saudi Arabia and Russia, the two largest fossil fuel-producing countries after the United States, will not somehow spring into action to tamp down their domestic fossil fuel production by way of raising their domestic fossil fuel tax, unless international convention or law compels them to do so. And how will the United States ensure that China, which now generates twice the greenhouse gas emissions of the U.S., adopts a policy with as much teeth as America's own, if America adopts any kind of effective program at all? Only American enforcement in all these countries and around the world, of the kind that AFCWFFT compels foreign countries to accept described following, gives favorable answers these questions.

c. America-First Brings About International Reciprocity and Enforcement

AFCWFFT embraces an America First approach that avoids the flaws of a BCA and will bring about swift reciprocal adoption by foreign countries. The price of real American leadership that will end human contributions to warming globally is the inclusion of two America First components in AFCWFFT:

(1) America monitors every country's compliance and dictates enforcement that all must follow.

(2) Fossil fuel tax imposed at both the point of extraction and importation benefits a country like the United States that has both its own domestic fossil fuel resources and refining capability

These America First provisions are spelled out in the Act's **TITLE III, FOREIGN RECIPROCITY, AT PAGE 46.**

i. America Takes the Driver's Seat

First, the United States takes the driver's seat of specifying to other countries the elements of an international fossil fuel tax and corresponding regulatory reform, which provisions of AFCWFFT are stated in **SECTION 302(a) AT PAGE 47**. The United States sits as judge of whether other countries have complied, or not, in incorporating a close approximation of AFCWFFT into their domestic law. AFCWFFT requires all other participating countries to abide by the United States' determinations and impose the same penalties it assesses on non-complying countries, or else face penalties of their own. **SECTIONS 302(b) to 303 AT PAGES 49 - 51.**

From conversation with French authorities and others abroad, other countries, even France, still look to the United States to take a supra-national role of this kind, when one is called for. There is no other government in the world capable of taking on this kind of role, not the European Union and not the United Nations (which is incapable of acting as decisively as AFCWFFT authorizes the U.S. government to act). Most countries crave American leadership on the issue of global warming and with the exception of a few petroleum-producing giants (Saudi Arabia and Russia), would be pleased to alter their own policies to follow America's lead, provided it is fair and effective. The recalcitrant countries would find by the Act's effective enforcement mechanism and inevitable accretion of participating countries that they, the recalcitrants, had no option but to go along and conform with AFCWFFT by adopting and enforcing their own, domestic reciprocal tax and companion regulatory reform.

There is precedent for the role proposed by AFCWFFT for the Secretary of State to serve as annual evaluator and judge of other countries' reciprocal performance and the Trade Representative to serve as executioner. United States human rights law already requires the Secretary of State to assess other countries' human rights performance and empowers the President to impose sanctions on miscreant countries. Banking laws now require other countries

to adopt the same transparent banking practices Americans are accustomed to, to prevent money laundering, corruption, and the financing of terrorism. Violators can face exclusion from international banking transactions and conventions. The author was in Ghana, West Africa a few years ago when it implemented these banking reforms at the behest of the United States. They completely transformed that country's banking sector.

ii. Domestic Fossil Fuel Consumption Would Carry Half the Tax of Imports

The second America First feature has to do with imposing the tax both at the point of a fossil fuel's extraction, which is either the well head or the mine mouth, *and* at the point of importation into the United States.

Assuming, for instance, that Canada participated in this regime, crude petroleum entering the United States from Canada for refining here would have had the tax levied domestically by the Canadian government at the point of extraction, and then it would be taxed again at the same level upon entry to the U.S. If Canada or any other fossil fuel-producing country did not impose and collect the fossil fuel tax on its domestic producers according to the same schedule Congress adopted for the U.S., then the State Department would certify to the Trade Representative the fossil fuel producing nation's noncompliance and the United States and all participating countries would have to impose and collect double the tax on imports of fossil fuel from the non-complying fossil fuel-producing country. **SECTION 101, CREATING NEW TAX CODE SECTION 9902(a) AT PAGE 21,** states this requirement to tax both domestic extraction and importation, and TITLE III, discussed above, sets forth the requirement of international reciprocity.

This double-tax that AFCWFFT imposes on imports of fossil fuel creates a strong incentive for fossil fuel-producing countries like Saudi Arabia and Russia to go along with the program. If a fossil fuel-producing country failed to impose and collect the AFCWFFT tax domestically, it would miss out on all the fossil fuel taxes that other countries would in its place capture by taxing their imports of the non-complying country's fossil fuel. Saudi Arabia is making an initial public offering of shares in the Saudi Aramco Petroleum Company for the purpose of raising money to finance its economic development beyond the sphere of petroleum. It can raise this money just as easily, and continue to collect year-after-year, by complying with AFCWFFT and embedding the fossil fuel tax it collects domestically in the price it charges foreign buyers of its crude petroleum, thus effectively passing the tax onto them. (However, it must still collect the tax on crude petroleum destined for its domestic market.).

iii. Import Duties on Countries That Fail to Double-Tax Their Imports of Fossil Fuels from Non-Complying Fossil Fuel Producing Countries

AFCWFFT anticipates two kinds of non-compliance:

(a) a fossil fuel-producing country may refuse to impose the tax on its domestic production, discussed in the preceding subsection, and;

(b) other countries may refuse to impose double the fossil fuel tax rate onto their imports of energy from a non-complying fossil fuel-producing country.

If a country did not collect double the import tax on fossil fuel coming from a non-complying fossil fuel-producing country, then the U.S. would impose, and require all other participating countries to impose, modest import duties on all goods imported from the non-enforcing country. The requirement to doubly tax fossil fuel imports from producing countries that had not imposed and were not collecting the tax on their domestic production, and the requirement to impose import duties on all goods coming from a country that was not enforcing this reciprocal double tax at its border on imports of fossil fuels from non-complying fossil fuel-producing countries, would expire upon certification by the Secretary of State that the violators had become fully compliant.

iv. Double-taxing Imported Fossil Fuels Gives the U.S. an Advantage

Crude petroleum extracted within the United States that was consumed domestically would face the AFCWFFT tax only once. This would favor consumption of U.S. fossil fuel resources within the United States and domestic supply chains that adapted to take advantage of this America First feature. It would also favor other countries to the extent they have both their own energy supply and refine it in-country.

This feature makes AFCWFFT a bargaining chip for ending all trade wars. Since both Europe and China lack the United States' dual domestic fossil fuel resources and refining capacity, once adopted reciprocally around the world, AFCWFFT will cause Americans in the abstract to bear half the fossil fuel tax of Europeans or Chinese. Since the fossil fuel tax increases at an exponential rate, those countries will suffer more than the United States will for any dependence on fossil fuels, unless they are faster at making the transition to renewable energy.

v. Retroactive Audit Date

The mere thought of an international fossil fuel tax has power that is already in evidence, as the following example shows. In March 2017, representatives of George Schultz and Jim Baker's Climate Leadership Council met with President Trump's Director of Domestic Policy, Gary Cohn, in the White House to explore including a carbon tax in Republican tax reform proposals. One week after word leaked of this meeting, Saudi Arabia suddenly lowered its domestic tax on Saudi Aramco's extraction of petroleum. This step was in anticipation of some form of international fossil fuel tax that would require Saudi Arabia to raise its domestic petroleum tax. This step was an attempt to preempt such an international tax and negate its impact on Saudi Arabia's domestic fossil fuel resource.

In so doing, this step made Saudi Arabia a much more attractive place for manufacturers to locate new operations, as compared to, say, the United States. It offered them a lowly-taxed supply of petroleum energy with which power their operations.

For this reason, the Secretary of State's initial audit under AFCWFFT must examine every foreign participating country's domestic fossil fuel tax levels and accounts as it existed prior to March 2017. An audit snap shot before that date will ascertain the level of fossil fuel tax that was in place before fossil fuel producers like Saudi Arabia preemptively lowered their domestic tax in anticipation of a new, international fossil fuel tax. **SECTION 302(b) AT PAGE 49** specifies that the Secretary of State's initial audit should be framed as of January 1, 2017, and that countries that lowered their domestic fossil fuel taxes since that date must raise them back up, plus add the increment of new tax set forth in the Act.

vi. Key to Success Lies with Saudi Arabia and Russia, Not China

The challenge to international adoption of AFCWFFT lies with Saudi Arabia and Russia, the two biggest fossil fuel producers after the United States. If these countries collect the fossil fuel tax domestically, AFCWFFT will function optimally. If they do not, the Act is set up to induce other countries to impose the tax doubly on imports of fossil fuel that the country of origin fails to tax.

Participating countries, led by the United States, will have to induce them to start taxing their domestic fossil fuel industries at the source to the levels required of AFCWFFT. The best way for the United States to implement the fossil fuel tax worldwide would be to start by persuading friendly countries to adopt the AFCWFFT tax and regulatory reforms reciprocally. Since the world craves American leadership on the matter of global warming, this should not be difficult to achieve. Once this group on America's lead imposes collective penalties in the form of slightly higher import duties on non-participating countries described above, the other fossil fuel-producing countries will realize they have nothing to lose since the complying countries are collecting the tax in place of them, and collection of domestic fossil fuel tax to gain by joining the regime.

Since China, like the European Union, is a net energy importer, it will have no choice, whether or not it adopts AFCWFFT, but to purchase energy with the tax already built into it by foreign suppliers. The United States' domestic supply and refining of its own energy, taxed at half the rate of China's imported fuel that bears the tax both in its country of origin and at the Chinese border, will give American industry and consumers lower energy costs overall under the AFCWFFT regime, as compared to China, unless China switches to a supply of renewable energy before the U.S. does.

