

Climate Change Truth Inc.
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At Climate Change Truth we do not lobby. We do not restrict employees from calling or emailing their representatives.

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./DUE DATE NSF 22-541		<input type="checkbox"/> Special Exception to Deadline Date Policy		FOR NSF USE ONLY NSF PROPOSAL NUMBER <h1>2313684</h1>	
FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.) DEB - Ecosystem Science					
DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	UEI (Unique Entity Identifier)	FILE LOCATION
01/06/2023	1	08010000 DEB	7381	LL1LLFZH75R7	
EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN) 822592453		SHOW PREVIOUS AWARD NO. IF THIS IS <input type="checkbox"/> A RENEWAL <input type="checkbox"/> AN ACCOMPLISHMENT-BASED RENEWAL		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, LIST ACRONYM(S)	
NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE CLIMATE CHANGE TRUTH INC				ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE 3313 W CHERRY LN # 1040 MERIDIAN, ID 83642-1119 US	
AWARDEE ORGANIZATION CODE (IF KNOWN) 6250042269					
NAME OF PRIMARY PLACE OF PERF Climate Change Truth Inc.				ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE 201 N NEILSON ST, Tustin, MI 49688-5101 US	
IS AWARDEE ORGANIZATION (Check All That Apply) <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> MINORITY BUSINESS <input type="checkbox"/> IF THIS IS A PRELIMINARY PROPOSAL THEN CHECK HERE <input type="checkbox"/> FOR-PROFIT ORGANIZATION <input type="checkbox"/> WOMAN-OWNED BUSINESS					
TITLE OF PROPOSED PROJECT Move photosynthesis experiment to east coast from Portland, OR to confirm the science.					SHOW LETTER OF INTENT ID IF APPLICABLE
REQUESTED AMOUNT \$ 296,700	PROPOSED DURATION (1-60 MONTHS) 12 months	REQUESTED STARTING DATE 04/01/2024	SHOW RELATED PRELIMINARY PROPOSAL NO. IF APPLICABLE		
THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW <input type="checkbox"/> BEGINNING INVESTIGATOR <input type="checkbox"/> HUMAN SUBJECTS Human Subjects Assurance Number _____ <input checked="" type="checkbox"/> DISCLOSURE OF LOBBYING ACTIVITIES Exemption Subsection _____ or IRB App. Date _____ <input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION <input type="checkbox"/> FUNDING OF INT'L BRANCH CAMPUS OF U.S IHE <input type="checkbox"/> HISTORIC PLACES <input type="checkbox"/> FUNDING OF FOREIGN ORGANIZATION OR FOREIGN INDIVIDUAL <input type="checkbox"/> VERTEBRATE ANIMALS IACUC App. Date _____ <input type="checkbox"/> INTERNATIONAL ACTIVITIES: COUNTRY/COUNTRIES INVOLVED _____ PHS Animal Welfare Assurance Number _____ <input checked="" type="checkbox"/> TYPE OF PROPOSAL Research <input checked="" type="checkbox"/> COLLABORATIVE STATUS Non-Collaborative					
PI/PD DEPARTMENT		PI/PD POSTAL ADDRESS 3313 W. Cherry Dr Suite 1040 Meridian, OR 836421119 US			
PI/PD FAX NUMBER 971-409-7199					
NAMES (TYPED)	High Degree	Yr of Degree	Telephone Number	Email Address	
PI/PD NAME Dave White	BEng	1984	971-409-7199	research@cctruth.org	
CO-PI/PD					
CO-PI/PD					
CO-PI/PD					
CO-PI/PD					

CERTIFICATION PAGE**Certification for Authorized Organizational Representative (or Equivalent)**

By electronically signing and submitting this proposal, the Authorized Organizational Representative (AOR) is: (1) certifying that statements made herein are true and complete to the best of his/her knowledge; and (2) agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this application. Further, the applicant is hereby providing certifications regarding conflict of interest (when applicable), flood hazard insurance (when applicable), responsible conduct of research, and organizational support as set forth in the NSF Proposal & Award Policies & Procedures Guide (PAPPG). Willful provision of false information in this application and its supporting documents or in reports required under an ensuing award is a criminal offense (U. S. Code, Title 18, §1001).

Certification Regarding Conflict of Interest

The AOR is required to complete certifications stating that the organization has implemented and is enforcing a written policy on conflicts of interest (COI), consistent with the provisions of PAPPG Chapter IXA; and that, to the best of his/her knowledge, all financial disclosures required by the conflict of interest policy were made; and that conflicts of interest, if any, were, or prior to the organizations expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the organizations conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated and research that proceeds without the imposition of conditions or restrictions when a conflict of interest exists, must be disclosed to NSF via use of the Notifications and Requests Module in FastLane.

Certification Regarding Flood Hazard Insurance

Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:

- (1) community in which that area is located participates in the national flood insurance program; and
- (2) building (and any related equipment) is covered by adequate flood insurance.

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) located in FEMA-designated special flood hazard areas is certifying that adequate flood insurance has been or will be obtained in the following situations:

- (1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and
- (2) for other NSF grants when more than \$25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.

Certification Regarding Responsible Conduct of Research (RCR)

(This certification is not applicable to conference proposals.)

By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies & Procedures Guide, Chapter IX.B., the institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research.

The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.

Certification Regarding Organizational Support

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that there is organizational support for the proposal as required by Section 526 of the America COMPETES Reauthorization Act of 2010. This support extends to the portion of the proposal developed to satisfy the Broader Impacts Review Criterion as well as the Intellectual Merit Review Criterion, and any additional review criteria specified in the solicitation. Organizational support will be made available, as described in the proposal, in order to address the broader impacts and intellectual merit activities to be undertaken.

Certification Regarding Dual Use Research of Concern

By electronically signing the certification pages, the Authorized Organizational Representative is certifying that the organization will be or is in compliance with all aspects of the United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern.

Certification Regarding the Meeting Organizer's Written Policy or Code-of-Conduct that Addresses Sexual Harassment, Other Forms of Harassment, and Sexual Assault

(This certification is only applicable to travel proposals)

By electronically signing the Cover Sheet, the AOR is certifying that prior to the proposer's participation in the meeting, the proposer will assure that the meeting organizer has a written policy or code-of-conduct that addresses sexual harassment, other forms of harassment, and sexual assault, and that includes clear and accessible means of reporting violations of the policy or code-of-conduct. The policy or code-of-conduct must address the method for making a complaint as well as how any complaints received during the meeting will be resolved. The proposer is not required to submit the meeting organizer's policy or code-of-conduct for review by NSF.

Certification Regarding Family Leave Status (or equivalent)

(This certification is only applicable to career-life balance supplemental funding requests)

By electronically signing the certification pages, the Authorized Organizational Representative hereby certifies that the request for a technician (or equivalent) is because the (PI/co-PI/senior personnel/ NSF Graduate Research Fellow/postdoctoral researcher/graduate student) is, or will be, on family leave status (or equivalent) from the organization in accordance with the organization's policies. The Authorized Organizational Representative also affirms that the organization is able to fill the position for which funding is being requested, in an appropriate timeframe.

AUTHORIZED ORGANIZATIONAL REPRESENTATIVE		SIGNATURE	DATE
NAME Dave White		Electronic Signature	Jan 06 2023 03:58 PM
TELEPHONE NUMBER 971-409-7199	EMAIL ADDRESS research@cctruth.org	FAX NUMBER	

Research with Climate Change Truth and Oregon Department of Transportation:

Measure carbon dioxide levels during rush hour on freeways in forested areas and non-forested areas.

Overview

This experiment has completed its 2nd year. The data collected moved the hypothesis to theory and then to scientific law. This proposal is to move the experiment to the east coast of the United states at approximately 50 degrees north and collect data for two more years. In the future we want to move this experiment to 70 degrees north or so. The residence time for atmospheric CO₂ has increased to 150 years. (1) The published manuscript is a summary of 19 published manuscripts. This is why we suspect that everything we have accomplished with reduction of CO₂ emissions has had little to no measureable effect on Mauna Loa carbon dioxide. Therefore, we seek to prove that the only and fastest way to lower atmospheric carbon dioxide is to increase photosynthesis. One such way is to plant native trees and shrubs instead of grass next to freeways and highways. This research attempt quantifies that effect.

Intellectual Merit

This proposal is very important to advance scientific knowledge: first, the residence time of atmospheric carbon dioxide is 150 years and second how planting 12 billion trees in the past three years is effecting atmospheric CO₂ in a positive way (2). I have presented these results at several Climate Change Conference's on cctruth.org

Broader Impacts

The potential of this research is to prove a forested area with 160,000 vehicles per day will consume all the carbon dioxide from the vehicles. This research will solve the auto emissions issues as it is the driver for atmospheric carbon dioxide theoretically. The results from our first year are stunning to say the least. This moved our experimental hypothesis to theory. The second years' data moved our theory into scientific law. This funding is to move the experiment to another location in the United States to verify the previous results above.

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Appendix Items:		

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

Proposal

Organization Name: Climate Change Truth, Inc.

