

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.

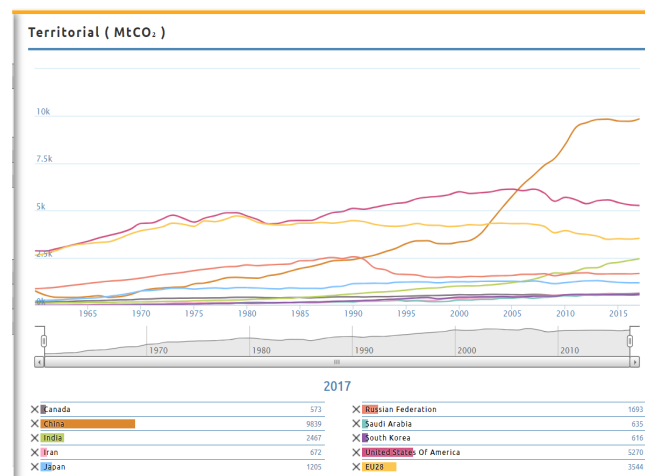
2130 45% reduction in CO₂ concentration

2230 55% reduction in CO₂ concentration and rate.

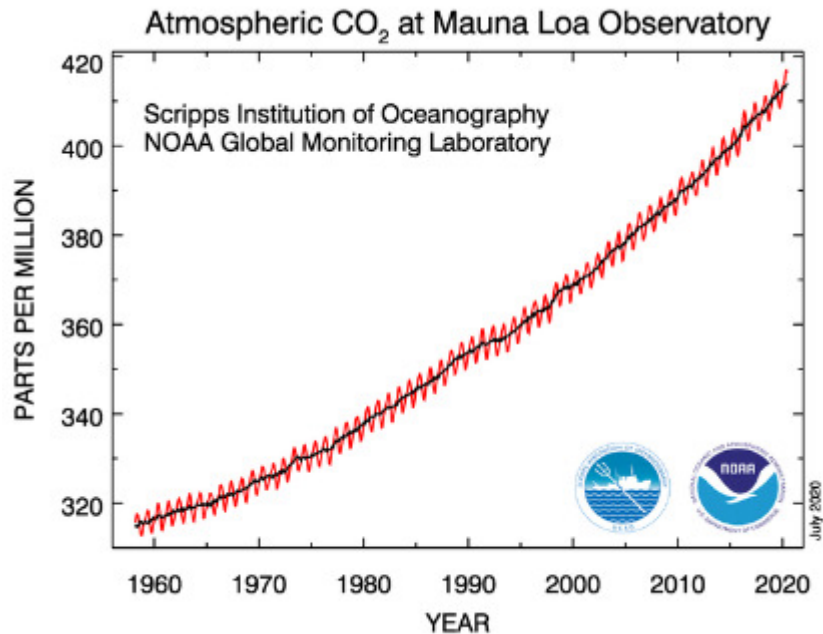
Another way to look at residence time is a signature from past events, which lowered CO₂ emissions. For example the oil embargo in the 1970's, multiple recessions and the big worldwide recession in 2009. The current COVID-19 pandemic. These are examples of lowered worldwide emissions. Below is the current 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

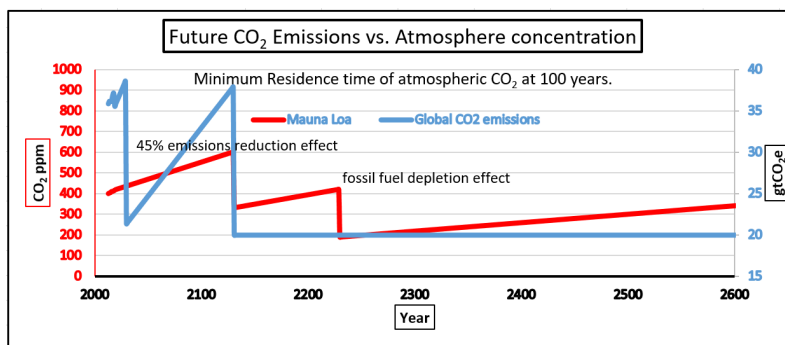


Graph 1. <https://www.esrl.noaa.gov/gmd/ccgg/trends/mlo.html>

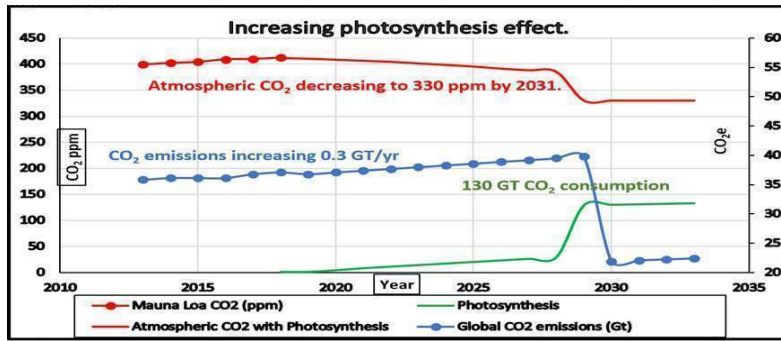
Why is the residence time increasing? Because of massive worldwide non-sustainable deforestation (3).