PART III. STRUCTURE

6. Structural Categories of Greenhouse Gas Pollution Subject to the Tax

AFCWFFT governs five categories of carbon polluters that run the gamut, each one capable of earning off-setting credits if it acts in a deserving and mitigating way.[6]

[6]The main source of anthropogenic greenhouse gas emissions that the Act leaves out are farmers engaged in turning the land, which releases methane, nitrous oxides, and carbon dioxide

These categories, set forth in the Act's Title I, are:

a. Fossil fuel miners can earn a credit for capturing and storing, though not using, the carbon dioxide their fuel later generates at the refinery or the power plant.[7] **SECTION 101, CREATING NEW TAX CODE SECTIONS 9902 and 9907 AT PAGES 21 and 36**. (The Act's differing treatment of carbon "capture and storage" versus "use" is explained below in Sections 7(d)(iii)(C) and 7(d)(iv).).

b. Non-fossil fuel, renewable sources of greenhouse gas emissions are biomass and biofuel feedstocks. The Act looks solely to the generation of the feedstock on its source land; processing would no longer be specifically regulated as to its life cycle greenhouse gas impact, except by the effects of the tax imposed on fossil fuels burned to process the feedstock into finished fuel. In other words, biological matter that requires much fossil fuel energy to be refined will incur more of the tax in its processing, as compared to one that is used in closer to its raw state coming from the land.

For each batch of biomass or biofuel feedstock, a calculation is made of the net gain by which its use will displace greenhouse gases emitted by use of its fossil fuel substitute (defined as the **"FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS REPLACEMENT VALUE OF BIOMASS"AT PAGE 7**). Any plant matter that takes longer than 5 years to recover the carbon stock pre-existing it on the land is subject to tax, although the responsible party can take mitigating measures to alleviate or eliminate his or her tax liability. A statutory decision tree looks to the source land and any compensating acreage planted in trees, permitting this single standard to apply across the arctic, the temperate United States and Europe, and the tropics. Therefore, this replacement of the U.S. Renewable Fuel Standard and other existing regulations is feasible for deployment in every country around the world, permitting uniform audit of the Act's implementation in every country. **SECTION 101 AT PAGE 19, CREATING NEW TAX CODE SECTION 9903 AT PAGE 22** and definition of **"FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS EMISSIONS REPLACEMENT VALUE OF BIOMASS" AT PAGE 7.**

c. Non-fossil fuel, non-renewable, industrial sources are industrial processes like the calcining of lime that emit greenhouse gas emissions absent the combustion of fossil fuel. Taxation is limited to stationary sources that are big enough to be subject to current point-source regulation of emissions. **SECTION 101, CREATING NEW TAX CODE SECTION 9904 AT PAGE 30**.

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to the atmosphere. No- or low-till farming substantially reduces these emissions. It would be difficult to tax such emissions in a proportionate way. One way to reduce them is to offer a tax credit or subsidy to farmers for purchasing the new equipment required to start no- or low-till farming, or for engaging in this practice. Some measure of tax credit already exists in federal law.

[7]The reason for not giving a credit for the use of captured carbon dioxide is explained in Section 7(d)(iv) below.

d. **Fluorinated gas** is taxed separately according to a schedule designed to eliminate its use within ten years. This Section was modeled on a similar section appearing originally in H.R. 3420, introduced in the 115th Congress by Rep.'s Blumenauer and Cicilline and in the Senate, by Senator Whitehouse. **SECTION 101, CREATING NEW TAX CODE SECTION 9905 AT PAGE 30.**

e. Cows contribute around 25 percent of all human-induced methane produced on earth, and **ruminant animals** account for 14.5 percent of all greenhouse gas pollution worldwide. U.N. FAO, reported at: www.cnn.com/2015/09/29/opinions/sutter-beef-suv-cliamte-two-degrees/index.html [*sic*]. According to NASA's estimate, the average dairy cow emits 80 to 120 kilograms of methane per year, the carbon dioxide emissions equivalent produced by an average family car. http://metro.co.uk/2017/03/25/cow-burps-rather-than-farts-are-destroying-the-earths-atmosphere-6531638/. The Act permits farmers to earn mitigating credits by housing the animals for at least four months of the year under a roof that collects the methane they emit, implanting a tube that routes methane from the animal's stomach to a collection bag strapped on its back, or adding soothing flowers to the cow's diet that reduce methane production. **SECTION 101, CREATING NEW TAX CODE SECTION 9906 AT PAGE 34.** The carbon price that the Act affixes to ruminant animals is set at around one-sixth of their actual, estimated methane emission rate[8] and depends on the animal's weight in relation to a cow weighing 1,300 pounds.[9]

7. Eliminate Regulations

AFCWFFT completely eliminates major sets of regulations to an extent greater than any other carbon tax proposal in circulation. This is one of the features that sets AFCWFFT apart as establishing a new paradigm for solving the problem of global warming. This regulatory elimination may also give AFCWFFT a stronger chance of satisfying conservative ideological objections to a carbon tax than the incremental approaches currently circulating.

In sum, AFCWFFT eliminates President Trump's Affordable Clean Energy Rule that replaced President Obama's Clean Power Plan (together "Coal GHG Emissions Regulations"); Fuel Economy and Greenhouse Gas Emissions Standards for Light and Heavy Duty Vehicles; the Renewable Fuel Standard; all current subsidies for fossil fuels and their enabling technologies and infrastructure, such as for natural gas filling stations; and all preferences for any kind of energy, such as regulations requiring gasoline to blend with ten or fifteen percent ethanol. It allows all current statutory credits, subsidies and preferences to expire and states a policy of not renewing any of them in favor of allowing AFCWFFT to achieve its purpose on a

[8]Methane is 23 times more potent than carbon dioxide as a heat-trapping gas upon emission.

[9]According to this formula in the Act, if the animal weighs less than 1,300 pounds, then it will pay proportionately a lower level of the tax.

level playing field without governmental favor. A broad pre-emption provision, enforced by a private and right of action, wipes out similar credits, subsidies and preferences adopted at the state level.

a. Eliminate Coal Greenhouse Gas Emissions Regulations

Elimination of Coal GHG Emissions Regulations is a political given in exchange for any carbon tax. Left to its own devices, a tax on fossil fuels will have the deepest impact on reducing coal consumption, since coal embodies fifty percent more carbon dioxide emissions then petroleum per unit of delivered energy, and nearly twice that of natural gas. Elimination of President Trump's

Affordable Clean Energy Standard replacing President Obama's Clean Power Plan is set forth in **SECTION 201 AT PAGE 38**.

b. POP Diesel's Meritorious Pure Jatropha Plant Oil Diesel Engine Fuel

An understanding of POP Diesel's pure jatropha plant oil diesel engine fuel will help the reader appreciate further discussion of AFCWFFT's regulatory elimination. The evidence is that:

i. POP Diesel's pure jatropha plant oil has by far the lowest global warming impact of any fuel or energy source for heavy duty engines that contributed 24 percent of total greenhouse gas emissions from America's transportation sector and 9 percent of total U.S. energy-related carbon dioxide emissions in 2018;

ii. Pure jatropha plant oil diesel engine fuel gives better engine performance than petroleum diesel fuel, causing the engine to run more quietly and smoothly due to the uniform combustion characteristics of the plant oil molecule, as compared to mineral oil, thereby helping the engine to last longer, and;

iii. This POP Diesel Fuel will sell at a discount below the price of petroleum diesel fuel, no matter how low the price of petroleum goes. In addition,

iv. POP Diesel is presently engaged in starting a supply of pure jatropha plant oil from West Africa that in theory will be capable of replacing all of the petroleum diesel consumed in the United States within 22 years, 22 percent of worldwide supply.[10] The genesis of this effort preceded by four years the call of the Intergovernmental Panel on Climate Change in October 2018 for the world to put an area nearly the size of Australia under biomass cultivation.

[10] In addition, POP Diesel's model of supporting smallholder farmers to grow both the jatropha tree and food crops on separate plots across West Africa can in theory, over time, grow enough food to feed 500 million people.

Note that POP Diesel has won EPA approval to use and sell ordinary jatropha plant oil, not biodiesel. Biodiesel starts out as plant oil, but the triglyceride molecule undergoes an energy-intensive and costly transformation into a fatty acid methyl ester molecule, plus hazardous waste. The resulting fuel, called "biodiesel," can blend with petroleum diesel, but only in at most a 20 percent concentration, meaning the remaining 80 percent is petroleum diesel fuel.

By comparison, pure plant oil runs at 100 percent concentration in an inexpensively, POP Diesel-equipped engine, aside from the brief start-up and shut-down periods on petroleum diesel fuel drawn from a nurse tank. Pure plant oil requires half the energy in its manufacture as biodiesel, according to a study done by the National Renewable Energy Laboratory and a white paper commissioned by EPA.

