

Solution

Climate Change

by Buddy Paul

To find the Solution the Cause must be known.

On the planet earth it is perceived that the increased carbon dioxide emitted into the atmosphere is the Cause. Assuming that, then we need to know what level of carbon dioxide is best for the planet and their inhabitants.

Plants or Animal, Plants on land and in the ocean want more carbon dioxide to be released into the atmosphere. Scientific results show most plants can grow much faster and bigger in a high content of carbon dioxide level. They can tolerate levels up to 5 times todays level and more, but they are not posting any complaints on social media or news outlets. Most animals are also silent on this issue except humans. Most of them believe we need to control levels of carbon dioxide in order have ideal Climate.

To find the BEST Solution we need to use our human intelligence.



Let's look at the levels of carbon dioxide in our historical data and find a level that will be ideal for all. Human active with the industrial revolution is believed to be the Cause. Here is one request from: "RightOnQ32 @RightOnQ42 Replying to @BuddyPaul9 and @elonmusk about 1000-2000ppm co2 sounds about right. We are getting there but not quite there yet. Hang in there. We may get there someday. 3:35 PM · Dec 7, 2022"

1000 sounds a little high for me. The concentration of carbon dioxide in Earth's atmosphere is currently at nearly 412 parts per million (ppm) and rising. This represents a 47 percent increase since the beginning of the Industrial Age, when the concentration was near 280 ppm, and an 11 percent increase since 2000, when it was near 370 ppm.

The atmospheric CO2 concentration increased 2.5 parts per million (ppm) in 2021 and is projected to increase by around 2.5ppm in 2022, resulting in global atmospheric concentrations of 417.2ppm on average for the year. This represents an increase in atmospheric CO2 of around 51%, relative to pre-industrial levels

Holding CO2 at no more than 430 ppm should allow the world to avoid overshooting the 1.5-degree goal. At current rates, though, that level of atmospheric carbon is just a few years away.

The total mass of Earth's atmosphere is about 5.5 quadrillion tons. In a whole number 5,500,000,000,000,000 tons. CO2 makes up only about 0.04% of the atmosphere. Total mass of CO2 220,000,000,000,000 tons today.

Accommodating plants and a moderate stable human climate temperature with a .03% CO2 may be the ideal level. Then we will need an average 165,000,000,000,000 tons in the atmosphere.



Today's total mass of Carbon Dioxide of 220,000,000,000,000 tons in the air needs to be reduced to 165,000,000,000,000 tons. To a stabilize Climate temperature and prevent the global warming effect we need to remove 55,000,000,000,000 tons from today's atmosphere. This level of 300 parts per million will then have the theoretical beginning Industrial Age era.

To reduce this amount of CO2 in one year the daily amount of 150,684,931,507 tons required. To stretch it out to 10 years the daily amount will be 15,068,493,151 tons that's 15 billion a day. That is a lot!

The above amount above is for the Carbon Dioxide that is in the air now. We need to add the amount of increase of 2.5 ppm that will be added to the total in the coming years. This amount is 1,375,000,000,000 tons a year.

Breaking down the daily addition to be removed for new CO2 released into the air is 3,767,123,288 tons. After we clear the air of the past CO2 collection we will have to put in a place a system that will handle 4 billion tons a day.

To find the amount of work we need to do to correct the Solution.

On a continuous basis we need to capture 4 billion tons a day and for a 10 year period additional 19 billion tons a day. Total amount for the next ten years 23 billion tons a day.

After ten years we will have to put our human intelligence back in action to make sure we don't create another Climate Crisis "The Ice Age". The daily requirement of 5 billion tons may be ideal with an increased factor of 1.78 ppm.

5 billion or 23 billion tons of CO2 removal per day is a tall order but don't worry, Pollution Controls has the technology to do that and more.



Pollution Controls system does do more, it produces \$14.38 for every ton of Carbon Dioxide it captures. That value is based on selling the electricity it makes at \$.05 per kilowatt hour.

That value \$14.38 is the profit for just capturing the CO2 from the atmosphere published in "Game Plan Carbon Capture Sequestering CO2-XPRIZE" by Buddy Paul.

