

How Many Gigatons of Carbon Dioxide...?

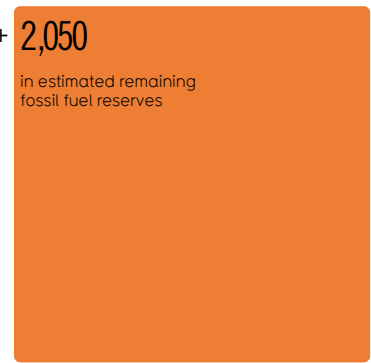
have we released to date?



more can we "safely" release*?



are left to release?



CURRENT HUMAN EMISSIONS PER YEAR **31** gigatons

* before 2050 and still have a chance of staying below 2°C warming

TIME BEFORE WE BREAK OUR "CARBON BUDGET"



	0.8°C	1.5°C	2°C	3-4°C	5-6°C	
GLOBAL WARMING IF RELEASED	+0.8°C 1.4°F	+1.5°C 2.7°F	+2°C 3.6°F	+3-4°C 5.4-7.2°F	+5-6°C 9-10.8°F	over pre-industrial average temperature
SCENARIO	happened	inevitable	"safe" limit	tipping point	nightmare	
SEA LEVEL RISE BY 2100		0.85M	1.04M	1.24M	1.43M	relative to 1990 sea level
DROWNING CITIES			Amsterdam	New York	Bangkok	knee-high flooding
OCEAN ACIDIFICATION	30% more acidic	coral stops growing	dissolves	dead	150% more acidic	oceans become more acidic as they absorb CO2
ARCTIC SEA ICE ANNUAL REDUCTION		15%	30%	45-60%	75%	
HEAT	increasing global heat waves		every Euro summer a heatwave	Italy, Spain, Greece deserts	unknown	some inland temperatures will reach +10°C (+18°F)
CORN & WHEAT YIELDS		-10%	-20%	-30-40%	unknown	US & Africa wheat Indian corn
% MORE HEAVY RAIN OVER LAND		7%	13%	20-26%	35-42%	
HURRICANE DESTRUCTIVENESS						
	+7.5%	+15%	+22.5-30%	+37.5-45%		
SPECIES AT RISK OF EXTINCTION			30%	40%	unknown	
REALLY SCARY THINGS			Greenland ice sheet starts to disintegrate. Will take 50,000 years to melt but will raise sea levels by 6m.	Huge amounts of CO2 & methane released by melting permafrost in Siberia and Arctic.	Ocean floor methane released causing runaway climate change. Possibility of mass extinction.	

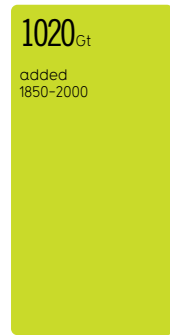
LAST TIME CO2 LEVELS WERE THIS HIGH
15,000,000
YEARS AGO

MINIMUM TIME NEEDED TO RE-ABSORB ALL THIS CO2 FROM ATMOSPHERE
300,000
YEARS

see data for details

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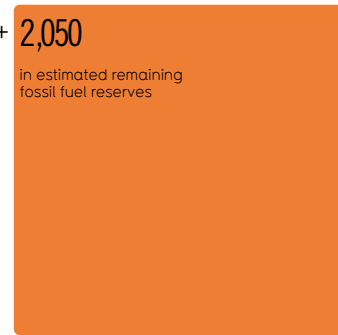
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13 YEARS
average yearly emissions increase: 3%

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