The petroleum industry, and as discussed below, EPA regulations, favor biodiesel because under the guise of calling the fuel "biodiesel," that industry can sell 5 percent biodiesel blended with 95 percent petroleum diesel fuel, which is the typical blend concentration in the United States.

c. Defining Any Fuel Or Technology for a Benefit by Definition Excludes Others

Presently, there are policy distortions of the free market that would prevent any carbon tax from succeeding in freeing the world of fossil fuel use by 2050. All carbon tax bills introduced to date, including the incrementalist Deutch bill, would leave nearly all tax credits, subsidies, and regulatory preferences in place, or like the Green New Deal, accentuate them. Federal and state policies favoring the production or consumption of one form of energy and its enabling technology over another, be it a fossil or renewable fuel, have a disruptive effect, exemplified below with particular reference to the meritorious products of POP Diesel that senseless regulatory barriers to entry block. All that the carbon tax bills, such as the Deutch bill, that retain some or all of these governmental preferences will succeed in doing is simply to raise gasoline and energy prices for everyone, without allowing for, much less encouraging, the necessary change-over to renewable energy.

i. The Denial of Regulatory Favor Renders Fuels and Technologies Incapable of Securing Private Funding

For example, for the last decade, Congress has re-authorized for biodiesel a $1 per gallon production tax credit, in addition to tradable credits under the Renewable Fuel Standard that can be worth a second dollar per gallon. The exclusion of pure jatropha plant oil diesel engine fuel from this statutory and regulatory largesse not only deprives POP Diesel of benefits it is more worthy than biodiesel to have (because has much lower life cycle greenhouse gas emissions), but causes POP Diesel to flounder searching for private finance. Despite a very sound and profitable business plan, organization, staff, and customer base, POP Diesel has found it impossible, so far, to attract the funding it needs to grow at the desired pace. Funders trust the wisdom of statutory

and regulatory blessings and want to put their money on a safe bet, rather than taking a chance on products like POP Diesel's that, while winning EPA emissions approval, are barred from sale on the U.S. market.

ii. Eliminating All Regulatory Favor, Tax Credits, and Subsidies Opens the Entire Field to Private Funding, Influenced by the Weight of the Fossil Fuel Tax

The solution is not to give POP Diesel Fuel comparable credits, but to eliminate all other credits and subsidies favoring any and every fuel, enabling technology, and infrastructure, be it a fossil or a renewable fuel, to eliminate all distortions of the market and pave a level playing field for the impact of a fossil fuel tax. According to the policy stated in **SECTION 206 AT PAGE 44**, Congress would not enact or renew any more specialized credits, subsidies, allowances or set-aside for any fossil or renewable fuel, when the present ones expire. Furthermore, **SECTION 202 AT PAGE 39** would repeal all existing subsidies for fossil fuels.

Any definition of an energy source or technology to which a law or regulation gives a benefit by definition excludes other or new technologies that fall outside the definition. Those falling within the government's definition are able to attract private investment and finance; those excluded, cannot. POP Diesel cannot emphasize this point enough. All of these preferences must come to an end for the free market, influenced only by the weight of the carbon tax, to do its job and solve the problem.

In addition, since the transportation sector dominated by petroleum now generates more greenhouse gas emissions than any other in the American economy, a remedy needs to focus on eliminating all of the advantages petroleum has amassed. Since existing regulations, as explained below, favor petroleum, their elimination will have a doubly powerful effect in removing barriers to competition from renewables.

d. Regulations That Block Entry of Renewable Fuels and Distort the Markets for Fuel, Investment and Finance

As discussed below, motor vehicle fuel efficiency and greenhouse gas emissions standards and the Renewable Fuel Standard will no longer be necessary because they are superfluous to, and will work at cross-purposes to, a clearly forecast and properly functioning fossil fuel tax. In addition, these regulations pose absolute barriers to entry to POP Diesel's pure plant oil diesel engine fuel ("straight vegetable oil"), even though this fuel has won EPA emissions approval to run in select diesel engines. POP Diesel proposes replacement approaches below that could apply worldwide for both motor vehicle fuel efficiency and greenhouse gas emissions standards, and the Renewable Fuel Standard. Elimination would do far more than permit market entry of pure jatropha plant oil diesel engine fuel capable of fulfilling all of America's petroleum diesel fuel needs by 2043. It would permit the market across the board to function smoothly in the most optimal way.

i. Eliminate All Motor Vehicle Fuel Efficiency & Greenhouse Gas Emissions Standards

The Fuel Efficiency and Greenhouse Gas Emissions Standards for cars and trucks ("Fuel Efficiency & GHG Standards," also known as the CAFE Standards for cars) function by their "Tailpipe Rule," which calculates petroleum fuel efficiency and petroleum greenhouse gas emissions from the measurement carbon dioxide exiting the tailpipe. Plant oil happens to generate a higher rate of carbon dioxide emissions upon combustion than does petroleum. Therefore, standards based on tailpipe emissions of carbon dioxide serve to exclude plant oil from the market in favor of petroleum.

Because plant oil's carbon dioxide tailpipe emissions will always exceed those of petroleum's, the Fuel Efficiency & GHG Standards, as Volvo Trucks has complained in regulatory comments, inhibit all major engine manufacturers from making engines suited to low carbon fuels like EPA-approved plant oil fuel, even though this fuel produces much lower net life cycle greenhouse gas emissions than petroleum, the true measure of a fuel's global warming impact. These engine manufacturers are unable to earn necessary credits meeting the Tailpipe Rule's strictures to be able to EPA-certify POP Diesel-equipped engines running on plant oil diesel engine fuel.[11]

Thus, the Fuel Efficiency & GHG Standards for cars and trucks automatically exclude from the market the most beneficial motor vehicle fuel for combating global warming and a supply of this fuel that could replace all of the petroleum diesel consumed in the United States within 22 years.

Elimination of the Fuel Efficiency & GHG Standards is stated at **SECTION 203(a) AT PAGE 40** of AFCWFFT.

ii. Fuel Efficiency Incentives Are Purposely Left Out of AFCWFFT

Fuel or energy efficiency has been called the "low hanging fruit" in the fight against global warming. That may have been the case when the first greenhouse gas regulations came into place ten years ago, but all of the low-lying fruit has already been picked.

"Fuel efficiency" or "fuel economy" are names for making fossil fuel-dependent engines and machines run more efficiently on fossil fuels. Fuel efficiency does nothing to switch behaviors from fossil to renewable fuels. If anything, it makes this transition more challenging by lowering the cost of operating the engines and machines on the fossil fuel.

[11]POP Diesel challenged the Fuel Efficiency & GHG Standards in the U.S. Court of Appeals for the District of Columbia Circuit and lost. The Court ruled that POP Diesel did not have standing to bring the legal challenge. The Company has also separately met with and petitioned EPA and the U.S. Department of Transportation on these issues, and U.S. Senators wrote them letters in support of the Company's positions, all to no avail.

Take, for example, petroleum fuel efficiency standards for trucks and cars. In addition to serving as barriers to entry described above, they are counter-productive. By lowering the rate of operating cost, they prompt suppliers to extend their transport routes over longer distances and put more trucks on the road, consumers to order more goods and more goods from further away, and businesses to develop new product lines that take advantage of the lower fossil fuel operating cost.

For an unimpeachable analysis, relying on federal data, of how the Obama Administration's Fuel Efficiency and Greenhouse Gas Emissions Standards for Medium- and Heavy-Duty Engines and Vehicles actually cause in aggregate *more* energy consumption and greenhouse gas emissions than if these regulations did not exist at all, the reader is welcome to consider the unpublished study posted at this link: http://popdiesel.com/pdf/DrSaundersAnalysis.pdf.

A. Instead, Can Adopt Engine Efficiency Standards

AFCWFFT offers that, instead of petroleum fuel efficiency standards, if Congress would like to encourage Detroit to make better engines, it order the Department of Transportation ("DOT") to adopt engine efficiency standards. Rather than relying on the measure of tailpipe carbon dioxide that gives petroleum a built-in advantage, engine efficiency measures the amount of energy going into an engine, regardless of the fuel type, as compared to the amount of work the engine performs. **SECTION 203(b) AT PAGE 41** and definition of **"ENGINE EFFICIENCY" AT PAGE 6.**

The notion of engine efficiency standards is illustrative. It is not a proposal that POP Diesel advocates for. It is merely an idea that can serve a constructive purpose, if Congress feels it must enact a replacement for the counter-productive fuel efficiency standards that DOT's National Highway Transportation Safety Administration constructed from Congress's various statutory mandates.

B. Benefits of Conservation

In contrast to coercive efficiency standards, conservation is voluntary conduct that citizens choose to engage in. For instance, the higher cost of fossil-fueled transport caused by AFCWFFT may prompt some people to ride a bicycle or walk, rather than drive their car, even if their car runs on electricity or 85 percent ethanol. Higher food costs from more expensive transport may spur some people to buy locally or plant their own garden. In this way, conservation is better than the consumption of renewable energy. It saves the renewable energy resources for activities that truly require the combustion or use of energy. Those engaging in conservation practices refrain from adding upward pressure on the price of renewable energy.

iii. Eliminate the Renewable Fuel Standard

If the Fuel Efficiency & GHG Emissions Standards function by denying beneficial plant oil fuel necessary tailpipe carbon dioxide credits to win engine manufacturer accommodation, the Renewable Fuel Standard ("RFS") further exemplifies the problem caused by the government's selecting fuels and their enabling technologies for some sort of benefit. By definition, those fuels and technologies not selected lose out, and are all too often barred from gaining entry to the governmentally-favored category, even though, as in the case of POP Diesel, these products may be superior in environmental benefit and performance to the ones favored by regulatory blessing. The problem is compounded because exclusion from governmental credits, subsidies, allowances or set-asides prevents these products from being able to attract the private investment and finance they need to gain a market foothold and grow.

Elimination of the Renewable Fuel Standard is set forth in **SECTION 101, CREATING NEW TAX CODE SECTION 9903(g) AT PAGE 29**.