The value in the total system will be added to the gross profit when the sequester process other assets are added in. The total value will be released in the "Now we have it, what to do with it" is published. I can give you a little hint (it's worth Diamonds).

Profit from capturing Carbon Dioxide with "Cryogenic Pump Collector" will be \$216,684,931,507 for 10 years until historical CO2 is captured. Thereafter daily profit will be \$54,171,232,877 until reevaluating is performed.

Putting a perspective on this amount, the National Dept of \$31,310,795,117,652 could be paid in full in just 144 days. After 10 years profit would be able to pay this amount off in 578 days.

Current Gross Domestic Product of \$22,854,594,976,388 can be achieved in 105 days. After all historical CO2 is captured it will take 422 days to equal the GDP of 2022.

Other than making electricity from capturing CO2, Pollution Controls system will produce products. These items water, oxygen and graphite are valuable commodities. Next page data log the and capital requirements.



	CO2 %	
Air Earths Mass	&	CO2 Mass
5,500,000,000,000,000	0.04	220,000,000,000,000
220,000,000,000,000		
0.04		
	Ideal %	
	0.03	165,000,000,000,000
Remove from today's CO2		55,000,000,000,000
Year amount per day	365	150,684,931,507
10 years/ per day	3650	15,068,493,151
New CO2 per year	0.00025	1,375,000,000,000
0.00025		
New daily increase		3,767,123,288
Profit per ton CO2	\$14.38	
PPT Daily/10 years		\$216,684,931,507
PPT Daily afterwards		\$54,171,232,877
National Dept		\$31,310,795,117,652
Gross Domestic Profit	1.37	\$22,854,594,976,388
Days to payoff ND		144
Days to payoff ND Afterwards		578
GDP in Days		105
GDP in Days Afterwards		422
	_	

Capital requirements for a Complete Historical CO2 capture over a ten year time frame is \$2,600,219,178,082,190. A lot of donations needed. To overcome Capital cost, full scale operation will take 3600 days (10 years). Calculations on \$180 kwh capital cost.

Capital equipment will last more than 10 years and having abundance of what will be required prolong the life cycle up 40 years or more. Investors we be pleased in this time frame along with the added benefit of product sales.



Kilowatt hour at per ton	\$0.05	288
kwh/ daily		4,333,698,630,137
kwh/daily afterwards		1,083,424,657,534
Capital Cost Total		\$780,065,753,424,657
Capital Cost for NDI only		\$195,016,438,356,164
US capital cost / kwh	\$180	
To Overcome Capital cost		
days		3,600
OC CC years		10

Carbon dioxide itself will be one of the products than can be sold. The yearly amount is \$181,500,000,000,000,000. The demand for CO2 now is only \$4,000,000,000 per year so we will have to reduce the CO2 in base parts of Carbon and Oxygen. We will use the Pulsar electrolysis device to do this job.

The Carbon will sale for \$75,000,000,000,000.00 if we can find the demand, but like CO2 the demand now is not here but more products are beginning to show up every day. \$18,000,000,000 is the demand for 2023 and on the increase.

The Oxygen will sale for \$100,000,000,000,000.00 again we will have to find some other way make up the difference we have and the now demand. We will have to build more of the Captive Oxygen Fuel Reactor (COFR) power plants. Along with oxygen, hydrogen is also consumed.

This brings the next product which is New Water a byproduct of COFR.

This to me is correct the Solution for Climate Change abundant pollution free Energy, New Water, and many helpful Products.



CO2 10# sale for / ton	\$15	\$3,300
Total if sold as CO2		\$181,500,000,000,000,000
Global Demand per year	0.000002%	\$4,000,000,000
Carbon per ton if sold /year	\$50.00	\$75,000,000,000,000.00
Oxygen	\$25.00	\$100,000,000,000,000.00



Brief description on how to remove carbon from the atmosphere. Direct air capture utilizing pressure and thermal control to satisfy phase change of the CO2 from a gas to from a liquid. Capturing the liquid CO2 through precipitation from the cold compressed gas and releasing the clean air back to atmosphere.

The captured CO2 will be supplied to a bosh reactor that will change its molecular state to a solid graphite and water. New water dispensed appropriately. Solid graphite will accommodate the requirement of new technology products and the bulk will be stored in appropriate containers for future consumptions.