Organization ID: 6250042269, Contact's Name: Dave White, NSF ID: 000758784

Measure carbon dioxide levels during rush hour on freeways in forested areas and non-forested areas.

Overview

This experiment has completed its 2nd year. The data collected moved the hypothesis to theory and then to scientific law with over 4.5 million data points collected and analyzed each year. This data was collected, analyzed and stored online

This proposal is to move the experiment to the East Coast of the United States at approximately 50 degrees north and collect data for two more years. In the future, with other funding, we want to move this experiment to 70 degrees north or so.

The residence time for atmospheric CO₂ has increased to 150 years. (1) The published manuscript is a summary of 19 published manuscripts. This is why we suspect that everything we have accomplished with reduction of CO₂ emissions, thus far, has had little to no measureable effect on Mauna Loa carbon dioxide. Therefore, we seek to prove that the only and most expedient way to lower atmospheric carbon dioxide is to increase photosynthesis. One such way is to plant native trees and shrubs instead of grass next to freeways and highways. This research quantifies that effect and we need to now prove that it's repeatable. Good videos to watch with your family. On Netflix, kiss the ground movie. A lot of hope for climate change. On YouTube watch how to ruin an electric grid in three easy steps. Solar panels and windmills are not the solution for Climate Change unless you like rolling blackouts.

Intellectual Merit

This proposal is very important to advance scientific knowledge for the following reasons: (1) To inform government policy makers that the residence time of atmospheric carbon dioxide is 150 years and (2), To inform the science community at large that planting 28 billion trees in the past five years is effecting atmospheric CO₂ in a positive way I have presented these results at several Climate Change Conference's on cctruth.org

Many studies in recent history show roadside carbon dioxide increases during rush hour and decreases between the hours of 4-8 pm. There have been zero studies to see the photosynthesis effect of wooded areas next to roads and the probable mitigation of that carbon dioxide. Some studies show a photosynthesis effect. However, that effect was not quantified. This research is to develop a workable way to lower atmospheric carbon dioxide more expediently than the current model which is to develop governmental policies based on inaccurate science.

As an example, there are zero manuscripts, which quantify how much photosynthesis will cancel how much carbon dioxide from vehicles. This transformative research will quantify that by two methods: First, compare carbon dioxide levels in forested vs. non forested area of the same freeway traffic over several daytime hours. Second, by calculating the photosynthesis rate in the forested area by known methods. In this way, we can use black box theory and calculate the total photosynthesis. The carbon dioxide sensors are National Institute of

Science and Technology (NIST) certified. In addition, we will install wind speed and direction sensors. With this wind data, we will be able to confirm extraneous data caused by strong and/or cross wind. We will hire a part time graduate, and an undergraduate student, to help with data analysis. The first year data published in our Carbon dioxide equilibrium manuscript (9)

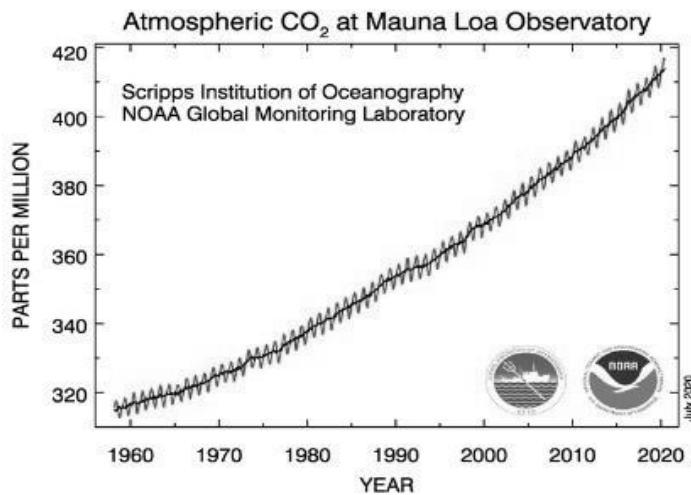
Average Atmospheric Carbon Dioxide residence time

In a 2003 IPCC report (2), the Intergovernmental Panel on Climate Change gave a range of 5 years to 200 years for residence time, which can be a range of time. However, Chemical Engineers use average residence time. That is what we are interested in. We need to know on average how long it takes a molecule to be consumed by photosynthesis, diffused to the exosphere, or captured by oceans. This time is at least 150 years.

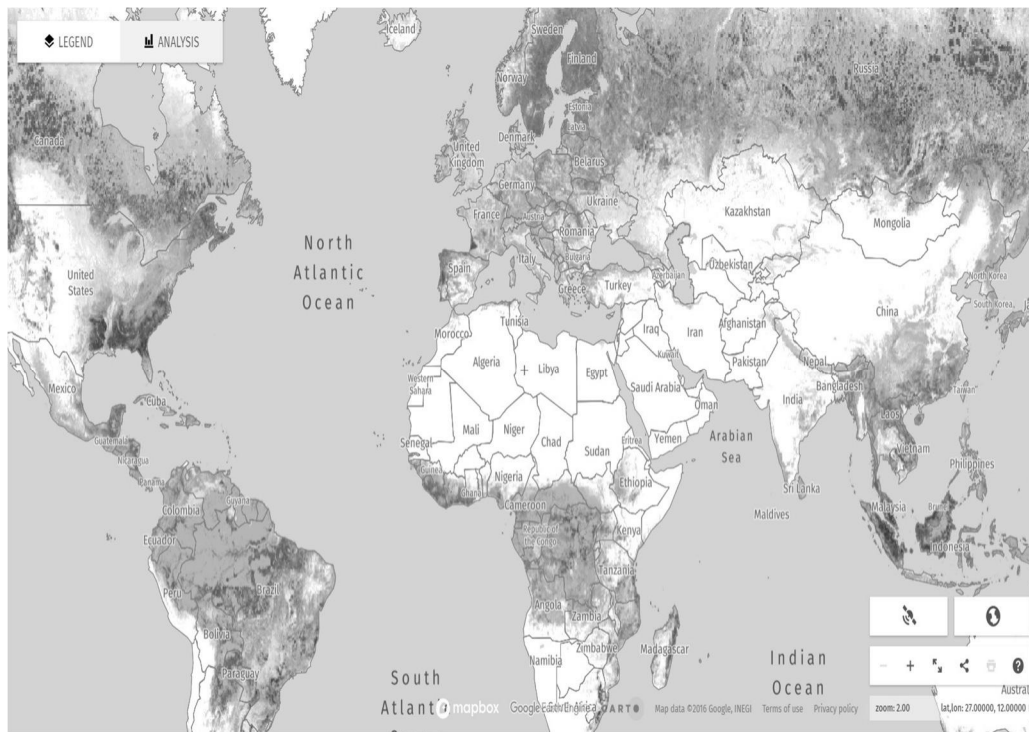
Residence Time (Years)	Author	Year
700	Allen	2009
610	Zickfeld	2013
500	Matthews	2008
300	Plattner	2008
270	Cao	2010
230	Zickfeld	2012
220	Solomon	2012
220	Knutti	2012
210	Gillett	2011
180	Frolicher	2010
150	Hare	2006

Table 1. This represents 19 published manuscripts summarized in 1 published manuscript. Over 160 Ph. D.'s

Another way to look at residence time is a signature from past events, which lowered carbon dioxide emissions. For example, the oil embargo in the 1970's, multiple recessions and the big worldwide recession in 2009 and the current COVID-19 pandemic are examples of lowered worldwide emissions. Below is the graph (Graph 1) of the current Mauna Loa carbon dioxide. You can clearly see no signature from these events.



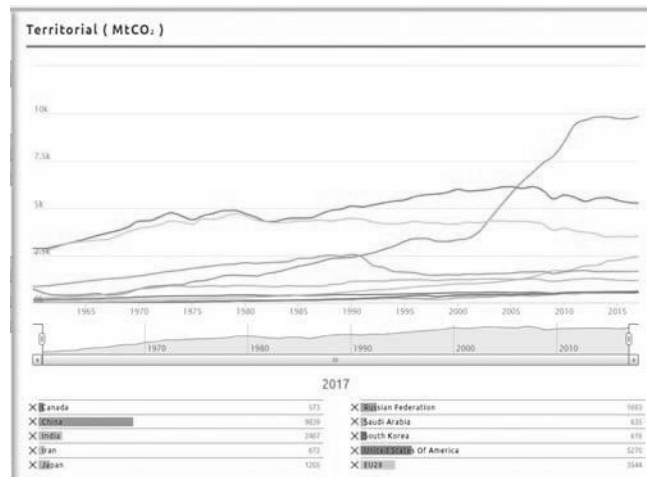
Graph 1. NOAA Carbon Dioxide Rise



Graph 2 Global Forest Watch. 97% reduction in photosynthesis

Global Carbon atlas (Graph 2) clearly shows only China and India are increasing in their carbon dioxide emissions.

Europe 1990: 4479 MtCO₂ and in 2018: 3544 MtCO₂ --a **21% decrease of CO₂**.