A. Undue Restriction on Eligible Feedstock Land

The Renewable Fuel Standard, along with the Fuel Efficiency & GHG Standards complained of above, make POP Diesel the victimized poster child of regulatory barriers to entry. The RFS regulates, among other things, the land on which biofuel feedstock may be grown in the following manner. The Renewable Fuel Statute restricts the award of its tradable credits, called "RIN credits," to feedstock grown on land that, as of December 2007, was in agricultural use or lying fallow from past agricultural use. EPA regulations implementing the RFS statute require that, to qualify for these tradable credits, the renewable fuel producer furnish documentary proof dating to the date of the statute's December 2007 enactment that the particular land from which the biofuel feedstock comes met this stricture.[12]

[12]This provision is easily replaced by new evidence, satellite imagery, that has become available since 2007. As of December 2010, the United Stated Geological Survey ("USGS") had taken 2-meter, high acuity, black-and-white photos of the entire land mass of the earth. This evidence and date can serve as the benchmark for determining the vegetative cover of a specific plot of land anywhere in the world, whether it was forested or not, and to a certain extent, the density of vegetative cover. Since this objective evidence has become available, there is no longer any point, other than an unnecessary restriction, in limiting biomass cultivation to non-forested land that has previously been in agricultural use; all non-forested land should be opened to biomass cultivation, provided there are appropriate guidelines, and especially to take advantage of the vast expanse of the uninhabited African savannah that is available for re-planting and reforestation. AFCWFFT relies on this high acuity, USGS satellite imagery to answer all questions relating to land use for which data is necessary. See the definition of **"PRIMARILY FORESTED OR WOODED LAND" AT PAGE 18** and the **LAND PROHIBITION** set forth in the newly created Tax Code **SECTION 9903(c)(2) AT PAGE 25**. In place of the domestic RFS, the Act contains "International Standard to Safeguard Land and

Regrettably, the poor countries in Africa whence POP Diesel is developing a supply of pure jatropha plant oil did not keep such records, and do not keep them today. The only countries in the developing world that did keep them, as far as POP Diesel is aware, are Mexico and Argentina. Therefore, POP Diesel Fuel can never qualify for the RFS's tradable credits, which is the only way under the current regulatory regime to afford shipping it across the Atlantic Ocean to the United States market.[13]

Recalling that the Intergovernmental Panel on Climate Change in October 2018 called on the world to put an area nearly the size of Australia under biomass cultivation if we are to avoid the worst ravages of global warming, the Act's elimination of undue restrictions that EPA put on land used for biofuel feedstock development is appropriate.

B. Biodiesel Is Worse for the Environment Than Fossil Fuels

To be clear, a question mark looming over the RFS's picking winners and losers is biodiesel. Under industry pressure and by regulatory fiat, EPA reversed itself from its Proposed Rule and found in 2010 that biodiesel processed from plant oil meets the threshold requirement of a fifty (50) percent life cycle greenhouse gas emissions reduction qualifying it for enhanced tradable credits under the RFS. In contrast, a recent study commissioned by the European Union found that the manufacture of biodiesel causes more life cycle greenhouse gas pollution even than petroleum diesel fuel. *Biodiesel Worse for the Environment Than Fossil Fuels, Warn Green Campaigners*, www.euractiv.com/section/climateenvironment/news/biodiesel-worse-for-the-environment-than-fossil-fuels-warn-greencampaigners/.

Without the RFS's award of generous credits to biodiesel and Congress's continuing to extend a $1 per gallon biodiesel production tax credit, the free market, influenced by AFCWFFT, could decide the relative merit of biodiesel, as compared to other sources of energy and their enabling technologies for moving heavy duty loads. Since biodiesel in its manufacture requires twice the energy of plant oil, the free market's choice between them, influenced by the tax, would produce a more optimal outcome for the environment than the current, RFS regime does.

Forest Resources and Penalize Harmful Biomass Cultivation and Harvesting Practices," as discussed in Section 7(d)(iii)(F) below, that would apply to all countries around the world participating in the AFCWFFT regime.

[13]POP Diesel has petitioned EPA on this score and suggested allowing the use of accessible contemporary documents, such as affidavits submitted by local government officials, to no avail.

C. Repeal Credits for Algal Fuel from Industrial CO2 Emissions and Enhanced Oil Recovery That Only Serve to Subsidize Fossil Fuel Production

A third example of the RFS's picking a fossil fuel-oriented winner at the expense of more meritorious losers is EPA's award of tradable RFS credits to algal fuel made with the carbon dioxide exhaust caused by fossil fuel refining. Like credits for petroleum and natural gas extraction under the name of "enhanced oil recovery," by creating a monetary incentive for the creation of industrial carbon dioxide exhaust, these algal credits subsidize the manufacturing process of a fossil fuel, such as the refining of petroleum. They also draw private investment and finance to this activity and away from competing biofuels and renewable energy sources that do not depend on an industrial supply of carbon dioxide for their manufacture.

D. Political Considerations Favor Swapping the Renewable Fuel Standard for a Fossil Fuel Tax

The RFS is already under assault by elements within the petroleum industry, who do not like its requirement to buy credits off-setting every gallon of gasoline and petroleum diesel fuel with ethanol or biodiesel. Ultimately, its elimination should not be of concern to corn and soybean farmers and farm state legislators, provided that both an effective fossil fuel tax took its place and additional safeguards prevented petroleum companies from boycotting these biofuels.

Dialogue between POP Diesel and the staff representative of a Republican farm state Senator from the Midwest is instructive. The question was whether the Senator would support eliminating the Renewable Fuel Standard that gives a 50-cent to one-dollar per gallon tradable credit to every gallon of ethanol processed from corn or biodiesel coming from soybeans, if in its place, every gallon of gasoline and petroleum diesel fuel faced an additional 50–cent or one-dollar per gallon tax, the level of tax AFCWFFT would impose by 2030. The affirmative response was that the Senator "would like to be part of that conversation."

E. Recast a Legal Duty on Petroleum Retailers to Sell Ethanol

The ethanol industry supports the Renewable Fuel Standard not only for the monetary benefit of the tradable credits it gives ethanol, but also because it imposes a legal obligation on the petroleum industry to purchase these credits. Upon the disappearance of such a legal duty to blend ethanol into gasoline upon repeal of the Renewable Fuel Standard, to assure that the petroleum industry would still welcome ethanol as blend-stock, AFCWFFT imposes a replacement legal duty on retail sellers of petroleum. They would face civil liability for refusing to accept the *bona fide* offer of an established supplier of fifty-one or more percent ethanol ("E-51+") to pay for the capital equipment necessary to sell such fuel from their retail outlet and to guarantee from that sale customary profits for a period of two years. **SECTION 204(b) AT PAGE 41.** If aggrieved, the established supplier of E-51+ would have standing and a private cause of action to sue in federal district court.

F. Adopt an International Standard to Safeguard Land and Forest Resources and Penalize Harmful Biomass Cultivation and Harvesting Practices

By eliminating the Renewable Fuel Standard and other regulations that pick favorites in the field of carbon accounting, AFCWFFT creates a level playing field for biofuels and biomass. However, there is still a need for some regulation of land use, to safeguard precious land and forest resources and prevent their wanton waste by avaricious and short-sighted biomass businesses. Once domestic distortions such as those contained in the American-centric RFS are eliminated, it becomes possible to create principles and objectives that can apply across borders, opening a broader, yet precisely authorized, international market for biomass than exists presently.

Since the America First enforcement provisions already require participating countries to adopt the same set of regulatory reforms included in AFCWFFT, a logical accompanying step is for them all to adopt a uniform set of principles and standards restricting land use change caused by planting or harvesting biomass for energy. **"NON-FOSSIL FUEL" AND "RENEWABLE SOURCE" DEFINED SEPARATELY AT PAGES 10 AND 18**. Set forth in newly created Tax Code **SECTIONS 9903(b) and 9903(c) AT PAGES 23 through 26**, these new international standards replace the RFS. They forbid the burning of flora to clear land and apply the tax in a punitive or graduated way to safeguard precious forest resources.

These new international standards calibrate the Fossil Fuel Tax penalties and credits accorded land use changes with the net life cycle greenhouse gas emissions impact of the particular sample of biomass used to make fuel or energy from that land. For instance, the Act forbids cutting down virgin tropical rain forest on pain of incurring both a civil penalty and the tax at ten times the Act's normal tax rate. Clearing land that is other than virgin tropical rain forest to grow biomass for energy is deemed acceptable if the carbon dioxide embodied in the energy harvested over the first five years surpasses the carbon stored in the above-ground carbon stock that was lost in the land clearing. **SECTION 9903(b) AT PAGE 23 AND DEFINITION OF "FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS EMISSIONS REPLACEMENT VALUE OF BIOMASS" AT PAGE 7.** The tax is applied at graduated levels to the restoration of carbon stock lost, if such restoration for clear-cutting the land taking longer than five years. The responsible party earns a tax exemption for re-planting on the land clear-cut plus on five times the acreage within 500 miles of the cleared site.

These biomass provisions of AFCWFFT are difficult to describe, other than by referring the reader to these portions of the text of the bill itself. In constructing the decision tree set forth in this biomass Section 9903 of AFCWFFT, to properly negate and minimize the tax burden on biomass cultivation and harvesting that does not cause a deleterious land use change, POP Diesel sought and received feedback from groups like the National Wildlife Federation, the Society of American Foresters, and the American Forest & Paper Association. It also conducted original field research on some of the underlying questions in northern Ghana, West Africa.

G. Replace the Administration's Arbitrary Decision to Treat All Forest Biomass as Being 100 Percent Carbon Neutral

Following early circulation of the draft of this biomass section of AFCWFFT, in September 2018, the Secretaries of Energy and the Interior and the Administrator of EPA circulated a joint letter to all Members of Congress and Senators affirming that the Administration would treat all forest biomass as being 100 percent carbon neutral.

