

## **Reducing the Concentration of CO<sub>2</sub> in Atmosphere**

I use the following slides to illustrate two things.

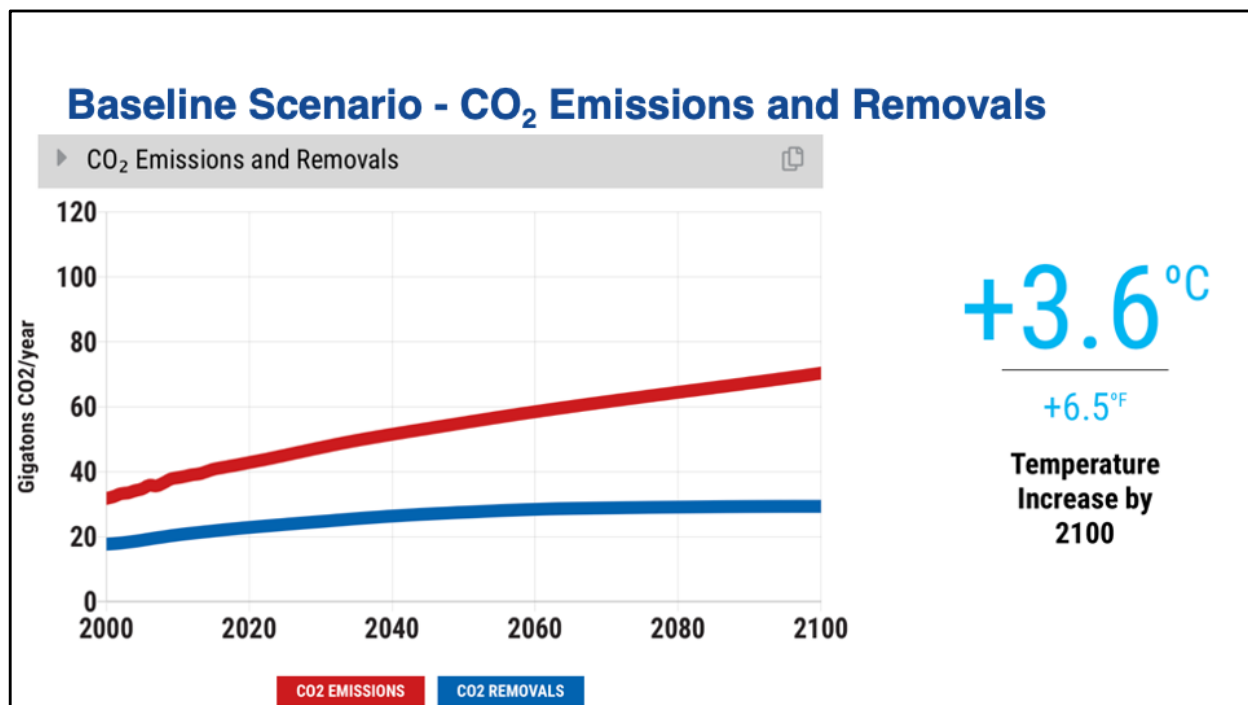
First, the graphical representation of reducing the greenhouse gases in the atmosphere.

Second, this section demonstrates the link between emissions and global warming.

The text for each slide is in the presenter notes.

Susan Golden

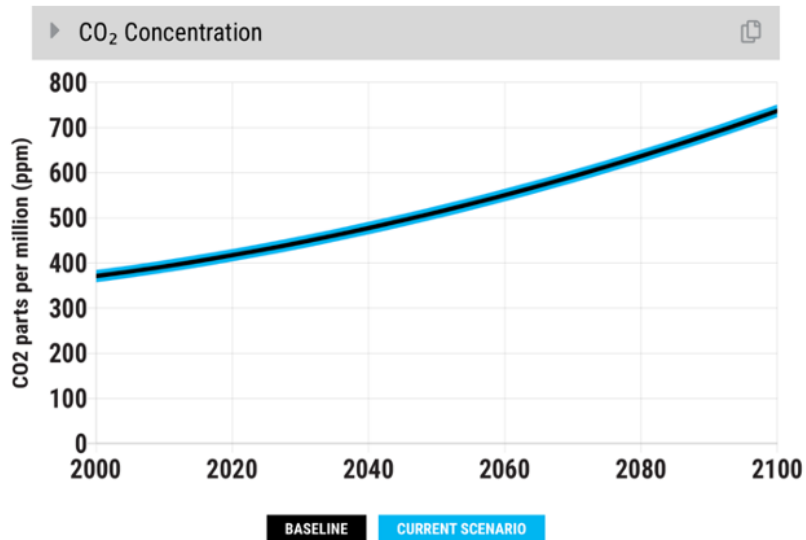
SGoldenEducation@gmail.com



Here is our baseline scenario.

