



A clean environmental week: Let the nature breathe



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HIGHLIGHTS

- About 36 billion tons of carbon dioxide (CO₂) were produced in 2015 worldwide.
- Six countries emit CO₂ more than all the rest.
- The biosphere could be seen as a living being that needs breaks to ingest pollutants.
- The cost of action today to reduce pollution and CO₂ emission is less than the cost of inaction tomorrow.
- A 'clean environmental week' would allow reducing CO₂ emission by about one billion ton a year.

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ABSTRACT

High levels of CO₂ emissions in the atmosphere and toxic pollutants in air, water and food have serious repercussions on all life's systems, including living beings, environment and economy. Everyone on the Earth is concerned by pollution in some way or another, no matter where and how the pollution is produced as airborne and foodborne pollutants could circulate around the world in different ways, through for example climate components (wind, rain) and/or import and export of foodstuffs. Similarly to living beings that take advantage of day-night circadian rhythms to recover after diurnal hardships, the environment in its entirety could also be seen as a complex living system that needs regular breaks to assimilate or ingest toxic pollutants produced during intensive and continuous industrial processes. If greenhouses gas emissions and pollution rates continue to increase at the same rates as they are nowadays, uncontrollable climate effects might be inevitable and the air quality in some crowded cities in the world might be hardly respirable in the future. A global "Clean Environmental Week" is discussed as an attempt toward reducing air pollution and CO₂ emissions through the interruption or reduction of industrial polluting activities regularly, for a week or so per year, to let the nature 'breathe' and recover from environmentally challenging pollutions. A clean environmental period of 10 days per year could reduce CO₂ emissions by about one billion tons of CO₂ per annum.

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1. Increasingly 'carbonized' atmosphere

Air pollution with greenhouse gases is a pervasive and chronic anthropogenic product of fossil fuel combustion, intensive vehicle traffic and unceasing industrial processes. Except for a handful of climate

skeptics (most of whom are non-scientists) it is well admitted now that pollution and CO₂ concentrations in the atmosphere in the few past centuries are virtually due to human economic activities and industrial processes (Solomon et al., 2007). Air pollutants and greenhouse gases emitted by human activities comprise mainly carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), chlorofluorocarbons and other macro- or micro-industrial products (commonly known as particulate matter: PM ≤ 10 and PM ≤ 2.5 μm in aerodynamic diameter [PM₁₀

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Table 1
 “CO₂ emissions of fossil fuel use and industrial processes (cement production, carbonate use of limestone and dolomite, non-energy use of fuels and other combustions, chemical and metal processes, solvents, agricultural liming and urea, waste and fossil fuel fires). Excluded are: short-cycle biomass burning (such as agricultural waste burning), large-scale biomass burning (such as forest fires) and carbon emissions/removals of land-use, land-use change and forestry”^a.