However, this determination by the Administration was completely arbitrary and capricious. "Carbon-neutrality" is a relative term, dependent on costs and benefits measured over time. Whether biomass is carbon-neutral depends on land use change, the rate of carbon sequestration, and the number of years over which the decider allows the measure of carbon restoration to be calculated. For instance, trees cut down in the southeastern U.S. may take 20 years to have their carbon stock restored, depending on the intensity and number of acres that are re-planted for every acre of trees cut down, the soil and weather conditions permitting re-growth, and the species of tree planted. Or they may take 50 years. Or if there is aggressive re-planting on many times more acres than were cut down, it may take only 5 years.

Giving a green light to tree-cutting by declaring it carbon neutral was intended to neuter consideration of RFS repeal and replacement by AFCWFFT's international land use standards. Elimination of and replacement for the RFS is not included in the Deutch bill or any other carbon tax bill in circulation. Since the *Washington Post* editorial board has called for rescinding the RFS, the question of a replacement reasonably lies at the center of public discussion.

The decision tree on whether and how to apply the tax to biomass grown or harvested for energy is set forth in **SECTION 9903(b)** and the land use prohibition set forth in **SECTION 9903(c) AT PAGES 23 through 26.** They allow AFCWFFT's standards for biomass to be adopted and applied in every country around the world, in temperate, tropical and arctic regions. This replacement of the RFS with a provision that can apply across borders and climate zones is one of the features that allows AFCWFFT to be internationally reciprocal and enforceable, as compared to the America-centric and idiosyncratic RFS.

iv. Revise 45(Q) to Credit Carbon Capture and Storage, But Not Use

Like EPA regulations giving a credit for algal fuel that serves to subsidize industrial carbon dioxide emissions, and like a credit financing petroleum extraction via "enhanced oil recovery," a tax credit for the *use* of carbon dioxide creates a perverse incentive, if the goal is to reduce industrial carbon dioxide emissions. There is no harm, and can be a lot of good, from incentivizing the capture and permanent storage of fossil fuel carbon dioxide emissions. Indeed, carbon capture and storage is a vital element of a successful strategy to contain global warming. This practice puts the fossil fuel's carbon dioxide back where it came from: inside the earth.

The Tax Reform Act of 2017 created a new credit for the *use* of carbon dioxide, set forth in Section 45(Q) of the Tax Code. AFCWFFT repeals this whole capture, storage and use

provision in favor of a simpler one granting a credit to the party responsible for carbon dioxide emissions for their capture and permanent storage, but not use. **SECTION 202(b)** (repeal of 45(Q) **AT PAGE 40)** and **NEWLY CREATED TAX CODE SECTION 9907 AT PAGE 36**. If there is an economic and profitable business reason for using carbon dioxide to aid in enhanced oil recovery once the carbon dioxide has been captured or for some other purpose, then the free market will allow it to happen, without need for the encouragement of a governmental tax credit, which only serves to draw private funding away from sound renewable energy and towards more expenditure on production of carbon dioxide by fossil fuel refining and other industrial processing.

e. Eliminate All Other Federal and State Regulations Governing Carbon Dioxide Emissions

The foregoing are examples of the problems that arise inevitably when Congress, state legislators, and federal and state agencies pick winners and losers by the award of credits, subsidies, allowances and set-asides. Those that fall outside the definitions set in law lose, even if they come along later with better products. Their exclusion prevents them from attracting private funding,
because funders, acting prudently, want to put their money into enterprises that have the government's blessing, rather than those that do not.

Therefore, to create a more perfect market, which is the only way that Adam Smith's invisible hand will be able to work its magic and a carbon tax will succeed in solving the problem, AFCWFFT, by legislative fiat, repeals all federal and state regulations of carbon dioxide emissions. These provisions are part of **TITLE II, OPENING THE ENERGY MARKET TO MORE COMPETITION**. See, specifically, **SECTIONS 202, 206 AND 207 AT PAGES 39 AND 44.**

f. Preempt State Law Credits, Subsidies, Allowances, Set-Asides, and Targets

For the twin reasons of eliminating competing and conflicting policies and the distorting effect that governmental preferences enshrined in statute and regulation have, AFCWFFT makes itself supreme in this field of law. It expressly preempts state laws and regulations of all kinds concerning carbon dioxide emissions. This includes preemption, and therefore invalidation, of the cap-and-trade program to which California and other states have joined and all state-level credits, subsidies, allowances, set-asides, and production targets for specific fuels and enabling technologies, such as biodiesel and ethanol. If AFCWFFT did not include a strong state-law preemption provision, then once AFCWFFT eliminated the latter, state tax credits, subsidies, and regulations could perpetuate the same market distortions that currently exist under federal law.

AFCWFFT includes a back-up, generalized preemption clause that is broad in scope. **SECTIONS 207(a) AT PAGE 44.** A strong enforcement mechanism confers standing on the U.S. Department of Justice and any commercial supplier of fuel or energy, technology related to fuel or energy, or fuel or energy enabling or infrastructure equipment to challenge any lingering

state law preferences, as well as barriers to entry of renewable fuels and technologies at the state level. **SECTION 207(c) AT PAGE 44 (referring to SECTIONS 207(a) and (b)).**

g. Eliminate EPA Authority to Regulate for Carbon Dioxide Emissions

An absolute requisite for support by any Republican for a fossil fuel tax is statutory curtailment of EPA's authority to regulate carbon dioxide emissions under the Clean Air Act, affirmed in the 2007 Supreme Court decision *Massachusetts v. EPA.* AFCWFFT embodies a comprehensive approach, cutting across industries and borders, to limiting further atmospheric carbon dioxide accumulation by way of an enforceable worldwide, carbon tax. **SECTION 201 AT PAGE 38**. Including a schedule for an exponentially-increasing tax rate leading to a theoretical infinity by the year 2050 makes attaining Net Zero Emissions likely by that year. Trusting in the Act's efficacy, there is no reason to maintain EPA's legal authority to regulate carbon dioxide, especially if AFCWFFT will only realize its promise if existing agency regulations are repealed.

Some environmentalists fear that weakening the Clean Air Act in this bargain will somehow render a carbon tax vulnerable to future legislative amendment and thereby gut the federal government of all authority to combat global warming. This fear proves to be illusory. There was nothing keeping a Republican Congress and President from eliminating EPA's authority during the Donald Trump and early George W. Bush Administrations, but they did not do so. If a bipartisan coalition supports the bargain set forth in AFCWFFT, then we can expect that the carbon tax will have as much staying power in the future as the Clean Air Act has had to date.

h. Leave Little to Chance to Agency Regulation

This Memo gives specific examples of how the fossil fuel industry has succeeded in undermining well-meaning Congressional statute during the agency rulemaking process, discussed above in Sections 7(d)(i) and 7(d)(iii)(A). It is a hazard that AFCWFFT seeks to avoid by including in the text of the statute all of the key definitions and other specific provisions that the fossil fuel industry would prefer to have sent to an agency for determination. **PAGES 3 – 19.**

Congressional statute did not compel the EPA to adopt the Tailpipe Rule favoring petroleum as the measure of fuel economy and greenhouse gas emissions from motor vehicles, a decision whose deleterious effects are discussed in Section 7(d)(i) above. Congressional statute dating back to the first CAFÉ Standards in the mid-1970's has never specified the metric the Agency should adopt to implement fuel economy law. This statutory silence allowed petroleum-aligned interests to influence the original EPA rulemaking in 1975 and make the Tailpipe Rule the standard to follow from one agency rulemaking to the next over the ensuing forty years, most recently jumping during the Obama Administration from cars to trucks and from fuel efficiency to now greenhouse gas emissions standards.

Similarly, the statute authorizing the Renewable Fuel Standard did not require original land use documents contemporaneous to the bill's 2007 passage to make biofuel feedstock land eligible for tradable credits, the subject of Section 7(d)(iii)(a) above. Some interest group asked EPA to adopt a regulation far stricter than the statute requires.

i. AFCWFFT Avoids Rulemaking by Putting Specifics in the Statute

A major accomplishment of AFCWFFT is to minimize the chance that the fossil fuel industry can capture agency rulemaking and undermine the beneficial purposes of AFCWFFT. The Act leaves little room for agency rulemaking. The Act defines the measure of carbon dioxide as the Carbon Mole Fraction of the source material and it sets specific annual tax rate and increases. Definitions of **"ANNUAL TAX RATE" (AT PAGE 3)** and **"PRICE PER METRIC TON OF CARBON DIOXIDE" AT PAGE 12.**

The use of Carbon Mole Fraction as the measure of an energy source's greenhouse gas emissions potency goes a long way towards replacing agency rulemakings on and subjective determinations of greenhouse gas emissions net life cycle analysis. Only a limited rulemaking is necessary to govern questions of land use change, to fill out the formula set forth in the definition of "**FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS EMISSIONS REPLACEMENT VALUE OF BIOMASS" on PAGE 7.** The Act requires EPA to rely on this definition in drafting a standard form that biomass harvesters will use in calculating this value. **NEWLY CREATED TAX CODE SECTION 9903(f) AT PAGE 28**. The Act leaves it to EPA to adopt regulations governing biomass accreditation organizations. **NEWLY CREATED TAX CODE SECTION 9903(f)(2) AT PAGE 29.**

The Act gives the Secretary of State specific criteria by which he must audit the compliance of other countries with the Act, leading to worldwide adoption of this remedial package. **SECTIONS 302(a) AND 303 AT PAGES 47 AND 51**.