This solution offers electrical commodity to offset the cost of carbon capture. The \$50 per ton cost with the current state can become an asset. With the sale of electricity generated to the grid, an income of \$14.38 per ton could be achieved. The value of \$14.38 is based on selling electrical current at \$.05 per kilowatt hour.

The drawback of this approach is over capture, with added insensitive of profitable means of capture the likelihood of overcompensating is a reality. Safeguards need to be put in place to prevent this anomaly.

I have used third party to verify major components of the process. I do not intent to use third party for validation, imperial results will be validation.

Production compositions on small functional components have been made and tested. First industrial large-scale facility needs to be erected.



Carbon dioxide will be offered for sale in the form of graphite and new water as physical products. Carbon Credits sold if on demand is necessary. Electricity will be the primary source of revenue. Production quantity relative to capital investment and timely procurement of capital.

\$300,000 would make the first functional tonnage production facility and act as the proving ground to start the global enterprise. I have not sold any carbon removal tons to date. I plan on pursuing financial aid until my goals are met and my carbon capture method are implemented.

1 2 C					
1 mole per 2 Se	econas	2			
1 gram per 55 i	moles	55			
Time req'd for	1 gram	110	s/g		
110	sec	Per gram			
grams/lbs	453	grams	1 lbs		
Seconds /					
lb.=	49830	per lbs			
minutes/ lb.	830.5	per lbs			
Hr./lb.	13.84167	per lbs			
Electrical Watts	s Generated	=	1810		
\$0.05 per kw	0.09048	Hr / 14 lbs			
Ton / lbs = hr.	2200	158.9404	Hours		
Days	24	6.6225166	Days		
Capture 1 ton (\$14.38				

This solution offers electrical commodity to offset the cost of carbon capture. The \$50 per ton cost with the current state can become an asset. With the sale of electricity generated to the grid, an income of \$14.38 per ton could be achieved. The value of \$14.38 is based on selling electrical current at \$.05 per kilowatt hour.



To fully explain the benefit of \$14.38 electrical profit, form the capture of 1 ton of Carbon dioxide is a product of just the capture of the CO2 itself. It doesn't account for the profit from sale of the graphite, oxygen, or water. These items will provide more to the \$14.38 a ton.

Capturing air from the atmosphere which contains approximately 400 Parts per million in today's US city climate. The first step, capture the air at 1 atmosphere, that is air under normal conditions with pressure and temperature at normal conditions.

Round off pressure display in this document of Pressure per square inch for atmosphere 14.5 psi is equal to 100000 Pascal. For easy of understanding PSI will be annotated instead of Pascale. Reference 80 psi equals 551580 Pascals.

Ideal Gas Law Formula. The ideal gas law formula states that pressure multiplied by volume is equal to moles times the universal gas constant times temperature. PV = nRT This formula works with the use of Pascale, so I have converted all PSI to pascal for calculations shown. Where: P = pressure, V = volume, n = number of moles, T = temperature, R = gas constant.

Volume will be displayed as Cubic feet per mole. Temperature is degree of Fahrenheit and pressure of PSI.