Graph 3. Global Carbon atlas

(Q1) Why is the residence time increasing? (A1) The cause is massive worldwide non-sustainable deforestation (3). The purple is non-sustainable deforestation.

Northern Hemisphere (NH) forests consume 2.7 gtyr⁻¹ (2.7 billion tons per year) of carbon dioxide (4. Page 898 1st paragraph). We have 35 gtyr⁻¹ (35 billion tons per year) in worldwide carbon dioxide emissions. This is not what lowers Mauna Loa in the NH summer with more economic activity and more carbon dioxide emissions.

All tropical forests in the Southern Hemisphere have switched to become oxygen consumers and carbon dioxide producers due to organic decay (5). NetZeroCO₂e has never been defined. The true value is 8.6 gt/yr (6).

Many studies in recent history show roadside carbon dioxide increases during rush hour and decreases in-between (7,8,9). There have been zero studies to see the photosynthesis effect of wooded areas next to roads and the probable mitigation of that carbon dioxide. Some studies show a photosynthesis effect. However, that effect was not quantified. This is research for a faster way to lower atmospheric carbon dioxide.

For example, there are zero manuscripts, which quantify how much photosynthesis will cancel how much carbon dioxide from an auto. This transformative research will quantify that by two methods. First, compare carbon dioxide levels in a forested vs. minimal forested area of the same freeway traffic over several hours including both rush hours. Second, by calculating the photosynthesis rate in the forested area by known methods (4). In this way, we can use black box theory and calculate the total photosynthesis, which provides no concentration of carbon dioxide increase during rush hour. The carbon dioxide sensors are National Institute of Standard and Technology (NIST) certified. The data from them is guaranteed by the US Government. In addition, we will install wind speed and direction sensors. With this wind data, we will be able to confirm extraneous data caused by strong and/or cross winds.

(Q2) What percentage carbon dioxide from vehicles will the trees will consume is area "B"?



Image 1. Google Earth Forested area B



Image 2. Google Earth. minimal-forested area A

The basis used is 1 acre, 209 lineal feet along US 26E.

Photosynthesis

Northern Hemisphere (NH) forests consume 2.7 gt/yr carbon dioxide (4, Page 898 1st paragraph) by photosynthesis. There are 1711 million hectares (4228 million acres) of forests in the NH; therefore, $2.7 \text{ gt}/4228 \text{ million acres} * 1,000,000,000 \text{ mt/gt} = 0.64 \text{ metric tons per acre per year of photosynthesis}$ ($0.64 \text{ mt} * 1000 \text{ kg/mt} = 643 \text{ kg per acres per year}$). There are 180 days in the growing season; therefore, $643 \text{ kg/day}/180 \text{ days} = 3.57 \text{ kg/day per acre}$. Therefore, each acre consumes 3.57 kg per day in daylight hours by photosynthesis during the six-month growing season in the NH. Obviously, some of this is also in the non-growing season in the NH.

Emissions of carbon dioxide.

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A vehicle traveling 30 mph (rush hour) and getting 30 mpg will produce less than 357

grams per mi (9). An acre is 209 feet by 209 feet. Therefore, a vehicle will emit 357 gm/mi/5280= 0.0676gm/ft. 209 feet along the highway which is 14.13 gm emissions (1-acre side). For 2019, the most recent year data is available, on average 156,300 vehicles per day pass by the location (10, line 2529 in the spreadsheet), assuming 80% are during the time between 6 am and 7 pm during the experiment. Therefore, $156300 \times .80 = 125040$. Therefore, the total emissions are $14.13 \text{ gm/car per acre} \times 125040 \text{ cars/day} = 2.2 \text{ million gm/acre or } 2200 \text{ kg per day per acre along the road of emissions.}$

Analysis

Certainly some carbon dioxide will diffuse upward from the road at 2 cm per month. See Diffusion section below. Therefore, most will accumulate, be consumed by photosynthesis or be moved by winds elsewhere. The canyon, which is a forested area with steep sides is located at 45°30'27" N, 122°43'17" W. The diffusing carbon dioxide will be consumed by the forest on each side. This experiment has wind sensors which determine wind speed and direction. For example, these sensors determine the effect of a south bound wind burst which spikes the carbon dioxide data. In the data analyses a spike in carbon dioxide in the forested area is always from a wind burst. This spike causes a negative difference in the data which is eliminated based on multiple instances.

We have 3.57 kg/acre/day photosynthesis with 2200 kg of emissions of carbon dioxide. (A2) Therefore, the expected consumption of auto carbon dioxide emissions per day is 2%. This is for a forested area based on a published manuscript (4). As the carbon dioxide road concentration increases, the diffusion flux of this carbon dioxide ($\text{flux} = -D(dc/dx)$) will drive deeper into the forest. Therefore, the consumption of carbon dioxide will be more than 2%. The first hypothesis is that the forested area will consume most, if not all, the carbon dioxide emitted from vehicles traveling east bound on US 26. The second hypothesis is that carbon dioxide concentration is greater at the freeway median than farther into the woods. After the first experiment, we will try to obtain a concentration gradient across the freeway at a predetermined distance off the freeway into the woods.

Results

The actual results below show the forested area is consuming all the carbon dioxide from 156,300 vehicles per day plus 28 ppm on some days. This more than proves the hypothesis that the photosynthesis is consuming most, if not all, of the carbon dioxide. See Graph 3 results below. This proves the photosynthesis consumption is more than 2200 kg per day.

We have an experiment on US 26 eastbound just west of Portland, Oregon with a permit obtained from Oregon Department of Transportation. These sensors are National Institute of Standard and Technology (NIST) certified and calibrated within one part per million. Graph 3 shows the rate of rise of atmospheric carbon dioxide less than 3 ppm/yr. The blue line represents the difference between the forested area and the non-forested area. Each location has a wind directional measurement, which can confirm bad data cause by crosswind for example. This experiment proves that planting native shrubs and trees by roads and freeways instead of grass will reduce carbon dioxide levels. This freeway has 161,000 autos per day on it, and approximately 460 auto exit (Sylvan exit 71) per day between the two sensor locations. The top traffic count day was 4/15/2021 with 250,164 vehicles. That day the difference between the two sensors was 20.24 ppm. Therefore, on April 15th 2021, US 26 at the zoo exit had 250,164 vehicles, and the photosynthesis consumed all their carbon dioxide emissions plus 20.24 ppm. The final day of testing was 6/12/2021. The Oregon Department of Transportation extended the permit for one year to verify this data. The sensors were sent for re-certification by NIST in August 2021 with the experiment starting in September 2021.

Procedure:

Starting August 2020 every other month for 14 days straight.

Second year starting September 2021 every other month for 14 days straight.

Place sensors at 6am daily for two weeks every other month for one year.

Pick up sensors at 7pm and analyze the data.

Put SD memory card from sensor into computer.

Import the data into an Excel spreadsheet named "data"

Repeat for other sensor.

For each 10 seconds subtract the treed area from the non-tree area.

Sort data for "smallest to largest" from subtraction result.

Remove negative numbers in the subtraction result.

The negative numbers are from wind gusts. We tracked this many times.

Calculate average for the day.

Repeat.

Things to note in the graph. At no time did the blue line go below the red line. On December 20th, a very dark and rainy day the difference was 9 ppm. In April through June we had very little rain. The graph shows this as lower difference. For photosynthesis we need these things, light, vegetation, moisture and carbon dioxide. Experiment Summary: This experiment proves we can plant native trees and shrubs instead of grass and they will eventually consume all the carbon dioxide from the vehicles. This is applicable for $\pm 50^\circ$ from the equator.

We have an experiment on US 26 eastbound just west of Portland, Oregon. A permit obtained from Oregon Department of Transportation. These sensors are NIST certified and calibrated within one part per million. Graph 4 shows the rate of rise of atmospheric carbon dioxide less than 3 ppm/yr. The blue line represents the difference between the forested area and a minimal forested area. Each location has a wind directional measurement. This measurement can confirm bad data from crosswind for example. This experiment proves we can plant native shrubs and trees by roads and freeways instead of grasses. This freeway has 161,000 autos per day on it, and approximately 460 autos exit (Sylvan exit 71) per day between the two sensor locations. The final day of testing for the first year was 6/12/2021.

Procedure:

Place sensors at 6am daily for two weeks every other month for one year.

Pick up sensors at 7pm and analyze the data.

Put SD memory card from sensor into computer.

Import the data into an Excel spreadsheet named "data"

Repeat for other sensor.

For each 10 seconds subtract the treed area from the non-tree area.

Sort data for "smallest to largest" from subtraction result.

