URGENCY

The most important issue is how not to use up all our climate safety (i.e. the capacity of the atmosphere to absorb carbon safely)

head • room

nount of available capacity of the atmosphere

The goal is to prevent the worst aspects of

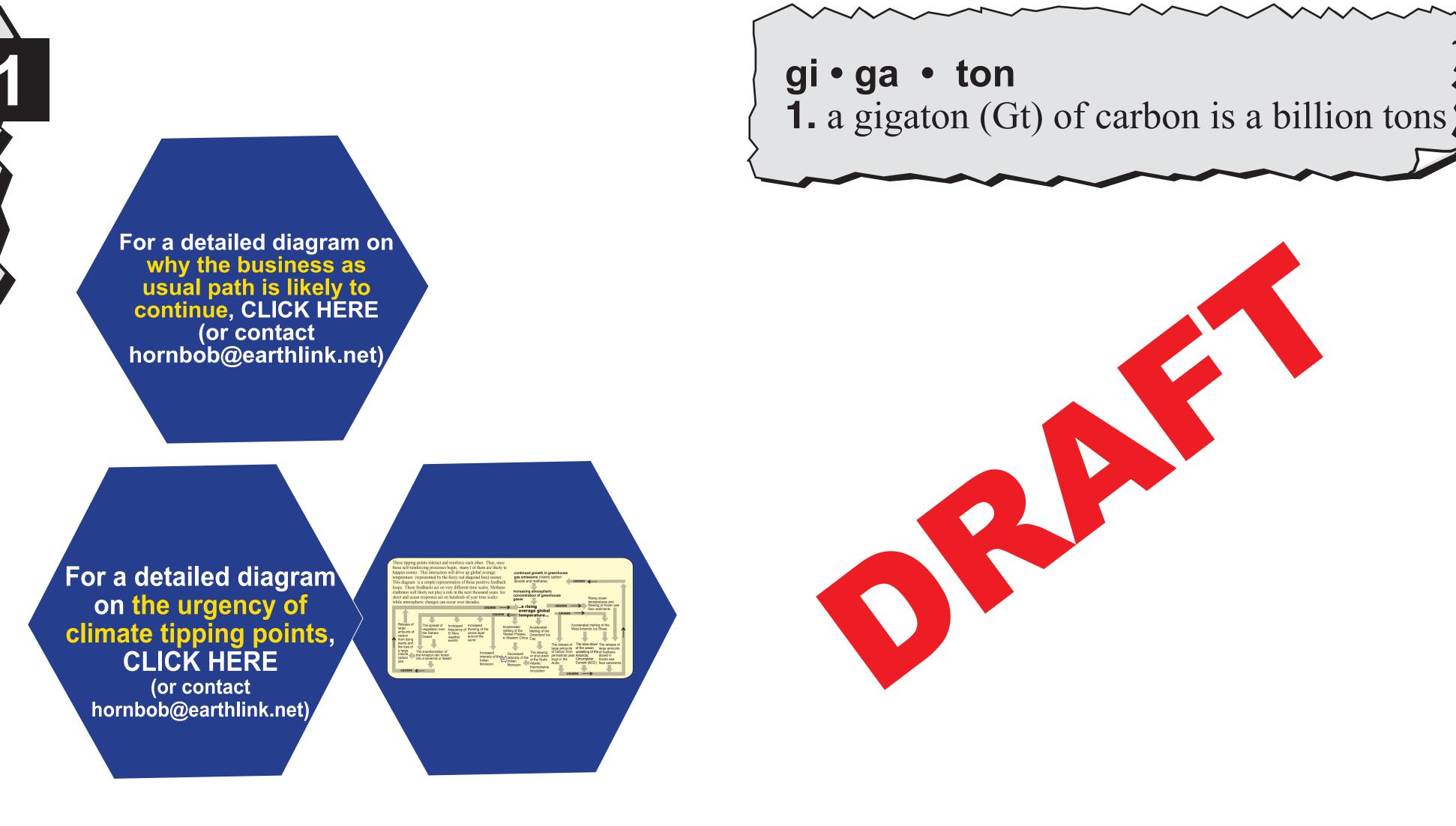
climate change. To prevent climate change, the world must avoid doubling the pre-industrial amount of carbon in the atmosphere. Doubling is around 1270 gigatons of carbon (which is approximately twice the 660 gigatons level of pre-industrial global atmosphere), and is thought to be the maximum safe level by many experts. In the Business as Usual (BAU) scenario doubling occurs between 2060 and 2070. (Note 1)

Representing headroom

The three colored boxes in the diagram to the right taken together represent the total amount of carbon many, if not most, scientists agree should be allowed into the atmosphere. If this "fills up," the world is expected to suffer the consequences of "dangerous" interference" with the climate system. As such, it represents a way of thinking about how to measure our progress (or lack of it) toward preventing such "dangerous interference."