Provisions for record-keeping, reporting and penalties are mentioned in the Act, as it currently stands, but not fully fleshed out, meriting further legislative drafting or rule-making.

However, given the breadth and complexity of the issues covered in AFCWFFT, the scope left to rulemaking is purposefully modest. The trade-off, detail included in the Act that is normally left to regulations, makes for careful and attentive reading.

ii. The Deutch Bill Creates a Regulatory Morass Sure to Fall Victim to Fossil Fuel Manipulation

In contrast, the Deutch bill subjects nearly all issues to identification and definition in follow-on EPA and Energy Department rulemakings:

- Covered entities;
- Carbon-intensive products and their production GHG emissions;
- Full fuel cycle GHG emissions;

- Global warming potential of a fuel;
- GHG content of a covered fuel;
- Upstream GHG emissions;
- Actual emissions of GHG's from covered fuels and whether they exceed that year's emissions reduction target;
- Exemption from tax for agricultural use and the Armed Forces;
- De-commissioning of enforcement once actual emissions reach only 10 percent of 2016 levels;
- The point in the fuel's life-cycle at which the tax is imposed;
- Carbon border fee adjustment, and;
- Cost of carbon imposed by a foreign national governmental policy, including by cap-and-trade.

Every one of these issues provides a chance for the fossil fuel industry to undo the ostensible intent of the Deutch bill to curb Americans' greenhouse gas emissions, and if you have faith in that bill's carbon border fee adjustment (shortcomings criticized in Section 5(a) above), the world's.

AFCWFFT dispenses with nearly all of the foregoing issues by defining them in the statute's text, rather than leaving them to a problematic rulemaking. Carbon Mole Fraction as the measure of tax imposed on different sources of energy at the source's point of extraction and importation to the United States, discussed in Section 2(b) above, renders moot most of the above-listed topics that the Deutch bill has to rely on rulemaking for, except for two of the issues listed above that AFCWFFT defines separately. These are:

- The Deutch bill defines a "covered entity," which AFCWFFT calls a "**RESPONSIBLE PARTY**" **AT PAGE 18**. This AFCWFFT definition does not require any additional rulemaking.

- The **"FOSSIL FUEL NET LIFE CYCLE GREENHOUSE GAS EMISSIONS REPLACEMENT VALUE OF BIOMASS," DEFINED AT PAGE 7 AND INVOKED IN NEWLY CREATED BIOMASS TAX CODE SECTIONS 9903(b) AND 9903(d) AT PAGES 23 AND 26**. This limited life cycle analysis has the narrow scope of land use change, which is only one element considered in the full blown life cycle analyses of the Deutch bill, listed above. It is far simpler, clearly defined in the statute, and not prone to subjective interpretation or subversion by those opposed to the Act.

i. <u>No Cap-and-Trade at the State, Federal or International Level</u>

As stated repeatedly, the approach of AFCWFFT is to put faith in the market, as influenced by the tax, and to eliminate regimes, such as cap-and-trade, that cannot compare effectively with its comprehensive fossil fuel tax and regulatory reform. This faith means eliminating all regulations that create conflicting obligations and inhibit market supply and demand from functioning in the freest way around the world. This

includes terminating all forms of cap-and-trade, including California's and the federal Renewable Fuel Standard, for the reasons described above.

Therefore, among other requirements, reciprocal foreign adoption of AFCWFFT and the Secretary of State's ensuing audit of participating countries' tax systems would compel other sovereign nations, such as the European Union, to eliminate their own cap-and-trade programs in favor of the uniform AFCWFFT and its package of policy reforms. **SECTION 302(a)(11) AT PAGE 49**.

8. <u>Environmental Integrity Mechanisms Allow Uncertainty and Unwinding of the Tax</u>

Some environmentalists, pining for the illusory certainty of an emissions cap under a cap-and-trade regime, favor inclusion of an "environmental integrity mechanism" ("EIM") in any carbon tax package. (The Shultz-Baker-Halstead Climate Leadership Council calls this an "Environmental Assurance Mechanism" in their Roadmap published in February 2020.). Depending on the results of an EPA inventory of greenhouse gas emissions, if the tax had not succeeded in lowering emissions at the desired rate, then the EIM would take effect. The following discussion is of other carbon tax bills, since AFCWFFT does not include an EIM.

There are two types of EIM that would activate upon a report by EPA that emissions were falling short of the statutory goal. The first type would terminate the carbon tax and re-institute regulations, either automatically or by a package pre-ordained in the statute that would require additional Congressional action to deploy. The second type of EIM would simply raise the rate of the carbon tax upon a negative emissions inventory report by EPA. The main carbon tax bill presently circulating on Capitol Hill, the Energy Innovation and Carbon Dividend Act introduced by Rep.'s Deutch (D, FL) and Rooney (R, FL) in early 2019 ("the Deutch bill"), includes both kinds of EIM's.

First, as to re-instituting regulations if the carbon tax had not reduced greenhouse gas emissions quickly enough, the Deutch bill would suspend EPA greenhouse gas emissions regulation of stationary point sources until 2030, whereupon they would automatically reinstate if actual emissions fell above the statutory goal. At least every five years thereafter, EPA would conduct the same kind of assessment, and if emissions were above the statutory threshold, then the regulations would resume force. Thus, the Deutch bill sets a carbon tax to endure for 10 years, or until 2030, and possibly longer, subject to periodic evaluation.

The Deutch bill also would employ the second variety of EIM by making the rate of the carbon tax periodically dependent on the results of EPA's annual inventory of greenhouse gas emissions. Under the Deutch bill, starting from $15 per metric ton of carbon dioxide, the carbon tax rate would rise at $10 per metric ton per year above inflation, but $15 per year, if an annual evaluation determined that greenhouse gas emissions reductions were falling short of the goal for that year.

While an EIM is intended as a fallback assurance of greenhouse gas emissions reductions, in fact, its very existence undermines this goal.

The first problem with either kind of EIM is that it eliminates certainty for the market of what the level of taxation will be on a year-to-year basis and whether businesses have to worry about also satisfying regulatory obligations lurking in the background that may reappear in the future.

As stated in Table 1 and discussed in Section 3 above, the whole point of a fossil fuel tax is to induce consumers of energy and purchasers of capital equipment that runs on energy, from automobiles to electricity power plants, to switch to a renewable source in time for net greenhouse gas emissions to reach zero by the year 2050. Purchasers of capital equipment, the biggest categories of which have an expected life-span of 16 years or longer (heavy duty vehicles, industrial boilers, and power plants, and not counting residential buildings), need to know years ahead of their purchase date what the tax outlook will be, to begin planning their purchases. In strictly economic terms, those purchasers of capital equipment who make the right decision to invest in renewably-powered equipment will be penalized against their competitors if they overestimate the tax burden. Those purchasers of capital equipment who underestimate the tax burden in continuing to buy fossil fuel-powered equipment while counting mistakenly on others collectively to lower GHG emissions to the goal desired by the EIM will cause the interim goal to slip beyond reach and risk contributing to a failure to reach the ultimate goal of net-zero-emissions-by-2050.

Second, due to the slow pace of progress, if any, under the current regulatory regime, we already know that regulations have failed to do the job. Once eliminated, why ever return to them, with all of the irregularities and counter-incentives described above in Section 7(d)? Will Government agencies suddenly somehow become better at writing regulations and less susceptible to the influence of fossil fuel interest groups? Instead of taking these risks, why not just make the tax rate higher from the start, or increase at a faster pace, and lock this schedule in to the statute to ensure the desired policy outcome (as AFCWFFT attempts to do)?

Third, any chance for an Executive Branch agency such as EPA to weigh in annually or periodically on the success of a controversial measure like a comprehensive, worldwide, fossil fuel tax invites politicization of the review and unwinding of the public policy goal. A President opposed or subject to pressure from those opposed to a strict outcome can delay or influence the agency's report and the action the agency is supposed to take as a result. Every report by EPA and resulting administrative increase in the tax rate presents an excuse for Congressional intervention. Instead, the best way to adhere to a strict deadline and outcome is to enshrine the tax structure and rates in the statute all the way to the year 2050 and beyond.

A perfect example of the futility of conditioning increases in the tax or re-imposition of regulations on the results of an EPA GHG emissions inventory is the statute establishing the Renewable Fuel Standard ("RFS statute"). It includes benchmarks for renewable fuels production which function like an EIM in reverse. If renewable fuel production falls below levels specified and targeted in the RFS statute, then EPA has the authority to adopt a regulation setting

the production level below the statutory target. As soon as push-came-to-shove a couple of years ago, however, left to its own devices, EPA deviated downward from the statutory schedule. Furthermore, there is a big question mark over what will happen to the production targets when the statutory schedule expires in 2022.

The lesson from the RFS statute is that a federal agency subject to the influence of a special interest group, especially one as powerful as the fossil fuel industry, if given the chance by an EIM, will take the easy way out and decline to hold the interest group's feet to the fire. In the same way, Congress can be tested to alter and weaken the law, if given the opportunity by an EIM.

Do the twenty big corporations that founded the Baker-Schultz-Halstead Climate Leadership Council, whose affiliate Citizens Climate Lobby is the grass roots lobbyist for the Deutch bill, understand the uncertainty an EIM creates undermining the free market incentives necessary for a fossil fuel tax to succeed? Or are they playing a more cynical game inspired by their petroleum industry members (ExxonMobil, ConocoPhillips, BP, Shell and Total) in seeding their bill with conditions for that carbon tax's ultimate failure and demise?