Piston	Clean Air	Normal Air	1 Mole	Temp	Newton /	Piston	in3/ft3=	Force In	Area =	Factor	Temp	Piston	Flow	Orfc
#	CA Psi	CA Out	IGL	-76	Meter ²	#	1728.00	Pounds	Lbs./in²	IGL	Kelvin	#	In PSI	Dia
-	NA Psi	NA IN	ft³/mole	°F	Pascals	-	in³	Sub Total	Diameter			-		
P1	80	Out	0.11583189	-68	551580.6	P1	200.16	16012.60	15.96397	0.0033	217.5944	P1		0.391
P2	78	IN	0.11880193	-68	537791.1	P2	205.29	16012.60	16.16734	0.0034	217.5944	P2	1.949	
P3	76	Out	0.12441873	-60	524001.6	P3	215.00	16339.66	16.54512	0.0035	222.0389	P3		0.398
P4	74	IN	0.12778140	-60	510212	P4	220.81	16339.66	16.76721	0.0036	222.0389	P4	1.946	
P5	72	Out	0.13395967	-52	496422.5	P5	231.48	16666.73	17.16777	0.0038	226.4833	P5		0.405
P6	70	IN	0.13778709	-52	482633	P6	238.10	16666.73	17.4113	0.0039	226.4833	P6	1.943	
P7	68	Out	0.14462307	-44	468843.5	P7	249.91	16993.79	17.83798	0.0041	230.9278	P7		0.411
P8	66	IN	0.14900559	-44	455054	P8	257.48	16993.79	18.10624	0.0042	230.9278	P8	1.939	
P9	64	Out	0.15661940	-36	441264.5	P9	270.64	17320.85	18.56307	0.0044	235.3722	P9		0.418
P10	62	IN	0.16167164	-36	427475	P10	279.37	17320.85	18.86009	0.0046	235.3722	P10	1.935	
P11	60	Out	0.17021523	-28	413685.4	P11	294.13	17647.92	19.35201	0.0048	239.8167	P11		0.425
P12	58	IN	0.17608472	-28	399895.9	P12	304.27	17647.92	19.68284	0.0050	239.8167	P12	1.931	
P13	56	Out	0.18575333	-20	386106.4	P13	320.98	17974.98	20.216	0.0053	244.2611	P13		0.431
P14	54	IN	0.19263309	-20	372316.9	P14	332.87	17974.98	20.58697	0.0055	244.2611	P14	1.926	
P15	52	Out	0.20368191	-12	358527.4	P15	351.96	18302.04	21.16914	0.0058	248.7056	P15		0.438
P16	50	IN	0.21182919	-12	344737.9	P16	366.04	18302.04	21.58837	0.0060	248.7056	P16	1.92	
P17	48	Out	0.22459858	-4	330948.3	P17	388.11	18629.10	22.22954	0.0064	253.15	P17		0.445
P18	46	IN	0.23436374	-4	317158.8	P18	404.98	18629.10	22.70765	0.0066	253.15	P18	1.913	
P19	44	Out	0.24931828	4	303369.3	P19	430.82	18956.17	23.42092	0.0071	257.5944	P19		0.452
P20	42	IN	0.26119058	4	289579.8	P20	451.34	18956.17	23.97208	0.0074	257.5944	P20	1.905	
P21	40	Out	0.27898193	12	275790.3	P21	482.08	19283.23	24.77507	0.0079	262.0389	P21		0.458
P22	38	IN	0.29366519	12	262000.8	P22	507.45	19283.23	25.41869	0.0083	262.0389	P22	1.895	
P23	36	Out	0.31523749	20	248211.3	P23	544.73	19610.29	26.33576	0.0089	266.4833	P23		0.465
P24	34	IN	0.33378088	20	234421.7	P24	576.77	19610.29	27.09927	0.0095	266.4833	P24	1.882	
P25	32	Out	0.36055695	28	220632.2	P25	623.04	19937.36	28.16527	0.0102	270.9278	P25		0.472
P26	30	IN	0.38459408	28	206842.7	P26	664.58	19937.36	29.08896	0.0109	270.9278	P26	1.867	
P27	28	Out	0.41882482	36	193053.2	P27	723.73	20264.42	30.3559	0.0119	275.3722	P27		0.478
P28	26	IN	0.45104212	36	179263.7	P28	779.40	20264.42	31.50181	0.0128	275.3722	P28	1.846	
P29	24	Out	0.49651532	44	165474.2	P29	857.98	20591.48	33.05166	0.0141	279.8167	P29		0.485
P30	22	IN	0.54165307	44	151684.7	P30	935.98	20591.48	34.52133	0.0153	279.8167	P30	1.818	_
P31	20	Out	0.60528201	52	137895.1	P31	1045.93	20918.55	36.49268	0.0171	284.2611	P31		0.492
P32	18	IN	0.67253557	52	124105.6	P32	1162.14	20918.55	38.46667	0.0190	284.2611	P32	1.778	
P33	16	Out	0.76843205	60	110316.1	P33	1327.85	21245.61	41.11778	0.0218	288.7056	P33		0.499
P34	16.5	IN	0.74514623	60	113763.5	P34	1287.61	21245.61	40.48999	0.0211	288.7056	P34	1.789	
ATM	14.696					ATM						ATM		



Off the subject but the House is now able to control the Senate and the Executive branch by accident. In the past few days, the house without deciding has reduced the national debt by \$3.4 Trillion, not bad keep it up Kevin!