Country	Global CO ₂ emission per year per country (Ktons)										Percent of CO ₂ emitted in 2015
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
China ^b	6,870,759	7,515,037	7,699,949	8,246,582	8,986,614	9,844,525	10,056,756	10,503,137	10,711,037	10,641,789	29.50996
USA ^b	5,765,135	5,847,966	5,659,277	5,243,236	5,519,484	5,391,417	5,164,192	5,255,530	5,312,226	5,172,338	14.34303
India ^b	1,367,406	1,439,192	1,536,650	1,738,106	1,848,710	1,961,663	2,090,857	2,191,277	2,334,381	2,454,968	6.80769
Russia ^b	1,764,650	1,766,346	1,743,343	1,652,898	1,735,583	1,820,098	1,833,976	1,824,579	1,822,210	1,760,895	4.88301
Japan ^b	1,289,035	1,310,630	1,226,781	1,163,613	1,219,095	1,258,289	1,293,511	1,312,750	1,281,569	1,252,890	3.47430
Germany ^b	844,435	817,319	828,292	768,284	811,861	793,891	801,677	815,812	773,020	777,905	2.15715
Iran	500,311	534,178	544,451	565,166	568,920	578,502	591,310	600,055	625,021	633,750	1.75740
South Korea	530,686	535,783	546,589	556,099	600,870	617,612	614,771	611,531	611,741	617,285	1.71175
Canada	545,677	570,974	563,980	532,609	545,088	551,261	556,797	568,364	572,262	555,401	1.54014
Saudi Arabia	321,190	338,145	363,299	390,882	420,058	438,213	455,673	459,502	486,767	505,565	1.40195
Indonesia	383,593	398,802	396,354	411,644	423,416	433,103	443,625	452,744	483,633	502,961	1.39472
Brazil	363,134	379,565	399,717	373,531	423,798	442,313	457,077	485,620	505,395	486,229	1.34833
Mexico	425,604	440,779	437,759	434,049	445,291	460,511	481,703	486,432	480,692	472,018	1.30892
Australia	407,286	427,877	430,374	435,530	420,677	428,610	428,229	429,079	438,504	446,348	1.23774
South Africa	409,496	429,678	453,072	426,752	433,086	414,565	410,065	423,218	431,469	417,161	1.15680
United Kingdom	555,854	546,532	533,279	478,784	493,734	455,843	467,584	455,878	415,177	398,524	1.10512
Turkey	275,440	300,130	303,359	297,693	307,985	328,282	339,238	324,736	352,593	357,157	0.99041
Italy	489,493	482,151	466,539	413,512	422,825	412,039	395,145	362,512	335,610	352,886	0.97856
France	399,752	394,216	391,486	370,957	380,777	352,560	351,479	355,664	323,495	327,787	0.90896
Poland	322,674	324,151	319,010	304,068	324,465	319,354	309,560	304,238	289,144	294,879	0.81771
Thailand	228,576	234,029	236,316	229,451	243,361	249,874	258,478	268,589	277,664	279,253	0.77438
Taiwan	279,710	282,292	270,256	256,235	273,033	272,157	274,256	277,397	280,987	279,174	0.77416
Kazakhstan	216,166	225,573	259,843	232,848	249,093	269,958	256,771	267,585	274,067	267,978	0.74311
Spain	356,423	370,293	338,163	298,370	284,604	286,096	276,360	250,801	245,637	262,683	0.72843
Malaysia	183,252	200,817	213,613	192,125	205,448	212,224	215,643	232,041	235,668	245,371	0.68042
Ukraine	367,116	378,228	358,243	297,733	320,148	336,311	326,701	316,849	274,682	228,688	0.63416
Egypt	180,715	192,951	198,847	204,072	210,109	221,507	228,318	219,686	222,551	226,985	0.62944
Viet Nam	101,950	112,782	124,584	140,823	154,589	161,729	165,021	169,176	187,942	206,028	0.57132
United Arab Emirates	125,920	136,352	158,731	163,605	170,972	176,736	187,450	190,141	190,540	199,253	0.55253
Argentina	169,468	176,467	189,628	181,170	187,466	192,018	191,557	188,068	189,189	191,199	0.53020
Venezuela	165,856	150,156	184,624	184,084	197,246	176,173	196,460	185,748	183,400	178,568	0.49517