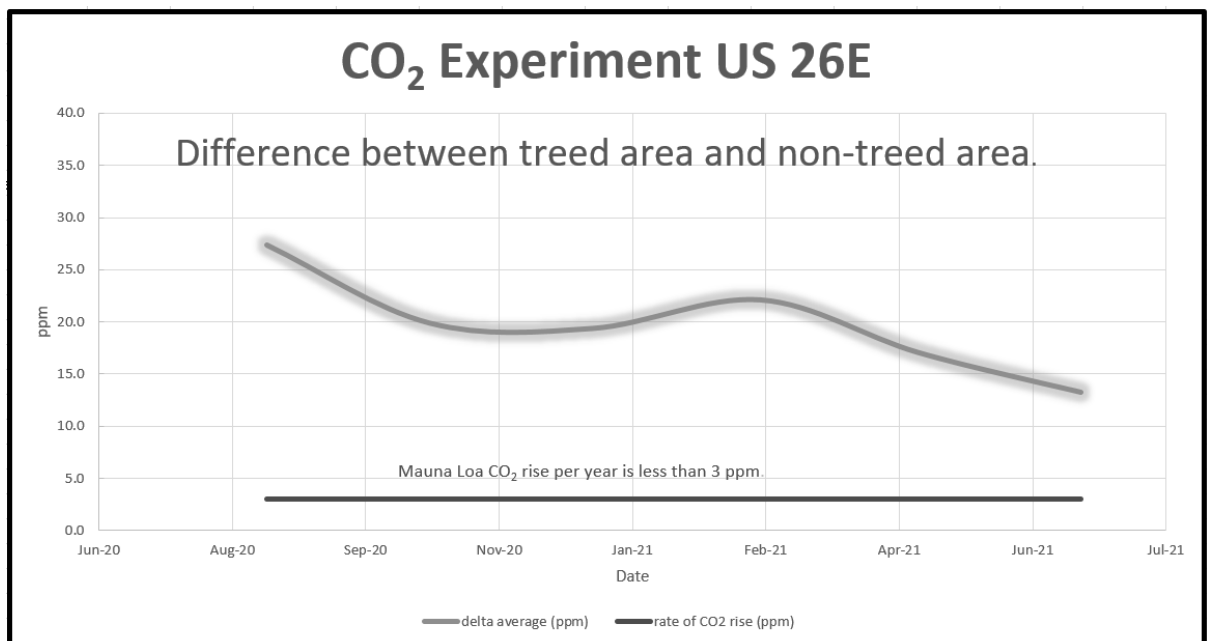
Remove negative numbers in the subtraction result.

The negative numbers are from wind gusts. We tracked this many times.

Calculate average for the day.

Repeat.

Things to note in the graph. At no time did the blue line go below the red line. On December 20th, a very dark and rainy day the difference was 9 ppm. In April through June we had very little rain. The graph shows this as lower difference. For photosynthesis we need these things, light, vegetation, moisture and carbon dioxide. Experiment Summary: This experiment proves we can plant native trees and shrubs instead of grass and they will eventually consume all the carbon dioxide from the vehicles. This is applicable for $\pm 50^\circ$ from the equator.



Graph 4. Forested vs. non-forested area photosynthesis results 1st year.

I will hire another person a graduate and undergraduate in science and with two sets of carbon dioxide sensors, we will measure carbon dioxide during rush hour at two locations with the same traffic. This experiment will further their education. Oregon is the perfect place for this type of study. Oregon, Washington and California have unique locations where the freeways go through non-forested areas and then into forested areas. An example is US-26, just west of Portland Oregon is such an area. The picture below shows the heavily forested area.

The author has extensive knowledge of instrumentation and data gathering. This instrumentation is carbon dioxide meters. The data collected by these instruments is precise and straightforward.

Before working on Climate Change, the author worked in Semiconductor lithography. In this role for 25 years, he ran thousands of experiments using advanced instrumentation. Additionally, he is an expert analysis of very large data.

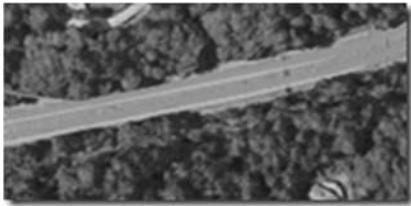


Image 3. Google Earth Forested area along US 26 East just west of Portland Oregon.

Broader Impacts

Many experiments have been done to show atmospheric carbon dioxide increases during rush hours and decreases in-between rush hours. This experiment has determined the effect of increased photosynthesis on this process. The funding is to pay for more than 500 hours of research in the past year. Also to pay for the equipment and continuous NIST traceable calibration. Our partner, Oregon Department of Transportation has provided another year permit to verify this transformative data. I have presented these findings at many Climate Change Conferences like the one July 30th 2021 (18, slide 33). This research benefits society by lowering atmospheric carbon dioxide to 330 ppm by 2031. Anyone including underrepresented groups can plant a native tree and/or shrub. Schoolchildren can plant and establish native trees and shrubs near roadways.

References in order of use in the document.

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12. Singh H, Yadav M, Kumar N, Kumar A, Kumar M (2020) Assessing adaptation and mitigation potential of roadside trees under the influence of vehicular emissions
13. D. White 2020 Statistical regression <https://issues.pangaea.de/secure/attachment/142070/regression.xlsx>
14. Fick's diffusion 2018 <http://cctruth.org/Ficks%20diffusion.pdf>
15. Machida et al. 2002 VERTICAL AND MERIDIONAL DISTRIBUTIONS OF CO₂
<https://ps.uci.edu/~rowlandblake/publications/177.pdf>
16. Takahashi, Taro et al. 2008 Climatological mean and decadal change in surface ocean pCO₂, and net sea-air CO₂ flux over the global oceans. <https://doi.org/10.1016/j.dsr2.2008.12.009>
17. D. White. First year data. <https://issues.pangaea.de/browse/PDI-29324>
18. D. White, https://cctruth.org/Keynote_AES_7_30_21.pdf
19. [The Essential Role of Photosynthesis in Defining Net Zero Carbon Dioxide Emissions for Equilibrium Calculations \(omicsonline.org\)](https://cctruth.org/Keynote_AES_7_30_21.pdf)

Effective 10/04/2021

NSF BIOGRAPHICAL SKETCH

OMB-3145-0058

NAME: Professor Dave White

POSITION TITLE & INSTITUTION: Educator at kingswayschool.us and Researcher ctruth.org

A. PROFESSIONAL PREPARATION - (see PAPPG Chapter II.C.2.f.(i)(a))

INSTITUTION	LOCATION	MAJOR/AREA OF STUDY	DEGREE (if applicable)	YEAR (YYYY)
Oregon State University	Corvallis	Chemical Engineering	BS	1984
Oregon State University	Corvallis	Statistics	MS	1984
Oregon State University	Corvallis	Environmental Engineering	PhD	2024

B. APPOINTMENTS - (see PAPPG Chapter II.C.2.f.(i)(b))

From - To	Position Title, Organization and Location
2016 to now	Climate Change Truth Inc.

C. PRODUCTS - (see PAPPG Chapter II.C.2.f.(i)(c)) Products Most Closely Related to the Proposed Project

Experiment on US26E with Oregon Department of Transportation. 2 NIST certified sensors calibrated within 1 ppm

Other Significant Products, Whether or Not Related to the Proposed Project

D. SYNERGISTIC ACTIVITIES - (see PAPPG Chapter II.C.2.f.(i)(d))

Other Personnel Biographical Information

Data Not Available

SUMMARY PROPOSAL BUDGET

YEAR 1

ORGANIZATION Climate Change Truth Inc.				FOR NSF USE ONLY			
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Dave White				PROPOSAL NO. 2313684	DURATION (months)		
				AWARD NO.	Proposed	Granted	
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
				CAL	ACAD	SUMR	
1. Dave White - Principal Inv				12.0			175,000
2.							
3.							
4.							
5.							
6. () OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)				0.0			0
7. (1) TOTAL SENIOR PERSONNEL (1 - 6)				12.0			175,000
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (1) POST DOCTORAL SCHOLARS				10.0			100,000
2. () OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)							
3. () GRADUATE STUDENTS							
4. () UNDERGRADUATE STUDENTS							
5. () SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)							
6. () OTHER							
TOTAL SALARIES AND WAGES (A + B)							275,000
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							275,000
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.) Nist calibrated CO2 sensors, recalibration, computers							\$ 11700.0
TOTAL EQUIPMENT							11,700
E. TRAVEL 1. DOMESTIC (INCL. U.S. POSSESSIONS)							0
2. INTERNATIONAL							0
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$ 0							
2. TRAVEL 0							
3. SUBSISTENCE 0							
4. OTHER 0							
TOTAL NUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS							0
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							10,000
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							10,000
H. TOTAL DIRECT COSTS (A THROUGH G)							296,700
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)							
TOTAL INDIRECT COSTS (F&A)							0
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							296,700
K. FEE							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							296,700
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PD NAME Dave White				FOR NSF USE ONLY			
ORG. REP. NAME* Dave White				INDIRECT COST RATE VERIFICATION			
				Date Checked	Date Of Rate Sheet	Initials - ORG	

*ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

SUMMARY PROPOSAL BUDGET

Cumulative

ORGANIZATION Climate Change Truth Inc.				FOR NSF USE ONLY			
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Dave White				PROPOSAL NO. 2313684	DURATION (months)		
				AWARD NO.	Proposed	Granted	
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
				CAL	ACAD	SUMR	
1. Dave White - Principal Inv				12.0			175,000
2.							
3.							
4.							
5.							
6. () OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)							
7. (1) TOTAL SENIOR PERSONNEL (1 - 6)				12.0			175,000
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (1) POST DOCTORAL SCHOLARS				10.0			100,000
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)				0.0			0
3. (0) GRADUATE STUDENTS							0
4. (0) UNDERGRADUATE STUDENTS							0
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)							0
6. (0) OTHER							0
TOTAL SALARIES AND WAGES (A + B)							275,000
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							275,000
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT							11,700
E. TRAVEL 1. DOMESTIC (INCL. U.S. POSSESSIONS)							0
2. INTERNATIONAL							0
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$ 0							0
2. TRAVEL 0							0
3. SUBSISTENCE 0							0
4. OTHER 0							0
TOTAL NUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS							0
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							10,000
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							10,000
H. TOTAL DIRECT COSTS (A THROUGH G)							296,700
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)							
TOTAL INDIRECT COSTS (F&A)							0
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							296,700
K. FEE							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							296,700
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PD NAME Dave White				FOR NSF USE ONLY			
ORG. REP. NAME* Dave White				INDIRECT COST RATE VERIFICATION			
				Date Checked	Date Of Rate Sheet	Initials - ORG	

*ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

Organization Name: Climate Change Truth, Inc.