Far better from the standpoints of efficacy and politics is, in POP Diesel's opinion, to put the certainty of the tax rate increases into the statute from its very beginning and to chart the course to a tax rate of theoretical infinity that will surely lead to net zero carbon dioxide emissions before that rate is reached (which AFCWFFT defines as $10,013 per metric ton of carbon dioxide, the equivalent of $100 per gallon of gasoline, by 2051).

PART IV. SHIFT PETROLEUM TO RENEWABLES

The transportation sector of the U.S. economy, dominated by petroleum, now contributes more greenhouse gas emissions to the atmosphere than any other, even more than energy production. Opening the market for transportation fuel to competition from renewable sources that counter-productive regulations have, to date, shut out, such as pure jatropha plant oil diesel engine fuel, as described above, offers part of the solution. Once this happens, and facing a tax rate that will increase to infinity, the petroleum industry will begin to shift its money to support biomass development and other forms of renewable energy and electricity.

9. Eliminate All Subsidies for Fossil Fuels

The first step, however, is to **ELIMINATE ALL SUBSIDIES FOR FOSSIL FUELS**, currently amounting to $26 billion. This is stated at **AFCWFFT SECTION 202**, starting at **PAGE 39**.

10. Open the Petroleum Market to Pure Jatropha Plant Oil Diesel Engine Fuel

The Petroleum Products Committee of ASTM International sets fuel quality standards that most states incorporate by reference into their law determining what fuels can be sold in the

state. POP Diesel engaged in good faith with this Committee as a dues-paying member over a three-year period. The Committee, however, proved unwilling to adopt standards for vegetable oil fuel that welcomed this beneficial addition to the market. Indeed, this Committee limited access for vegetable oil fuel by inserting misconceptions and unreasonable restrictions into its standards for vegetable oil fuel and adopting unjustified provisions favoring biodiesel. Based on POP Diesel's experience, this Committee can never be counted on to adopt proper fuel quality standards that would welcome POP Diesel Fuel to the market.

Therefore, AFCWFFT states a fuel quality standard for POP Diesel's pure jatropha plant oil diesel engine fuel that would welcome it nationwide. **SECTION 205(b) AT PAGE 43.** It also states that this fuel can be sold legally nationwide to run in engines that EPA or a state so certified as satisfying limits on criteria pollutants (not counting carbon dioxide) regulated separately by the Clean Air Act. **SECTION 205(a) AT PAGE 42.** This step will open the doors to competition from POP Diesel's renewable fuel source that is in theory capable of replacing all of the United States' petroleum diesel fuel needs by 2045.

11. AFCWFFT Is the Best Way to Shift Petroleum Money from Defense of Fossil Fuels to Replacing Fossil Fuels

Since all other carbon tax bills circulating on Capitol Hill would preserve most of the existing, failed regulatory framework and its skewing of the markets in favor of petroleum and fuels that blend in subordination to petroleum, they will not eliminate America's, and the world's, greenhouse gas emissions. Because AFCWFFT is the only proposal for actually ending anthropomorphic greenhouse gas emissions worldwide by 2050 by virtue of a statutory tax rate approaching the equivalent of infinity (discussed above) and America First international reciprocity and enforcement, it is also the only means by which petroleum money can be brought to bear to aid in this transition.

All other carbon tax bills will succeed in raising the price of gasoline and petroleum diesel fuel for everyone, but they will fail to cut enough regulatory barriers to entry, end tax credit and regulatory favoritism, and open the market to renewable alternatives like POP Diesel's fuel and engine enabling products. Thus, the other carbon tax bills will fail to induce the shift necessary to renewable energy necessary.

The petroleum and natural gas industry has all the money in the world to invest in renewable energy. An effective fossil fuel tax like AFCWFFT will prompt this industry to shift its money away from defense of its fossil fuel position to, instead, embracing renewable energy. A first petroleum company has already made this leap of faith. In December 2019, Repsol of Spain made as its corporate goal by 2050 achieving Net Zero Carbon Emissions for all of its activities, including its products' emissions when combusted.

A 2018 report published in *Science* magazine described how the Sahel and Sahara regions of West Africa can host massive solar and wind farms capable of fulfilling Europe's electricity needs and powering Africa's economic growth. From the same geographic area, POP

Diesel can replace 22 percent of worldwide petroleum diesel supply with pure jatropha plant oil running in POP Diesel-equipped trucks and other medium- and heavy-duty engines.

Why isn't money flooding into these large-scale solutions? Because of disincentives created by the regulatory framework decried above: the petroleum industry presently does not have an incentive to shift its investments to them. The present framework skewed in favor of petroleum makes is easier for the petroleum industry to oppose competition than jump on board new, meritorious ideas like using solar rays, wind farms, and plant oil to replace fossil fuels.

Even if the petroleum industry remains opposed to viable alternatives to their products like pure plant oil diesel engine fuel, there is plenty of other money standing by. There is presently more than $8 trillion in assets held by institutional funds in Europe, North America, and Asia that is seeking to divest of its fossil fuel holdings and invest in renewable alternatives. All that is needed is for the regulatory barriers and distortions to disappear and a fossil fuel tax to send the right signal to accomplish this shift in funding priorities.

PART V. INTERNATIONAL ORDER

12. WTO Compliance

As implied in **SECTION 304 AT PAGE 52**, AFCWFFT is compliant with World Trade Organization policies and Rules. Even the imposition of higher import duties on countries that did not join and enforce its regime of reciprocal taxes and penalties against non-complying countries is permissible under WTO law. Because the WTO has already recognized the exceptional challenge posed by global warming, the United States and other countries following its lead in adopting AFCWFFT would be eligible to seek a waiver from the WTO Ministerial Conference of the normal requirement of consensus. As such, pursuant to Article IX of the WTO Agreement, the United States could implement AFCWFFT with the approval of three-quarters of the WTO's membership and avoid the WTO's usual requirement of consensus.

13. Trade Tariffs Versus Fossil Fuel Tax

AFCWFFT rescinds the thirty (30) percent tariff that President Trump imposed on imports of solar panels in June 2018. As discussed below, it also underscores his trade policy by creating a uniform incentive to "buy domestic."

a. Rescind Tariffs on Solar Panels

Eighty (80) percent of America's newly installed solar panels were being imported when President Trump imposed a 30 percent import duty on them in June 2018, causing the immediate cancellation of at least $2.5 billion worth of large installation projects. **SECTION 208 AT PAGE 46** rescinds these tariffs and denies the President authority to re-impose these specific tariffs through January 2025.

b. The Ultimate Buy-American Policy

Environmentalists started the "buy local" movement for food produce. Protectionist tariffs, in general, are a form of "buy local" policy for manufactured goods. President Trump has extended "buy local," in the form of "buy American," to manufacturing.

An internationally-reciprocal and -enforceable fossil fuel tax like AFCWFFT is the ultimate "buy domestic," "buy local," and "buy American" policy, since it would in theory apply to all goods in commerce around the world. To the extent that imported goods and, in general, goods traveling from a long distance, rely on fossil fuels for their transport, the tax makes these goods more expensive than domestically-produced or local ones.

President Trump should find AFCWFFT to be a rational and beneficial extension of his trade policies. Its adoption and enactment around the world into law would give him, the earth, and all its inhabitants a shared victory.

PART VI. REVENUE

14. Allocation of Revenue

Title IV is Allocation of Revenue. **PAGE 53**. This Title is intentionally left blank. POP Diesel does not take a position on what Congress decides to do with the revenue from a fossil fuel tax, other than to respectfully request strongly that it not devote any of the revenue to the specific, counter-productive purposes discussed in Subsection 14(e) below.

Some options for what to do with $1.5 trillion over ten years include:

- General Fund, to make transfer payments or reduce the federal deficit
- Health care reform / insurance
- Infrastructure
- Entitlement reform
- Carbon dividends to every household or other tax cuts.

a. Revenue-Neutral Carbon Dividend Payments Attract Republican Support

Republicans support two ideas regarding the allocation of revenue from a carbon tax: (a) it should all be returned to Americans as a rebate, *i.e.*, the tax should be "revenue neutral" with regards to the federal budget, and (b) the rebate should take the form of a Carbon Dividend payment made equally to households, rather than putting this revenue to other uses. Ted Halstead, the founder and Executive Director of the Climate Leadership Council, argues that paying all the revenue quarterly in the form of household carbon dividends creates an entitlement that will make the tax-and-dividend difficult to do away with.

French President Emanuel Macron's attempt in 2018 to raise the French tax on petroleum diesel fuel as a means of combating global warming sparked nationwide protests. Accounts in the press indicate that Macron's mistake was to dedicate the tax revenue to deficit reduction, rather than returning this revenue to citizens' pockets by means of a tax rebate.

POP Diesel proposes beginning the Carbon Dividend payments before the first tax is ever collected to buy public support as a tax cut and avoid the public outcry that Macron had to endure. POP Diesel's draft of a Formula for allocating all revenue as Carbon Dividends, discussed in Subsection (c) below, would start these payments two months before the commencement of tax collection.

b. Favor the Poor: Reduce Payroll Taxes and Increase SNAP Payments and Benefits for Others of the Vulnerable

Alex Brill of the American Enterprise Institute studied how reducing the federal payroll tax with revenue from a carbon tax would play in counties across the country: https://www.aei.org/publication/the-political-economy-of-a-carbon-tax-a-county-by-county-inves tigation/ He found that the effect would be comparable in equity terms in counties that voted Republican versus Democratic, and that the average person in the average county would have at most a $100 swing in net income in one direction or the other.

Adele Morris of the Brookings Institution and Aparna Mathur, now of the American Enterprise Institute, jointly wrote in favor of increasing SNAP payments with carbon tax revenue.