We are dumping more greenhouse gases into the atmosphere - represented by the red line,  
than we are removing - amount represented by the blue line.

## Baseline Scenario - CO<sub>2</sub> Concentration



**+3.6°C**

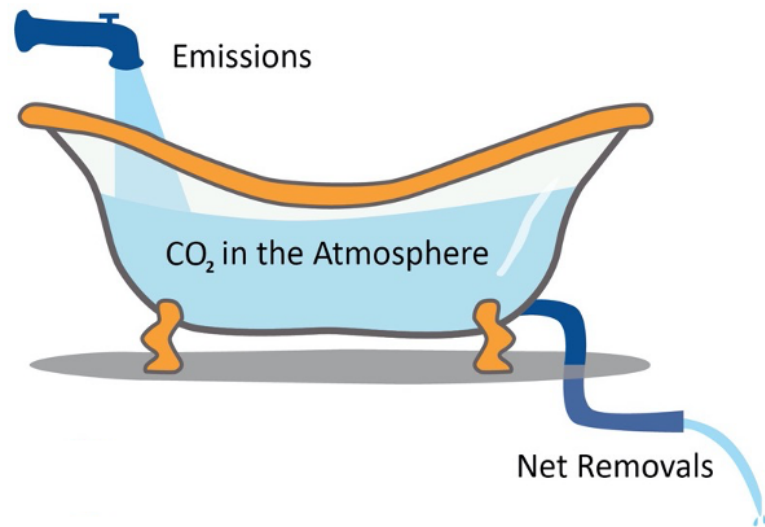
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+6.5°F

**Temperature  
Increase by  
2100**

As a result, we are seeing the concentration of GHG's increase in the atmosphere.  
We need to get this concentration to drop to make global warming stop.