The green box at the bottom shows we have already used 1/3 of our "headroom." When we assume the current Business as Usual scenario we will use up another third of all the headroom by 2040 (the middle yellow and orange boxes), and will have used up all of it by 2070 (filling up the red box). Note that the yellow box represents what could happen in a mere 20 years given the current momentum of CO2 emissions.

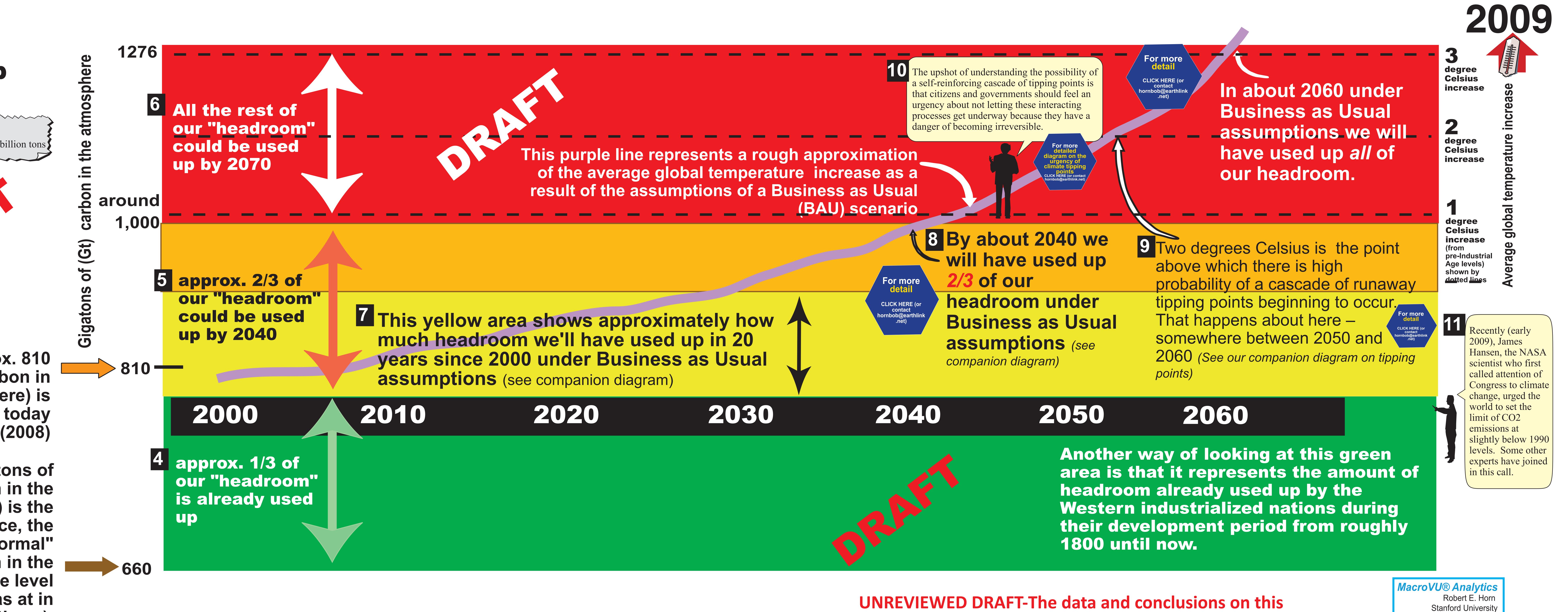
Note 1. This BAU scenario we use is based approximately on the IPCC's A2 scenario. We chose the A2 scenario for our BAU scenario, because it appears to be the basis for the BAU scenario in Pacala and Socolow's stabilization wedges work, in 2004. Additionally, the International Energy Agency's forecast for carbon emissions growth is quite similar to the A2 scenario. For additional information about our BAU scenario please refer to the report entitled 'Business' as Usual', Horn & Keys, 2006. This data was taken from graphs in the IPCC's 2001 Synthesis Report, and from tables in the SRES Technical Summary



This (approx. 810 gigatons of carbon in the atmosphere) is where we are today

carbon in the atmosphere) is the starting place, the so-called "normal" it was at in

2 This (660 gigatons of level of carbon in the atmosphere (the level pre-industrial times).



info-graphic have NOT been reviewed by relevant climate scientists.

Stanford Universit hornbob@earthlink.net 415-775-7377 Copyright 2009 R.E. Horr