Pakistan	143,627	159,407	155,820	158,387	154,325	154,691	153,809	156,045	165,985	174,843	0.48485
Netherlands	174,300	175,962	178,854	172,314	183,239	171,874	170,902	169,529	160,706	165,317	0.45843
Iraq	73,198	79,652	90,416	107,856	121,820	129,930	140,741	153,829	158,010	160,623	0.44541
Algeria	101,399	104,251	108,779	112,547	114,750	120,271	128,343	131,435	141,615	147,692	0.40955
Philippines	73,399	77,285	79,126	79,908	85,914	86,841	87,559	97,034	103,666	113,035	0.31345
Czech Republic	129,494	130,658	125,599	116,798	121,353	119,867	117,827	113,429	110,923	111,092	0.30806
Uzbekistan	118,897	119,417	119,137	107,737	106,254	114,548	115,947	104,189	107,752	109,845	0.30460
Belgium	114,716	111,277	114,779	104,786	111,211	102,672	98,124	98,363	93,733	97,002	0.26899
Kuwait	76,763	76,636	80,652	86,955	86,836	90,310	92,098	91,235	91,818	95,013	0.26347
Turkmenistan	54,360	60,169	63,274	54,895	61,710	67,220	69,720	70,893	80,553	94,236	0.26132
Qatar	47,789	54,562	59,731	63,930	71,805	76,264	83,164	85,811	84,471	88,825	0.24631
Nigeria	81,550	75,553	78,074	72,174	80,468	87,683	81,596	80,467	81,768	86,896	0.24096
Romania	108,929	106,484	104,502	85,279	82,238	88,909	89,796	78,715	79,264	81,247	0.22530
Chile	61,386	69,783	72,827	69,135	73,590	80,151	78,538	83,115	81,492	81,110	0.22492
Colombia	59,420	61,108	61,642	65,034	64,377	71,659	69,906	72,600	77,044	80,967	0.22453
Oman	42,298	46,338	52,761	60,425	64,665	71,677	72,829	75,202	74,855	78,446	0.21753
Austria	78,632	76,434	77,140	69,551	75,992	75,495	74,638	74,540	71,626	74,244	0.20588
Bangladesh	40,982	44,676	50,639	55,070	60,356	60,559	61,732	64,445	67,039	71,360	0.19788
Greece	102,575	106,202	102,121	96,235	89,188	86,109	83,454	74,927	71,095	68,292	0.18938
Israel	65,167	67,550	67,916	67,102	70,421	69,827	70,929	64,889	63,035	65,716	0.18223
Belarus	67,605	64,248	67,238	64,890	69,641	65,534	66,478	66,654	68,016	64,800	0.17969
Serbia & Montenegro	63,194	61,505	61,222	57,055	58,261	62,862	61,931	62,856	59,974	63,374	0.17574
North Korea	80,841	67,595	74,584	72,771	68,836	56,646	56,973	58,004	61,344	62,995	0.17469
Morocco	46,269	47,965	48,631	48,444	51,172	54,731	55,583	54,636	58,392	59,246	0.16429
Bulgaria	53,143	57,078	53,940	45,887	48,473	53,631	53,305	47,707	50,799	53,432	0.14817
Peru	31,255	34,179	38,723	41,618	44,939	47,985	48,000	49,701	51,140	52,572	0.14578
Libya	54,711	52,373	53,735	61,075	63,877	41,654	53,183	52,400	50,067	52,153	0.14462
Portugal	61,123	60,622	57,933	57,753	52,027	51,622	49,107	47,732	47,283	50,792	0.14085
Singapore	41,769	43,390	44,036	42,191	45,444	44,715	44,651	45,136	46,786	48,531	0.13458
Finland	72,096	69,527	61,352	58,903	67,310	59,517	57,948	58,477	53,728	48,505	0.13451
Hungary	59,834	58,243	57,168	50,900	51,804	50,044	49,084	46,350	45,866	48,186	0.13362
Syrian Arab Republic	61,325	64,581	65,943	61,645	61,451	56,357	52,435	44,649	44,902	45,898	0.12728
Hong Kong	42,551	45,583	44,572	47,753	42,418	47,367	47,416	48,413	49,261	45,703	0.12674
Norway	43,956	44,743	44,596	43,720	45,963	44,925	43,574	43,765	43,048	43,109	0.11954
Sweden	56,722	53,388	51,364	47,063	53,223	47,738	46,101	44,463	43,671	42,496	0.11784
Ecuador	29,118	30,985	30,883	34,506	36,226	37,913	37,984	40,834	42,498	41,749	0.11577

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