

## SUCCEED teacher workshop 2013

### Bathtub Analogy – Discussion

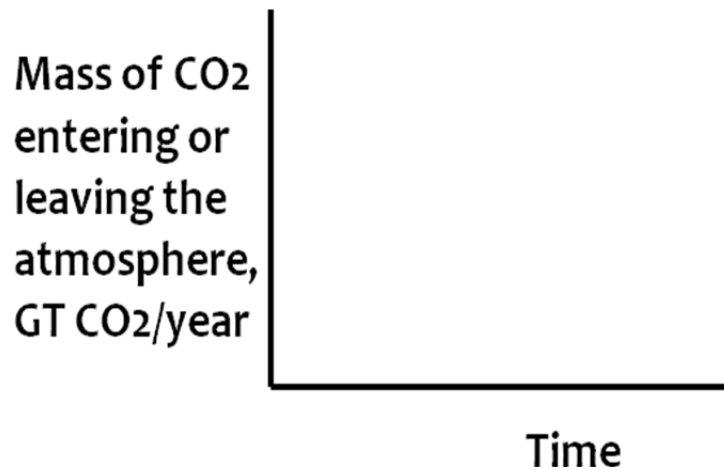
In the bathtub analogy, explain what is represented by each of the following:

Greenhouse Gas Analogy	Energy Analogy
1. The bathtub	
2. The water	
3. The flow rate of water entering the bathtub (faucet)	
4. The flow rate of water leaving the bathtub (drain)	
5. Clogging of bathtub drain	
6. The level of water in the bathtub	
7. The change in the flow rate of water leaving the bathtub	

<b>8. The underlying cause of the change in the flow rate of water leaving the bathtub</b>	
<b>9. Water spilling over the side of the bathtub</b>	

## Exercises Greenhouse Gas Analogy

1. Assume that the mass of carbon dioxide equivalent ( $\text{CO}_{2e}$ ) entering the atmosphere continues indefinitely at the current levels of 7 GT of  $\text{CO}_{2e}$ /year. Show this flat rate on the graph below. Now draw another flow rate curve for  $\text{CO}_{2e}$  leaving the atmosphere versus time. Show how it will reach a dynamic equilibrium. Indicate on the time-axis the amount of years that will take (100, 1,000, 10,000, even more?)



2. Consider the total mass of  $\text{CO}_{2e}$  in the atmosphere at any given time. Draw a curve showing this total mass versus time based on the curves you drew in the previous exercise.