## Bathtub Dynamics

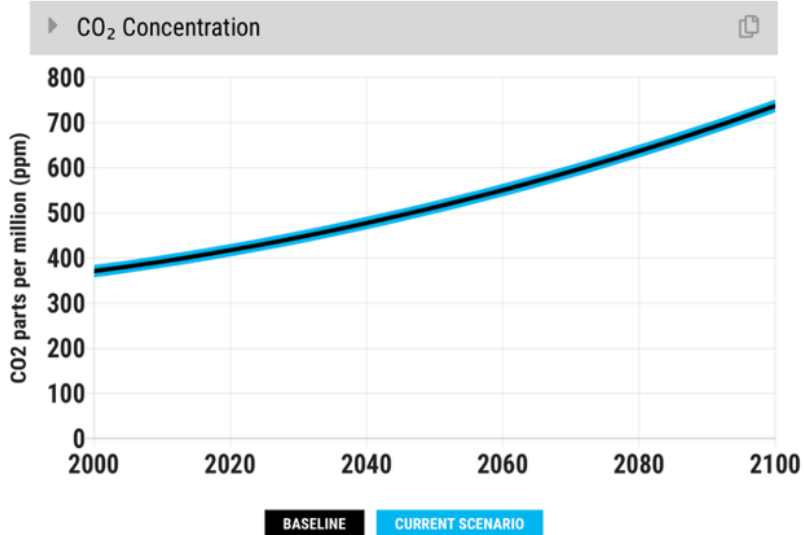


Overall framing by Dr. John Sterman, MIT Sloan

CLIMATE  
INTERACTIVE

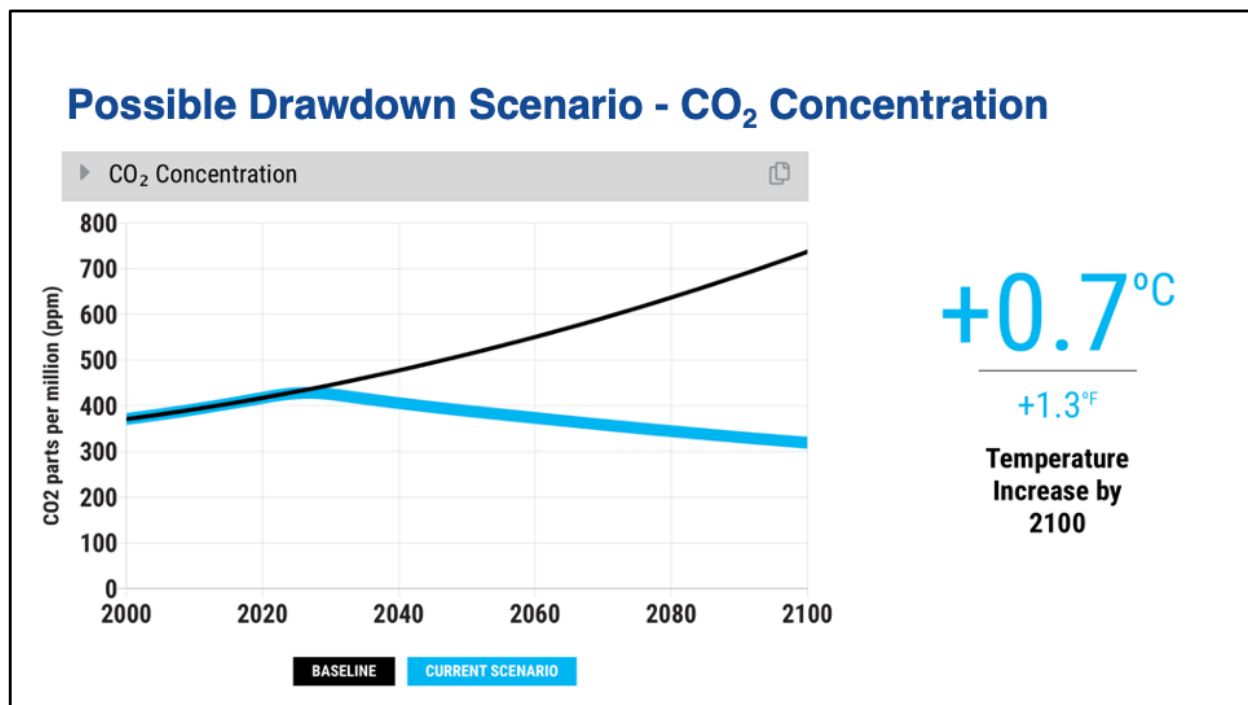
The metaphor of a bathtub helps explain the dynamics of rising CO<sub>2</sub> concentration in the atmosphere. As long as more CO<sub>2</sub> enters the atmosphere (like water flowing into a tub) than is removed (like water draining from the tub), then the amount of CO<sub>2</sub> in the atmosphere (the amount of water in the tub) will continue to increase.

## Baseline Scenario - CO<sub>2</sub> Concentration



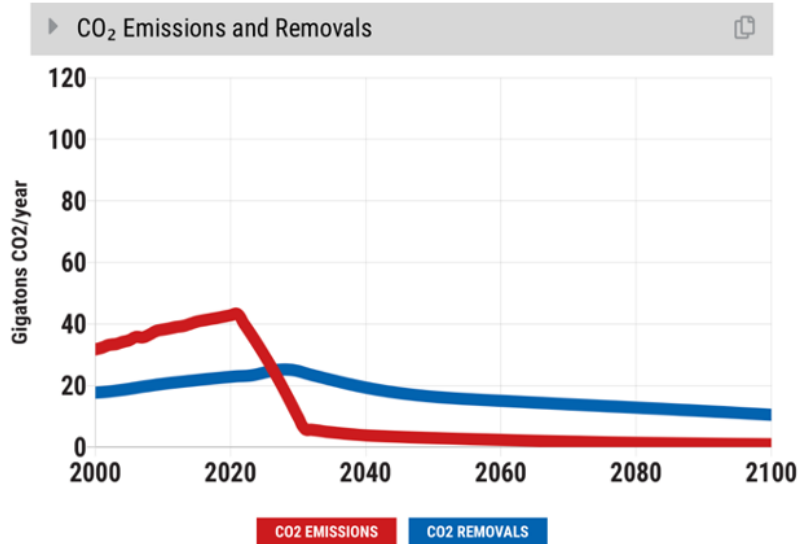
**+3.6°C**  
+6.5°F  
Temperature  
Increase by  
2100

Again, we are dumping GHG's faster than we are removing them, and the concentration and temperature are going up....