Now back to the explanation of \$14.38 per ton of CO2 profit for capturing this pollution from the Air. To quantify the system a 1 mole of air is the base in this equations. Larger quantities are easy to extrapolate by multiplying by numbers of moles.

Temperature is an important factor is this process along with pressure. Temperature does add to the pressure if the degree is increased, and the pressure is lower in the container if the degree is lowered. The most significant reaction of the temperature and pressure is the precipitation of the CO2. This reaction in this case occurs at approximately 80 PSI and -70 degrees Fahrenheit in the final chamber.

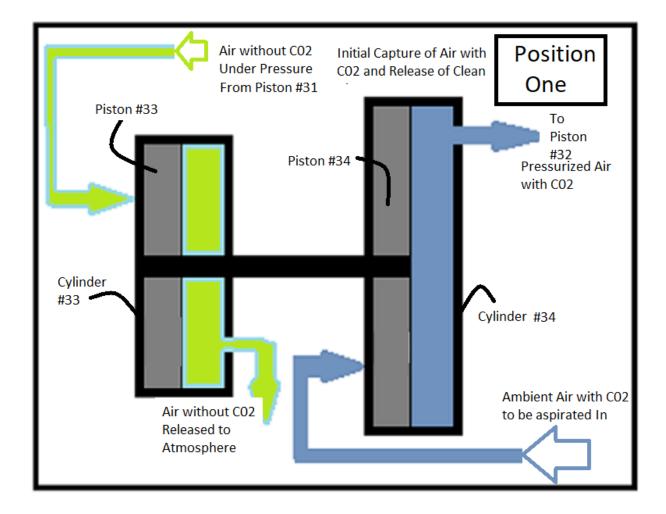
Ambient air being captured in the last piston is around 60 degrees F and 1 atmosphere of 1 mole to be compressed. After compression of 1 inch in the #34 piston volume is .745 Flow PSI of 1.789 to #32 piston is achieved for electrical generation.

This force is produced by releasing the clean air from Piston #33. That is air without CO2 at a volume of .768 mole imparting force for compressing #34 piston. Replacing the atmosphere with CO2 free clean Air.

Heat exchange between the two volume of air will occur between each piston pair through a dedicated heat exchanger. This will achieve the thermal temperature requirement for CO2 phase change precipitation.

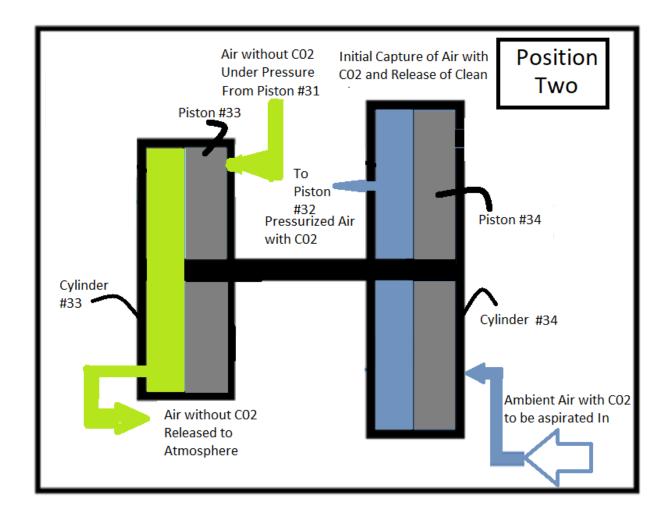


This display of position # 1 reflects the initial capture of Air with CO2 and the release of Air without CO2. Also displaying the progressive process of compressing.