Organization ID: 6250042269, Contact's Name: Dave White, NSF ID: 000758784
Budget Justification

This budget is for three years. First year we will confirm the last year's data. The second year we will move to around 75 degrees' north latitude and perform the experiment again. The third year we will verify the data from the second year. Then we will write a manuscript which contains all the experiment data and analysis. Then publish that manuscript. The funding requested for this is below.

First year.

Dr E and Dr. White	\$125,000
Research assistant	\$50,000
Total	\$175000

Second Year.

Dr E and Dr. White	\$125,000
Research assistant	\$50,000
Total	\$175000

Third Year.

Dr E and Dr. White	\$125,000
Research assistant	\$50,000
Total	\$175000

Effective 10/04/2021 NSF CURRENT AND PENDING SUPPORT

OMB-3145-0058

*PI/co-PI/Senior Personnel Name: David White

***Required fields**

Note: NSF has provided 15 project/proposal and 10 in-kind contribution entries for users to populate. Please leave any unused entries blank.

Project/Proposal Section:

Current and Pending Support includes all resources made available to an individual in support of and/or related to all of his/her research efforts, regardless of whether or not they have monetary value.^[1] Information must be provided about all current and pending support, including this project, for ongoing projects, and for any proposals currently under consideration from whatever source, irrespective of whether such support is provided through the proposing organization or is provided directly to the individual. This includes, for example, Federal, State, local, foreign, public or private foundations, non-profit organizations, industrial or other commercial organizations, or internal funds allocated toward specific projects. Concurrent submission of a proposal to other organizations will not prejudice its review by NSF, if disclosed.^[2]

[1] If the time commitment or dollar value is not readily ascertainable, reasonable estimates should be provided.

[2] The Biological Sciences Directorate exception to this policy is delineated in PAPPG Chapter II.D.2.

Projects/Proposals**1.*Project/Proposal Title :** Broader Impacts

Many experiments have been done to show atmospheric carbon dioxide increases during rush hours and decreases in-between rush hours. This experiment has determined the effect of increased photosynthesis on this process. The funding is to pay for more than 500 hours of research in the

*Status of Support : ☒ Current ☐ Pending ☐ Submission Planned ☐ Transfer of Support

Proposal/Award Number (if available):

*Source of Support: none

*Primary Place of Performance : Portland Oregon

Project/Proposal Start Date (MM/YYYY) (if available) :

Project/Proposal End Date (MM/YYYY) (if available) :

*Total Award Amount (including Indirect Costs): \$ 623

*Person-Month(s) (or Partial Person-Months) Per Year Committed to the Project

*Year (YYYY)	*Person Months (##.##)	Year (YYYY)	Person Months (##.##)
1. 2	12.00	4.	
2. 2	12.00	5.	
3.			

*Overall Objectives : This experiment has completed its 2nd year. The data collected moved the hypothesis to theory and then to scientific law with over 4.5 million data points collected and analyzed each year. This data was collected, analyzed and stored online

This proposal is to move the experiment to the East Coast of the United States at approximately 50 degrees north and collect data for two more years. In the future, with other funding, we want to move this experiment to 70 degrees north or so

*Statement of Potential Overlap : None

Climate Change Truth Research Inc.
3313 W. Cherry Dr. Ste 1040 Meridian, ID 83624
Dave White President

Organization Name: Climate Change Truth Research Inc.

Organization Id: 6250042269

Contact's Name: Dave White

Contact's NSF ID: 000758784

Facilities, Equipment, and Other Resources

Cctruth.org will provide carbon dioxide sensors.

Climate Change Truth Research Inc.
3313 W. Cherry Dr. Ste 1040 Meridian, ID 83624
Dave White President

Organization Name: Climate Change Truth Research Inc.

Organization Id: 6250042269

Contact's Name: Dave White

Contact's NSF ID: 000758784

Data Management Plan

Climate Change Truth Inc. 3313 W. Cherry Dr. Ste 1040 Meridian, ID 83624 Dave White President
Organization Name: Climate Change Truth Inc. Organization Id: 6250042269 Contact's Name: Dave White Contact's NSF ID: 000758784 Data Management Plan The type of data will be digital. MS Office type software is used. Policy for access and sharing: All data collected, and all reports will reside on a Unix server with nightly backup. We plan to submit an interim summary document and a final summary document. Policy for re-use etc: We will allow downloading of the data from our website cctruth.org Archiving data: Backup of data to a thumb drive will occur nightly as a scheduled cron job. The Biological and Chemical Oceanography Data Management Office (also known as "BCO-DMO") will have the data upon completion of the project. <http://www.ncei.noaa.gov/>

Climate Change Truth Research Inc.
3313 W. Cherry Dr. Ste 1040 Meridian, ID 83624
Dave White President

Organization Name: Climate Change Truth Research Inc.

Organization Id: 6250042269

Contact's Name: Dave White

Contact's NSF ID: 000758784

Mentoring Plan

Post-doctoral members will attend conferences and submit papers to those conferences. They will also mentor the other staff members.

Proposal

Organization Name: Climate Change Truth, Inc.

Organization ID: 6250042269, Contact's Name: Dave White, NSF ID: 000758784

Collaborative research: Measure CO₂ levels during rush hour on freeways in forested areas and non-forested areas.

Overview

The residence time for atmospheric CO₂ has increased to 150 years. (1) The published manuscript is a summary of 19 published manuscripts. This is why we suspect that everything we have accomplished with reduction of CO₂ emissions has had little to no measureable effect on Mauna Loa CO₂. Therefore, we seek to prove that the only way to lower atmospheric CO₂ is to increase photosynthesis. One such way is to plant native trees and shrubs instead of grass next to freeways and highways. This research attempt to quantify that effect.

Intellectual Merit

This proposal is very important to advance scientific knowledge: first, the residence time of atmospheric carbon dioxide is 150 years and second how planting 4 billion trees in the past two years is effecting atmospheric CO₂ in a positive way.

Atmospheric Carbon Dioxide residence time

In a 2003 IPCC report (2), The Intergovernmental Panel on Climate Change gave a range of 5 years to 200 years for residence time, which can be a range of time. However, most Chemical Engineers use average residence time. That is what we are interested in. We need to know on average how long it takes a molecule to be consumed by photosynthesis, diffused to the exosphere, or captured by oceans. This time is at least 150 years.

Residence Time (Years)	Author	Year
700	Allen	2009
610	Zickfeld	2013
500	Matthews	2008
300	Plattner	2008
270	Cao	2010
230	Zickfeld	2012
220	Solomon	2012
220	Knutti	2012
210	Gillett	2011
180	Frolicher	2010
150	Hare	2006

This represents 19 published manuscripts summarized in 1 published manuscript. Over 160 Ph. D.'s

Even at a residence time of 100 years, atmospheric CO₂ never lowers as a result of working on emissions. Constraints for this chart.

45% reduction in fossil fuel CO₂ emissions by 2030

55% reduction in fossil fuel CO₂ emissions by 2130 due to depletion of those fuels.

2030 45% reduction in the rate of rise of Atmospheric CO₂.

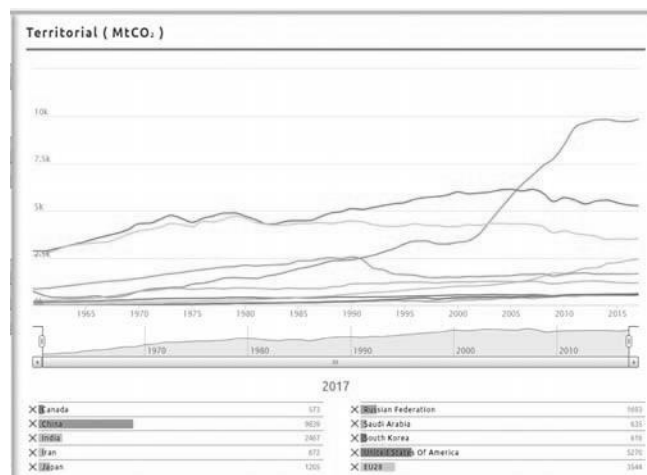
2130 45% reduction in CO₂ concentration

2230 55% reduction in CO₂ concentration and rate.