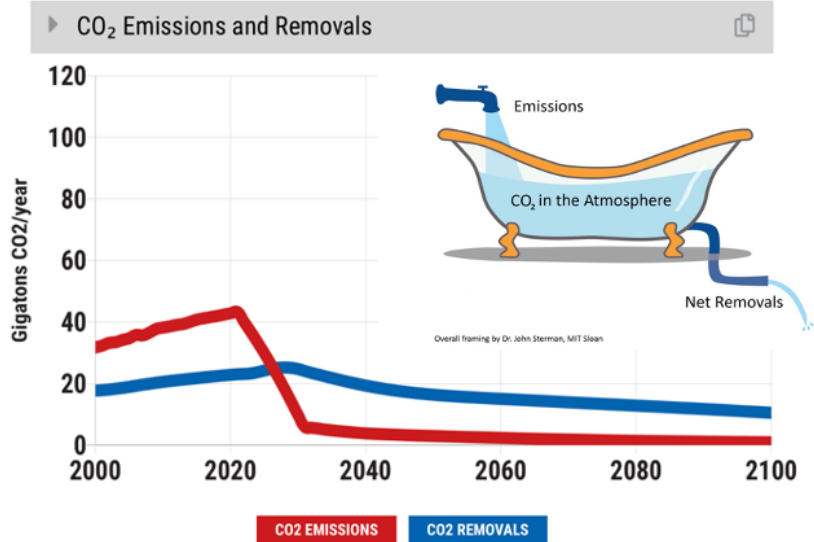
This slide depicts a scenario for the future where the world took action and kept global warming below 1 degree. We are going to explore if we can also do this. But what I want you to get from this is to see how the concentration of CO<sub>2</sub> is going down. The concentration of CO<sub>2</sub> is declining because we are emitting less gas than we are removing. As a global society, we need to make the atmospheric concentration of GHG's and CO<sub>2</sub>, decline like in this scenario. Take a look at the next graph...

## Possible Drawdown Scenario



Again, here we took the right actions and we reduced our emissions to be below our removals. We are taking more GHGs out of the atmosphere than we are putting into. Our goal today is to take actions that will drive the red line on this graph below the blue one. Then we need to take similar actions in real life.

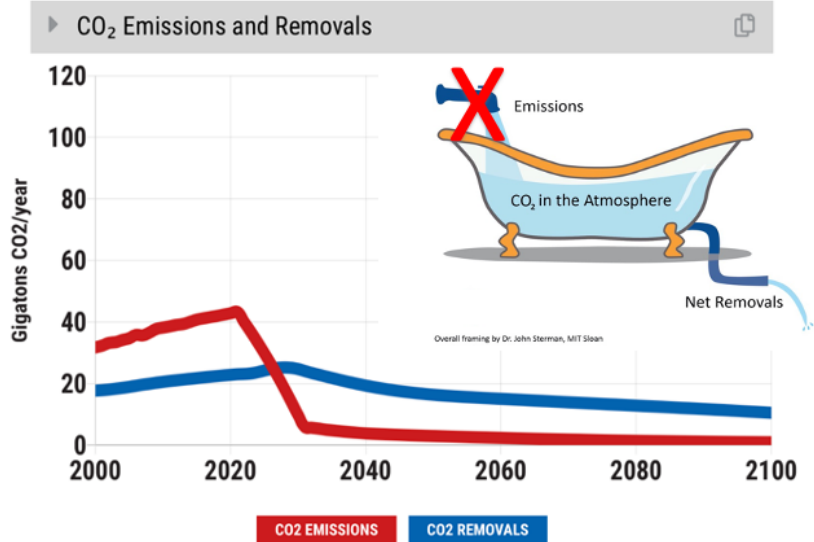
## Possible Drawdown Scenario



We need to make the tub drain faster than we are filling it.



## Possible Drawdown Scenario



Better yet, we have to **turn off** the flow – or stop our emissions altogether – in order **empty** the tub of anthropogenic GHGs. So let's get to work....