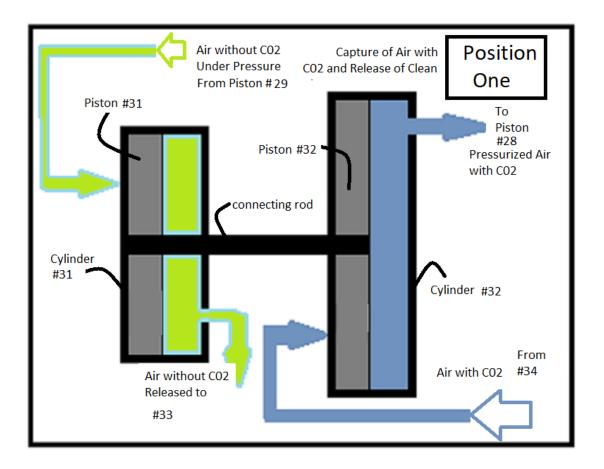


This display of position # 2 reflects the initial capture of Air with CO2 and the release of Air without CO2. Also displaying the progressive process of compressing. Then to repeat in reverse as needed.



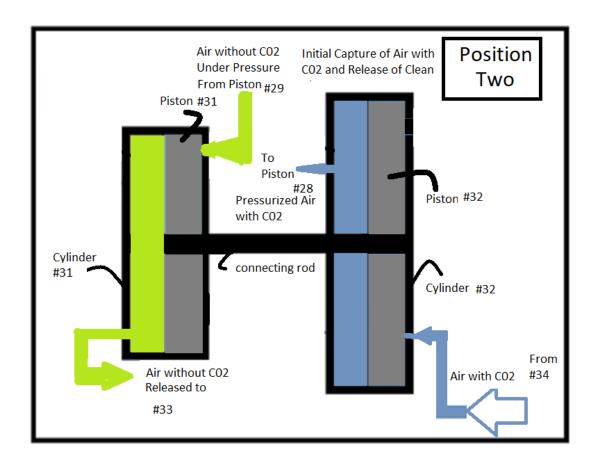


The clean air supply provides a motive force to produce electrical current with ever stroke. The connecting rod links the two piston together to provide the compression of the air supply that contains the CO2.





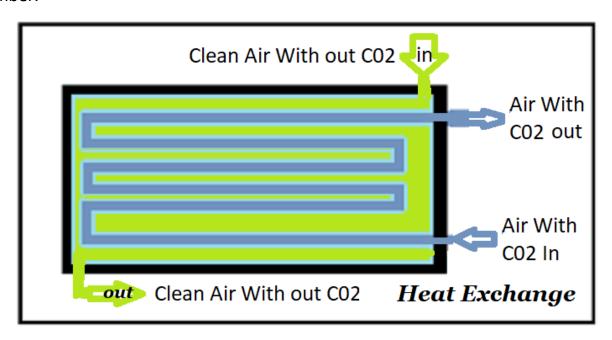
The clean air supply provides a heat sink form the incoming air with CO2. This heat transfer occurs between each step of release and compression step. The step by step process continues until Phase Change requirements are almost met.





The Heat Exchange, between every cylinder to cylinder and acting as a holding chamber, the heat exchange will ensure equilibrium temperature balance between gases.

Transfer of heat from the ambient air to the Clean Air to be released back to the atmosphere will get to the phase change temperature required. The condensing of the CO2 will not occur until CO2 air is within the final holding chamber.

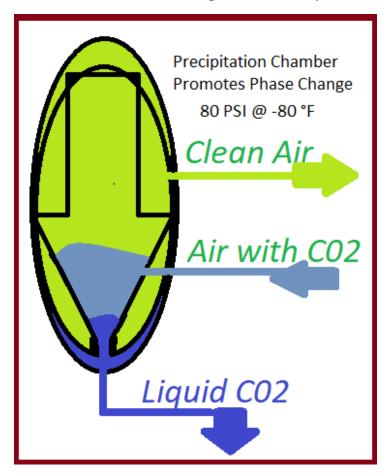


Transfer of heat will also increase the density of the in-going air and reduce the density of the out-going air. Volume of the Clean Air will increase and the volume of air with CO2 decrease.



The precipitation chamber promotes phase change of Carbon dioxide from a gas state into a liquid state satisfying the thermal and pressure requirement.

With 80 PSI @ -80 °F CO2 gas turns to liquid and rains within the chamber.



Escaping Clean Air becomes the motive source for compression of air with CO2.

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Clean Energy & More

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Solution Climate Change

Game Plan

Clean Air Turbine

Trade Secrets

The Day Has Come

Grants Made Easy

Art At 50

Art At 60

Art At 72

Hydrogen Electric Vehicle

<u>Art at 73</u>

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