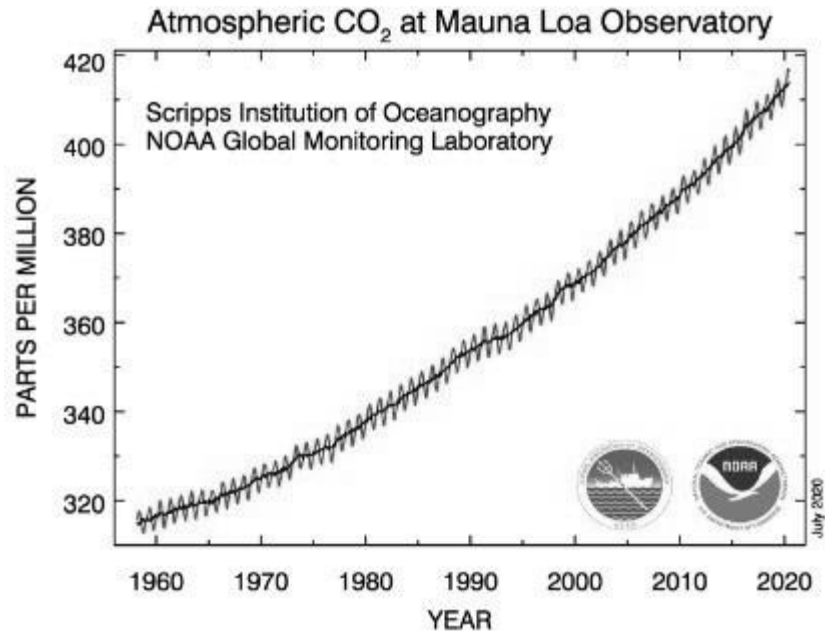
Another way to look at residence time is a signature from past events, which lowered CO₂ emissions. For example the oil embargo in the 1970's, multiple recessions and the big worldwide recession in 2009. The current COVID-19 pandemic. These are examples of lowered worldwide emissions. Below is the current graph of Mauna Loa CO₂. You can clearly see no signature from these events.

USA 2006: 6131 MtCO₂ and in 2018: 5270 MtCO₂ --a **16% decrease of CO₂**.

Europe 1990: 4479 MtCO₂ and in 2018: 3544 MtCO₂ --a **21% decrease of CO₂**.



Global Carbon atlas

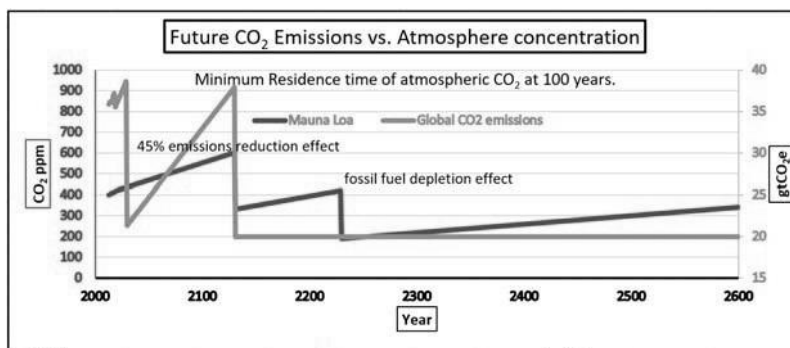


Graph 1. <https://www.esrl.noaa.gov/gmd/ccgg/trends/mlo.html>

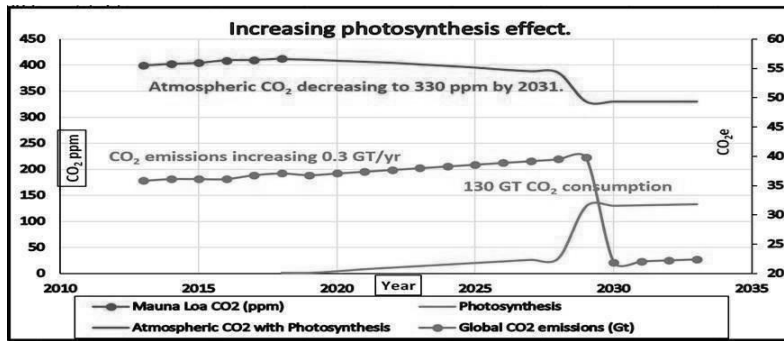
Why is the residence time increasing? Because of massive worldwide non-sustainable deforestation (3).

A selection of manuscripts: Northern Hemisphere forests are not consuming nearly as much carbon dioxide as most climate change scientists claim. (Northern Hemisphere (NH) forests consume 2.6 gtyr⁻¹ (2.6 billion tons per year) of carbon dioxide. We have 36 gtyr⁻¹ (36 billion tons per year) in CO₂ emissions. This is not what lowers Mauna Loa in the NH summer with more economic activity and more CO₂ emissions (4).

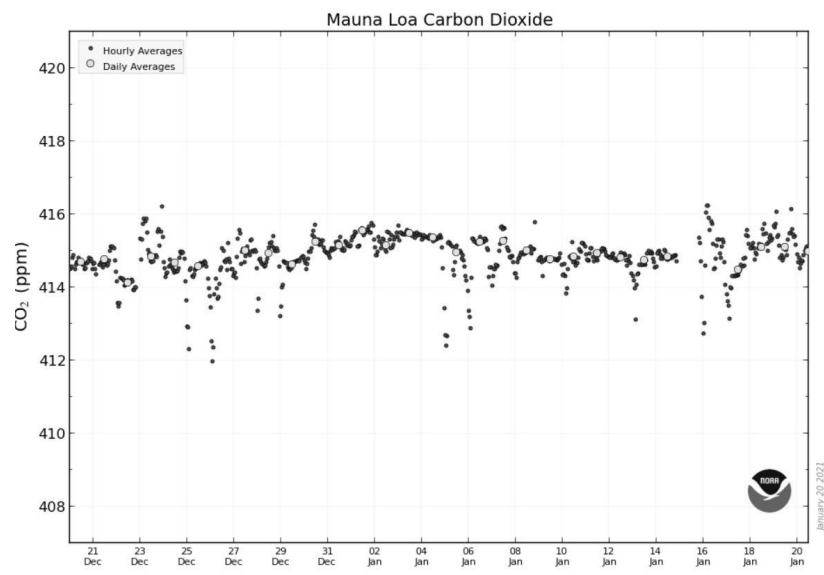
All tropical forests in the Southern Hemisphere have switched to become oxygen consumers and carbon dioxide producers due to organic decay (5).



However, atmospheric carbon dioxide lowers quickly with increasing photosynthesis. Plant native trees!



Effect of 23+ billion trees planted in the last 4 years in India, Pakistan and China. Normally Mauna Loa increases around 1.5 ppm (parts per million concentration) per month.



Many studies in recent history show roadside carbon dioxide increases during rush hour and decreases in-between (6,7,8). There have been zero studies to see the photosynthesis effect of wooded areas next to roads and the probable mitigation of that CO_2 . Some studies show a photosynthesis effect. However, that effect was not quantified. This is original research for a faster way to lower atmospheric carbon dioxide. As an example, there are zero manuscripts, which quantify how much photosynthesis will cancel how much carbon dioxide from an auto. Experimental method. Hypothesis with data goes to Theory. Theory with more data goes to scientific law. This research is also published (11, pages 7-9) This transformative research will quantify that by two methods. First, compare carbon dioxide levels in a treed vs. no tree area of the same freeway traffic over several hours. Second by calculating the photosynthesis rate in the treed area by known methods. In this way, we can use black box theory and calculate the total photosynthesis, which provides no concentration of carbon dioxide increase during rush hour. The CO_2 sensors are NIST certified. In addition, we will install wind speed and direction sensors. With this wind data, we will be able to confirm extraneous data caused by strong and/or cross winds.

How much carbon dioxide from vehicles the trees will consume is area "B"?

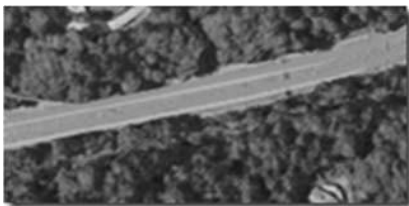
A forest in western Oregon consumes 1 metric ton (1000kg) of carbon dioxide per acre per year in the growing season (180 days). Therefore, each acre consumes 5 kg per day in daylight hours.