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).

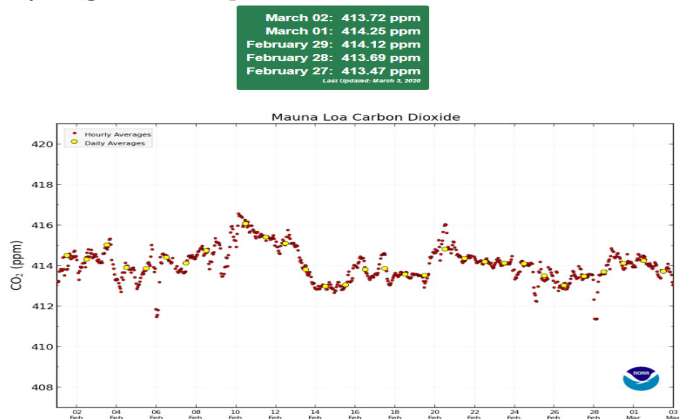


However, atmospheric carbon dioxide lowers quickly with increasing photosynthesis. Plant native trees!



Effect of 4+ billion trees planted in the last 20 months in India, Pakistan and China. Normally Mauna Loa increases around 1.5 ppm (parts per million concentration) per month.

Recent Daily Average Mauna Loa CO₂



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 CO₂. 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. 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 CO₂ 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"?

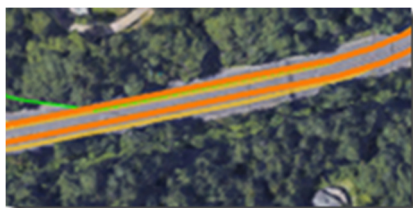
A forest in western Oregon consumes 1 metric ton (1000kg) of carbon dioxide per acre per year in the growing season (180 days). Therefore, each acre consumes 5 kg per day in daylight hours.

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 66 feet. Therefore a vehicle will emit $350 \text{ gm/mi} \times 5280 \text{ ft/mi} / 66 \text{ feet} = 4.38 \text{ gm}$. 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.

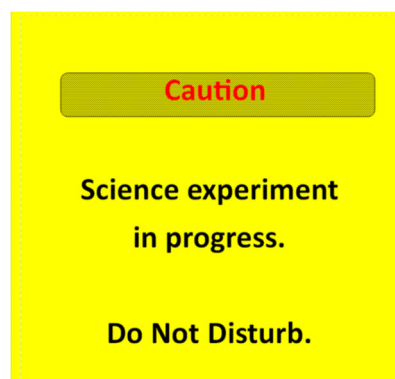
1. Drive to areas around 5am.
2. Setup meter to record to notebook pc all day. (Both rush hours)
3. Do this for weekday and weekend days
4. Analyze the data

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 endorsement s .

PRODUCER GEICO One GEICO Boulevard Fredericksburg, VA 22412	CONTACT GEICO NAME:	
INSURED CHANGE DAVID WHITE DBA CLIMATE TRUTH, INC 18965 NW ILLÄHE ST PORTLAND, OR 97229	PHONE 1-866-509-9444 (AIC, No, Ext):	FAX AIC No :
	Email RICOMMEND@GEICO.COM	
	Address:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A. GOVERNMENT EMPLOYEES INSURANCE COMPANY	
	INSURER B,	NAIC #
	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 OCCUR						DAMAGE TO RENTED PREMISES Ea occurrence	
								MED. EXP (Any one person)	
								PERSONAL & ADV INJURY	
	GEN'L							GENERAL AGGREGATE	
		AGGREGATE LIMIT APPLIES PER.						PRODUCTS - COMP/OP AGG	
	POLICY	PRO- LOC							
	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)	
		SCHEDULED AUTOS							
		NON-OWNED AUTOS ONLY							
	UMBRELLA LIAB EXCESS LIAB							EACH OCCURRENCE	
		OCCUR CLAIMS-MADE						AGGREGATE	
	DED	RETENTION \$							
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY YIN							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 THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED

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. DATE 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		SPAN LENGTH
				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

YES [OAR

NO

☒ YES [OAR 734-

☒ NO [OAR 734-055-0100(1))

OPEN CUTTING OF PAVED OR SURFACED AREAS ALLOWED

◆ 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: D2Bup@odot.state.or.us . SPECIFY TIME AND DATE WORK IS TO OCCUR,

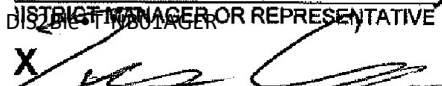
◆ A COPY OF THIS PERMIT AND ALL ATTACHMENTS SHALL BE AVAILABLE AT THE WORK AREA DURING CONSTRUCTION,

◆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 971-573-6200

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. 971-446-57
When this application is approved by the 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  DISTRICT MANAGER	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](tel:386.256.4910) | [386.310.4933](tel: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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7/16/2020

16496

Climate Change Truth Inc

Item	Qty	Serial Number	Calibration Gas	Reading	Data-Logging Te
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.
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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