AFCWFFT's Title IV, Allocation of Revenues, is left blank for the politicians to fill in. However, to advance discussion of this idea, POP Diesel has drafted a Formula for distributing Carbon Dividends referenced in the next subsection.

c. A Proposed Formula for Distributing Revenues as Carbon Dividends

Distributing a Carbon Dividend by reducing the federal payroll tax and increasing benefits going to retiring coal miners, Social Security retirees, the unemployed, and poor children whose parent or guardian is enrolled in SNAP will reach the vast majority of adults and households in the United States. A Formula set forth in a Memorandum posted separately to the News tab of www.popdiesel.com outlines one way of going about doing this.

This proposed Formula includes a revenue-neutral adjustment paying higher benefits to people who happen to be residents of states that consume more coal *per capita* than the nationwide average. Due to coal's disproportionate impact contributing greenhouse gas emissions to the atmosphere per unit of energy burned, these people, through no fault of their own due to past choices made by their electric utility providers, will pay the tax at a higher rate than residents of states that consume less coal *per capita*. The adjustment, which is constructed to be revenue-neutral as far as the bill's overall impact, mitigates that higher cost.

d. Reserve Some Revenues to Help Hard-Hit Coal Areas

Money must be reserved for retirement pay or worker-retraining to aid hard-hit coal mining areas. Of course, if legislators decided to reserve and distribute some of the revenues to other programs that further the aims of environmental justice or for other programs, the estimate of $150 billion per year would certainly allow for it.

e. Please Do Not Spend Revenues to Influence the Energy Market

A major accomplishment of the Act is to eliminate the distorting influence that government choices as between fuels and their enabling technologies have on the private market's ability to finance and make optimal selections in the transition to a fossil fuel-free future. POP Diesel cautions against spending additional revenue on the following items that will undermine this broad and leveling effect of the Act:

i. credits and subsidies for renewable energy and its enabling technology and infrastructure;

ii. tax breaks for energy-consuming information technology, and;

iii. federal agency research on new energy-saving technology.

i. Avoid Additional Credits and Subsidies for Renewable Energy

First, please avoid funding credits and subsidies for renewable energy projects and programs that Congress in the past has been fond of and that AFCWFFT would get rid of. This notion runs directly counter to the Green New Deal, which would inject government tax credits and spending into renewable energy technologies and infrastructure in a host of new ways and at unprecedented levels.

No matter how wisely legislators think they can make these choices, POP Diesel's experience, described in specific examples set forth in Sections7(c) and (d) above, is that governmental favor defined in statute or regulations not only excludes the merit-worthy or superior technologies and fuels not selected, but causes private funding also to shy away from them and to go, instead, to the less optimal means favored by the government. The fact of the matter is that our world is dominated by a private, free market economy that is more than twice bigger in size than its governmental sector. Let the free market exert its power and trust the collective wisdom of its innumerable participants, Adam Smith's "invisible hand," to arrive at the best solutions. Disabling and distorting problems are bound to arise whenever Congress, a federal agency, or state policy favors specific fuel and energy sources and their enabling technologies, thereby defeating the free market purpose and benefits of a fossil fuel tax.

ii. Watch Out for More Tax Breaks for Energy Hog Industries, Like IT

Second, this Memo has focused on incentives that affect or distort the consumption of energy as between fossil and renewable. Just as importantly, care must also be taken to avoid public policies creating new and additional demand for high-energy activities that will serve to prolong society's addiction to fossil fuel supply.

One way that the fossil fuel industry aims to get around an effective fossil fuel tax is to encourage the demand for energy by way of enhanced tax credits for information technology. Integrated circuitry embedded on silicon chips, the bedrock of all IT hardware and software, requires huge amounts of energy to manufacture. Computers and computer networks like the Internet and Cloud require even more energy to run. The Information Technology and Innovation Foundation ("ITIF") wants revenue from a carbon tax to cover an increase in the Alternative Simplified Credit within the Research & Development Tax Credit from 14 to 40 percent, and to allow this credit to apply to "collaborative research" outside the energy sector. A fossil fuel tax is valuable precisely for causing activities like chip development to bear the cost of their environmental harm. An enhanced tax break lowering the cost of such activity will defeat the purpose of a fossil fuel tax. Note that AFCWFFT does not propose to roll back any pre-existing level of tax credit for activity favored by ITIF.

iii. Federal Research on Energy-Saving Technology Distorts the Market

Third, government agency research sends a signal of priority to the marketplace for private finance and investment. All too often, this research goes towards (a) making equipment and technology run more efficiently on fossil fuels, or (b) lowering the cost of fossil fuel combustion by finding a use for their carbon dioxide emissions. Both of the foregoing activities encourage continued reliance on fossil fuels at the expense of switching to renewable ones.

All of the technologies for weaning ourselves from fossil fuels are already in existence, including carbon capture and storage. Any improvements of these technologies should be financed by AFCWFFT's freeing the market to make the best choices. Therefore, please avoid dedicating any revenue stream to funding the following federal agencies, whose focus on purposes (a) and (b) listed above serves mainly to lock in and perpetuate the era of fossil fuels:

- Advanced Research Projects Agency-Energy;
- Carbon Capture Research and Development Program of the National Energy Technology Laboratory, Office of Fossil Energy, Department of Energy;
- DOE Fossil Energy Research, Development, and Demonstration Program Areas, Coal Program Area (Carbon Storage);
- National Energy Technology Laboratory of the Office of Fossil Energy for the Research and Development of Direct Air Capture, and;
- Office of Electricity Delivery and Energy Reliability, Department of Energy.

PART VII. COMPETING PROPOSALS

15. All Other Carbon Tax Bills Favor the Petroleum & Natural Gas Industry in Multiple Ways

From POP Diesel's analysis of many of the carbon tax and regulatory bills introduced in Congress in the last four years, including the Deutch bill, each one suffers from shortcomings favored by the petroleum industry that render the bill counter-productive. These shortcomings are:

1. Imposing the tax downstream, at the petroleum and natural gas refinery, so as to avoid an easy upstream measurement like the Carbon Mole Fraction that can
   a. determine the tax based on a simple laboratory test of carbon intensity;
   b. permit international uniformity and application of the tax; and
   c. avoid resort to an agency rulemaking defining life cycle emissions that will be captured by fossil fuel interests.

Section 2 above, beginning on page 9, addresses this topic.

2. Constructing major portions of the tax program in a way so as to require agency rulemakings for its implementation, each rulemaking of which can be influenced and captured by the petroleum and fossil fuel industry to narrow the law's effectiveness and undermine Congressional intent, rather than putting specificity into the bill (such as use of Carbon Mole Fraction as the upstream measure of tax liability) that would avoid such rulemakings.

Section 7(h) above, beginning on page 40, addresses this topic.

3. Starting the tax too low or raising it too slowly, necessitating an evaluative audit by EPA that would re-impose regulations, if emissions reductions were not meeting the schedule set forth in statute (an Environmental Integrity Mechanism a/k/a Environmental Assurance Mechanism). The possibility of re-imposing regulations creates uncertainty and undermines the point and effectiveness of a fossil fuel tax.

Sections 3 and 8 above, beginning respectively on pages 12 and 43, address this topic.

4. Relying on a Border carbon adjustment that:
   a. impossibly requires a federal official to decide if a foreign cap-and-trade regime is comparable to an American carbon tax (comparing apples and oranges);
   b. applies the tax uniformly to manufacturers in high carbon intensity export industries, including, counter-productively, those who have switched to sources of renewable energy, thus removing any incentive for them to do so, and
   c. introduces federal regulations and intrusion into foreign commercial transactions at an unprecedented scale;

all of which difficulties the use of Carbon Mole Fraction the proposed America First approach would avoid.

Section 5(a) above, beginning on page 21, addresses this topic.

5. Failing to eliminate regulatory barriers to entry of new renewable fuels and enabling technologies, such as the counter-productive CAFE Car and Truck Fuel Efficiency Standards and also the Renewable Fuel Standard, which AFCWFFT proposes to replace, respectively, with measurement of engine efficiency (defined as energy consumed per unit of work the engine puts out) and a uniform, international, biomass standard defined in the statute itself.

Sections 7(b) through (f) above, on pages 29 to 39, address this topic.

6. Failing to repeal federal fossil fuel subsidies worth $26 billion.

Section 9 on page 45 states this topic.

7. Failing to eliminate federal tax credits and subsidies that (a) favor select renewable fuels blending in subordination to petroleum and (b) by their very existence, block new renewable fuels from securing private funding to expand. Section 7(c) on page 30 gives an example.

8. Failing to repeal all state, federal and international cap-and-trade regimes. They are all less effective, efficient and comprehensive than, and function at cross-purposes to, an internationally reciprocal and enforceable fossil fuel tax.

Sections 5 and 7(i) above, beginning respectively at pages 20 and 42, address this topic.

9. Failing to optimize nationwide switch-over to renewable energy by a failure broadly and expressly to preempt state law credits, subsidies and policies that occupy the same ground as the federal Act. Section 7(f) above, beginning at page 39, addresses this topic.

10. Adopting only a time-limited and partial suspension of EPA authority to regulate for carbon dioxide emissions, rather than a permanent and comprehensive one (covering mobile, as well as stationary sources), thereby creating uncertainty for businesses and consumers about whether the tax will remain in place and at what level and whether they have to worry about regulations coming back.

Sections 7(g) and 8 above, beginning respectively at pages 40 and 43, address this topic.

16. Conclusion

This Memorandum presents overview explanation of AFCWFFT. It does not address all aspects of the policy issues and legislative structure at stake. Therefore, the reader is invited to contact the author with follow-up questions.