A vehicle traveling 30 mph (rush hour) and gets 30 mpg will produce less than 350 grams per mi (9). An acre is 66 feet by 660 feet. Therefore a vehicle will emit $350 \text{ gm/mi} \times 5280 \text{ ft/mi} \div 66 \text{ feet} = 4.38 \text{ gm}$. For 3 lane highway as in US 26 we have $4.38 \text{ gm} \times 3 = 13.1 \text{ gm}$. For 2018 (the most recent year data is available we have 161400 vehicles per year pass by the location (10). Daily 161400 vehicles per day. Assuming 80% are during the time between 6am and 7pm during the experiment. Therefore $161400 \times .80 = 129120$. Therefore, the total emissions is $13.1 \times 129120 = 1,691,472 \text{ gm}$ or 1691 kg. We have 5 kg/acre/day photosynthesis so the expected consumption of auto emissions is 1%. This is for a forested area. As the carbon dioxide road concentration increases the diffusion of said CO₂ will drive deeper into the forest. Therefore, the consumption of CO₂ will be more than 1%. The theory here is it is still 5 kg/day more consumption than grass planted. Our theory is that carbon dioxide concentration is greater at the freeway median than farther into the woods. After the first experiment, we will try to obtain a concentration gradient across the freeway at a predetermined distance off the freeway into the woods.

I calculated the Oregon forest photosynthesis just as I did for Urban sprawl, which is 1 billion metric tons of lost photosynthesis. Kenneth Mooney of NOAA and I talked on the phone. He said they had paid a grant the year before to calculate Urban sprawl photosynthesis lost and they came up with the same number!. I told him he should have asked me.

I will hire another person with inclusion, equity and diversity aspects and with two autos outfitted with CO₂ sensors, we will measure CO₂ during rush hour at two locations with the same traffic. Oregon is the perfect place for this type of study. Oregon, Washington and California have unique locations where the freeways go through vegetation-less areas and then into forested areas. An example is US-26 just west of Portland Oregon. The picture below shows the heavily forested area.

The author has extensive knowledge of instrumentation and data gathering. This instrumentation is carbon dioxide meters. Very simple to use and understand. Before working on Climate Change, the author worked in Semiconductor lithography. In this role for 25 years, he ran thousands of experiments using advanced instrumentation. Additionally expert analysis of very large data.



CO₂ concentration increases during rush hour on roads and freeways. We will measure photosynthesis increase effect with NIST calibrated CO₂ meters. We expect the forested area to show a much less peak or flat CO₂ during rush hours during the spring and summer. These times are when photosynthesis increases.

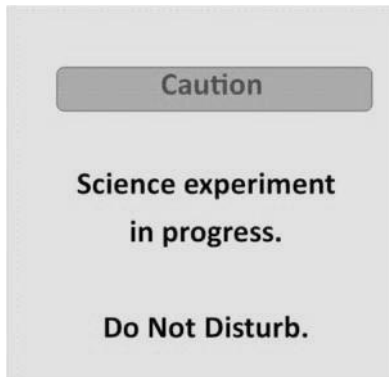
1. Drive to areas around 5am.
2. Setup meter to record to notebook pc all day. (Both rush hours)
3. Do this for weekday and weekend days
4. Analyze the data

The first location is marked with an arrow and the letter A. The second location is marked with the letter

B and an arrow.

Both locations are Eastbound on US 26 starting just east of the Highway 217 interchange.

We will use red safety cones and CO₂ meters at 18" off the ground. Also the signs below.



ACORD



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
7/20/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsements.

PRODUCER GEICO One GEICO Boulevard Fredericksburg, VA 22412	CONTACT GEICO NAME:	
	PHONE 1-866-509-9444 (A/C, No, Ext):	FAX A/C No :
	Email RICOMMEND@GEICO.COM	
	Address:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A. GOVERNMENT EMPLOYEES INSURANCE COMPANY	
INSURED DAVID WHITE DBA CLIMATE TRUTH, INC 18965 NW ILLAHE ST PORTLAND, OR 97229	INSURER B,	
	INSURER C	
	INSURER D,	
	INSURER E	
	INSURER F	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS EXCLUSIONS CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.									
INSR LTR	TYPE OF INSURANCE		ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF MM/DD/YYYY	POLICY EXP MM/DD/YYYY	LIMITS	
	COMMERCIAL GENERAL LIABILITY							EACH OCCURRENCE	
		CLAIMS-MADE						DAMAGE TO RENTED PREMISES Ea occurrence	
								MED. EXP (Any one person)	
								PERSONAL & ADV INJURY	
	GEN'L							GENERAL AGGREGATE	
								PRODUCTS - COMP/OP AGG	
	POLICY								
	OTHER	JECT							
	AUTOMOBILE LIABILITY				9100297953 oo	7/21/2020	7/21/2021	COMBINED SINGLE LIMIT Ea accident	500,
		ANY AUTO						BODILY INJURY (Per person)	
		OWNED AUTOS ONLY	X					BODILY INJURY (Per accident)	
		HIRED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	
	UMBRELLA LIAB							EACH OCCURRENCE	
	EXCESS LIAB							AGGREGATE	
	DED	RETENTION \$							
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY							PER STATUTE	OTH-
	ANY PROPRIETOR/ PARTNER/ EXECUTIVE OFFICER/ MEMBER EXCLUDED? (Mandatory in NH)							EL. EACH ACCIDENT	
	If yes, describe under DESCRIPTION OF OPERATIONS below							EL. DISEASE - EA EMPLOYEE	
								EL. DISEASE - POLICY LIMIT	
DESCRIPTION OF OPERATIONS 1 LOCATIONS 1 VEHICLES (ACORD 1 01 , Additional Remarks Schedule, may be attached if more space is required)									
THE STATE OF OREGON, T T' S DEPARTMENT OF TRANSPORTATION AND MEMBERS THEREOF, IT' S OFFICERS, AGENTS AND EMPLOYEES ARE NAMED AS ADDITIONAL INSURED.									

CERTIFICATE HOLDER

CANCELLATION

OREGON DEPARTMENT OF TRANSPORTATION 455 AIRPORT RD SE SALEM, OR 97301-5853	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE T EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED <i>igail De Jesus</i> REPRESENTATIVE R46

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ACORD25(2016/ 03)

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Oregon department of Transportation is providing a permit to perform this experiment.

Oregon Department of Transportation

PERMIT NUMBER

APPLICATION AND PERMIT TO OCCUPY OR

PERFORM OPERATIONS UPON A STATE HIGHWAY

See Oregon Administrative Rule, Chapter 734, Division 55

2BM44 6

CLASS :

KEY#

GENERAL LOCATION				PURPOSE OF APPLICATION TO CONSTRUCT/OPERATE/MAINTAIN			
HIGHWAY NAME AND ROUTE NUMBER US-26 / 471 Sunset				POLE		TYPE	
HIGHWAY NUMBER 47		COUNTY Multnomah Washington		BURIED CABLE		TYPE	
BETWEEN OR NEAR LANDMARKS US-26 EB zoo off ramp, US-26 EB @ OR-217 on ramp to US-26 EB				PIPE		TYPE	
HWY. REFERENCE MAP ODOT TransGis		DESIGNATED FREEWAY IN US, FOREST		NON-COMMERCIAL SIGN AS DESCRIBED BELOW			
APPLICANT NAME AND ADDRESS Climate Change Truth inc, Dave White 18965 NW Illahe St. Portland, OR 97229				X MISCELLANEOUS OPERATIONS AND/OR FACILITIES AS DESCRIBED BELOW			
				FOR ODOT USE BOND REQUIRED REFERENCE: a YES EI NO -0035 OAR 734-0552			
				INSURANCE REQUIRED REFERENCE: YES [2 NO OAR 035734-055			
				SPECIFIED COMP. D 7/30/2021			

DETAIL LOCATION OF FACILITY (For more space attach additional sheets)

POINT TO POINT		ENGINEERS STATION TO STATION	ENGINEERS STATION TO STATION	SIDE OF HWY OR ANGLE OF CROSSING	DISTANCE FROM		BURIED CABLE OR PIPE		spA LENG
					ENTER OFFVM	NW LINE	DEPTH/VERT.	SIZE AND KIND	
72.05 6907	72.05 69.37			Left Left					

DESCRIPTION OF DESIRED USE

Testing for CO2 concentration increases during rush hour on roads and freeways. We will measure photosynthesis increase effect with NIST calibrated CO2 meters. We expect the forested area to show a much less peak or flat CO2 during rush hours during the spring and summer these times

SPECIAL PROVISIONS (FOR ODOT USE ONLY)

TRAFFIC CONTROL REQUIRED

OPEN CUTTING OF PAVED OR SURFACED AREAS ALLOWED

YES [OAR

NO

[X] YES [OAR 734-

[X] NO [OAR 734-055-0100(1))

- ◆ AT LEAST 48 HOURS BEFORE BEGINNING WORK, THE APPLICANT OR HIS CONTRACTOR SHALL NOTIFY THE DISTRICT

REPRESENTATIVE Jim Bailey AT PHONE NO.: 971-673-6200 OR EMAIL OR FAX THIS PAGE TO THE DISTRICT OFFICE AT: D2Bupaodot.state.or.us . SPECIFY TIME AND DATE WORK IS TO OCCUR,


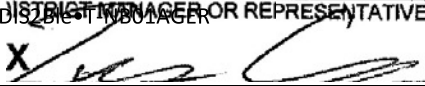
- ◆ A COPY OF THIS PERMIT AND ALL ATTACHMENTS SHALL BE AVAILABLE AT THE WORK AREA DURING CONSTRUCTION,

◆ATTENTION: Oregon Law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0001 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503) 2324987.
CALL BEFORE YOU DIG 1-800-332-2344

COMMENTS (FOR ODOT USE ONLY)

At the time of lane and/or complete roadway closure and again when the lane and/or complete roadway is opened on a state highway the Applicant or their Contractor is required to notify ODOT Traffic Management Operations Center (TMOC) 503-283-5859, If during the course of their permitted work the Applicant or their Contractor come across personal property in their work zone they need to contact their permit specialist. The personal property may not be removed by the Applicant or their Contractor. Jim Baitey 971-733-6200

IF THE PROPOSED APPLICATION WILL AFFECT THE LOCAL GOVERNMENT, THE APPLICANT SHALL ACQUIRE THE LOCAL GOVERNMENT OFFICIAL'S SIGNATURE BEFORE ACQUIRING THE DISTRICT MANAGER'S SIGNATURE,

LOCAL GOVERNMENT OFFICIAL SIGNATURE x		TITLE	DATE
Applicant x  SIGNATURE	APPLICATION DATE 7/16/2020	TITLE President Climate Change Task Force	TELEPHONE NO. 971-733-6200
When this application is approved by this Department, the applicant is subject to, accepts and agrees to the terms and provisions contained and attached; and the terms Oregon Administrative Rules, Chapter 734 Division 55. *Which is by this reference made a part of this permit.		DISTRICT MANAGER OR REPRESENTATIVE  X	APPROVAL DATE 7-21

0199

By this signature applicant accepts all checked (8) provisions (4 pages).

Applicant signature: 	Date: 07/16/2020
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2BM44657

Oregon Department of Transportation 48HR. Work Notice

District 2B Permit Work Information

Permit #: 2BM44657

Please return this form via email to address shown at right: d2bup@odot.state.or.us (District 2B Permitting) Or Fax to [503.653.5655](tel:503.653.5655)

Applicant Name:

Received Info From:

Phone:

Contractor:

Contractor Contact:

Contractor Phone:

24-Hr Emergency#:

Name of Highway: Location & Mile point:
Direction of Travel:
Nature of work being done:

Is a Traffic Signal shut off required
(Yes / No)? Signal shut off
duration?

Less than 4 hours? More than 4 hours?

Type of traffic control / restriction / lane closures:

Work Duration (Start/Finish Dates and Work Hours):

Will Traffic impacts remain in place after work hours (i.e. plates, cones, etc.)?

MOTOR CARRIER INFO

Will Freight Mobility be affected?

Height Restriction- Feet: Inches: (Legal Height is 14' 0")

Width Restriction- Feet: Inches: (Legal Width is 14' 0")

ODOT DISTRICT 2B | 9200 SE Lawnfield Rd. Clackamas OR 97015 | (971) 673.6200 office | (503)
653.5655 fax

We will use NIST certified sensors. Both sensor certificates are below.

Quality & Calibration Report



131 Business Center Drive, A-3
Ormond Beach, FL 32174
TEL: 386.256.4910 | 386.310.4933 M-F 9-5pm EST
FAX: 866.422.2356

EMAIL: support@co2meter.com | www.co2meter.com

7/16/2020

16496

Climate Change Truth Inc

Item	Qty	Serial Number	Calibration Gas	Reading	Data-Logging Test
CM-501 CO2 PORTABLE 1 DIFFUSION CO2/Temp /Rh/Baro		E9113000035	Nitrogen 100% ($\pm 0.015\%$) P/N NITZA1 LOT # 304-401726518-1	0 ppm ± 10 ppm	Pass
			CO2 400 PPM (± 50 PPM) P/N X02NI99CTA10015 LOT# KBJ-X02NI99CTA10015-1	5,000 ppm (± 50 ppm)	Pass

This instrument has been factory Inspected , Tested & Calibrated
in accordance with the conditions and requirements of our Quality System,
Operating Standards & Sales Agreements.

Certificate of Calibration and Testing

Date:

Order Number:

Customer:

QA Inspector

We are committed to providing a quality product. This instruments has undergone rigorous testing throughout its manufacture. All calibration gases are traceable to industries standards. **Note** This certificate is valid for 180 days from the date issued.

Calibration of this device is traceable to NIST standards



Quality & Calibration Report

131 Business Center Drive, A-3

Ormond Beach, FL 32174

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 **CO2Meter.com**
CO2 Measurement Specialists

Certificate of Calibration and Testing

Date:

Order Number:

Customer:

QA Inspector

We are committed to providing a quality product.

This instrument has undergone rigorous testing throughout its manufacture.

7/16/2020

16496

Climate Change Truth Inc

Item	Qty	Serial Number	Calibration Gas	Reading	Data-Logging T
CM-501					
CO2 PORTABLE1		E9113000038	Nitrogen 100% ($\pm 0.015\%$)	0 ppm 10 ppm	Pass
DIFFUSION			P/N NITZA1		
CO2/Temp			LOT # 304-401726518-1		
/Rh/Baro					
			CO2 400 PPM (± 50 PPM)	5,000 ppm (± 50 ppm)	Pass
			P/N X02NI99CTA10015		
			LOT# KBJ-X02NI99CTA10015-1		




All calibration gases are traceable to industries standards.

This instrument has been factory Inspected , Tested & Calibrated in accordance with the conditions and requirements of our Quality System, Operating Standards & Sales Agreements.

****Note**** This certificate is valid for 180 days from the date issued.

Calibration of this device is traceable to NIST standards





Schedule

August 2020

Acquire equipment

1 week testing US 26 east bound.

1 week testing US 26 westbound.

1 week analyze data.

December 2020

1 week testing US 26 east bound.

1 week testing US 26 westbound.

1 week analyze data.

February 2021

1 week testing US 26 east bound.

1 week testing US 26 westbound.

1 week analyze data.

May 2021

1 week testing US 26 east bound.

1 week testing US 26 westbound.

1 week analyze data.

June 2021

Work on manuscript

August 2021

Publish in Journal

Present at a conference.

Broader Impacts

Many experiments have been done to show atmospheric CO₂ increases during rush hours and decreases in-between rush hours. This experiment will determine the effect of increased photosynthesis on this process. Once the first year's data is collected, I will present that at a conference(s) and share with interested scientists. I will also share these research findings with The Intergovernmental Panel on Climate Change (IPCC) scientists and other scientists by email. This research benefits society by lowering atmospheric carbon dioxide to 330 ppm by 2031. Anyone including underrepresented groups can plant a native tree and/or shrub. Schoolchildren can plant and establish native trees and shrubs near roadways.

Additional Broader Impacts are the ipcc.pdf, which shows The Intergovernmental Panel on Climate Change reports are science fiction. In addition, the Nature Climate Change journal has been a farce journal. Before my helping him get fired their Chief Editors Ph. D. was in Political Science. Any manuscript published in that journal which references the IPCC reports must be considered garbage science. Anything which does that is the past few years especially. In addition, the keynote_address.pdf is the Keynote Address I presented at a conference July 17 and was well liked. Three more conferences in August I will present it.

References

1. Unrealized Global Temperature Increase: Implications of Current Uncertainties, Schwartz, S. E. J. Geophys. Res. , 2018, doi: 10.1002/2017JD028121. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017JD028121>
2. IPCC 2003 report <https://archive.ipcc.ch/ipccreports/tar/wg1/016.htm>
3. <http://Globalforestwatch.org/map>
4. <http://www.eeb.cornell.edu/goodale/2002%20GoodaleEcolAppl.pdf>
5. <https://science.sciencemag.org/content/358/6360/230/tab-pdf>
6. Local-scale fluxes of carbon dioxide in urban environments: methodological challenges and results from Chicago C.S.B. Grimmonda,*, T.S. Kinga, F.D. Copleya, D.J. Nowakb, C. Souchc
7. An intensive two-week study of an urban CO₂ dome in Phoenix, Arizona, USA Craig D. Idsoa, Sherwood B. Idsoa,*, Robert C. Balling Jr.a
8. Clarke, J.F., Faoro, R.B., 1966. An evaluation of CO₂ measurements as an indicator of air pollution. Journal of the Air Pollution Control Association 16,212-218.
9. <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100YVFS.pdf>
10. https://www.oregon.gov/odot/Data/Documents/TVT_complete_2018.pdf
11. White et al. <https://www.omicsonline.org/open-access/the-essential-role-of-photosynthesis-in-defining-net-zero-carbon-dioxide-emissions-for-equilibrium-calculations-118356.html>

Collaborators

Randy Beers Physics

John Neighbors ME

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Dr. Sung Hee Joo

Ginés Marco Ph. D. Philosophical Anthropology

List of Suggested Reviewers

Data Not Available

List of Reviewers Not to Include

Data Not Available