

1 **Supplementary Material for “Growth of climate change commitments from HFC banks**  
2 **and emissions”**

3 Guus J.M. Velders, Susan Solomon, John S. Daniel

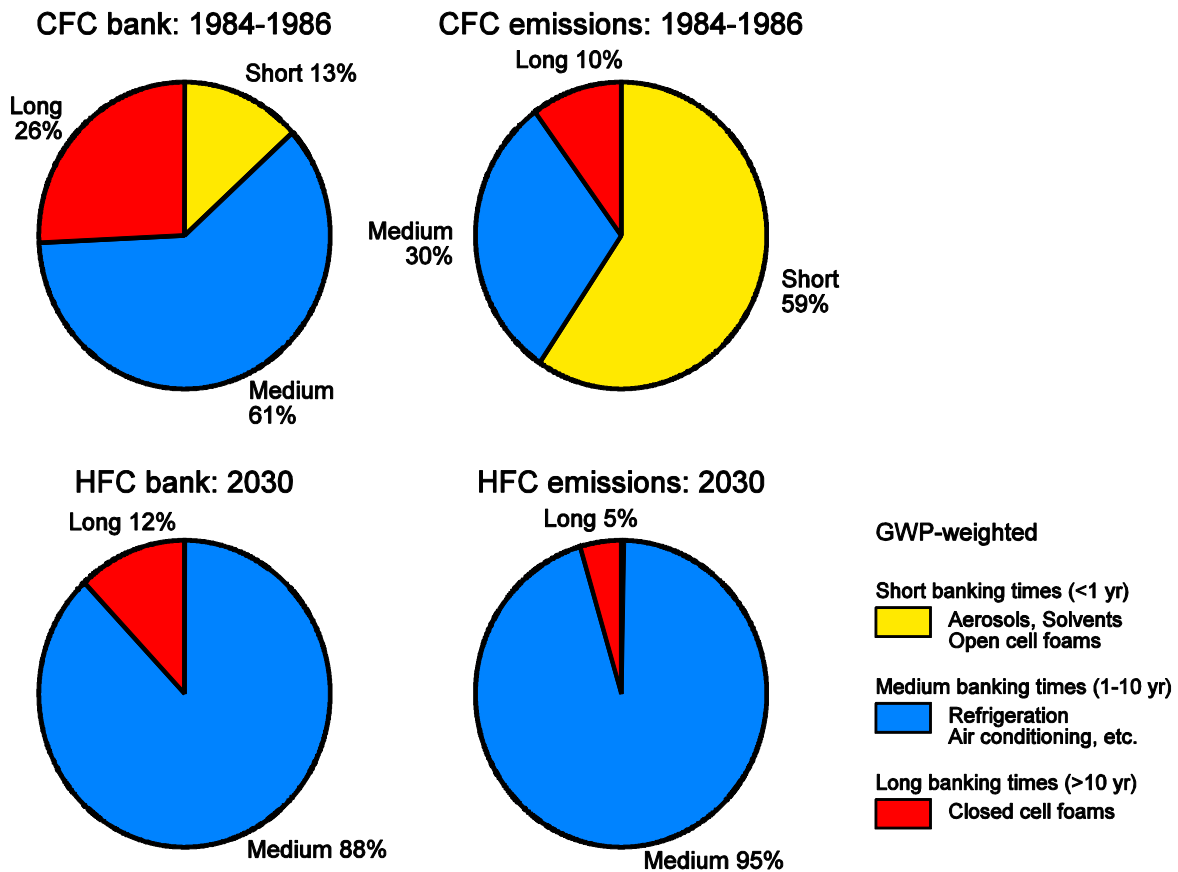
4

5 Table S1 Radiative forcing ( $W m^{-2}$ ) of baseline scenarios of CFCs and HCFCs, and of a  
6 reference scenario and reduction scenarios of HFCs<sup>1</sup>. This data is shown graphically in  
7 Figures 4 and 5.

	CFCs	HCFCs	HFCs Constant <sup>2</sup>	HFC production phaseout in			
				2020	2030	2040	2050
1990	0.24	0.02	0				
2010	0.26	0.05	0.01				
2030	0.21	0.06	0.08-0.11	0.04			
2040	0.19	0.04	0.16-0.24	0.03	0.08-0.11		
2050	0.17	0.02	0.25-0.40	0.02	0.06-0.09	0.15-0.24	
2060	0.15	0.01	0.35-0.55	0.01	0.04-0.06	0.11-0.18	0.24-0.38
2070	0.13	<0.01	0.42-0.66	0.01	0.03-0.04	0.08-0.13	0.18-0.28
2100	0.10	0	0.54-0.84	<0.01	0.01-0.02	0.03-0.05	0.07-0.11
				HFC zero emissions in			
			Constant	2020	2030	2040	2050
2030			0.08-0.11	0.02			
2040			0.16-0.24	0.01	0.05-0.06		
2050			0.25-0.40	0.01	0.03-0.04	0.09-0.14	
2060			0.35-0.55	0.01	0.02-0.03	0.06-0.09	0.15-0.24
2070			0.42-0.66	<0.01	0.01-0.02	0.04-0.06	0.10-0.16
2100			0.54-0.84	0	0.01	0.02-0.03	0.04-0.06
				Reduction from HFC bank destruction <sup>3</sup> in			
			Constant	2020	2030	2040	2050
2030			0.08-0.11	0.02			
2040			0.16-0.24	0.01-0.02	0.04-0.06		
2050			0.25-0.40	0.01	0.03-0.05	0.06-0.10	
2060			0.35-0.55	0.02	0.02-0.03	0.05-0.09	0.09-0.14
2070			0.42-0.66	<0.01	0.02	0.04-0.07	0.08-0.12
2100			0.54-0.84	0	0.01	0.01-0.02	0.03-0.05

- 8 1) A blank cell means that the value is identical to the scenario with constant HFC production  
 9 past 2050.  
 10 2) The HFCs are the upper and lower reference scenarios from Velders et al. (2009). In these  
 11 scenarios the HFC production past 2050 is constant at the 2050-level.  
 12 3) Destruction of the bank only. This scenario is the difference from the zero emissions and  
 13 production phaseout scenario.

15



16

17 Figure S1 Contributions of different types of applications to the banks and emissions of CFCs  
 18 in the mid-1980s and HFCs in 2030. The applications differ in the delay times between  
 19 production and emission (banking times). The banks and emissions are GWP-weighted (100-  
 20 yr time horizon). HFC banks and emissions are the average of the upper and lower scenarios  
 21 for 2030 from Velders et al. (2009). The contribution of the very emissive applications  
 22 (aerosols, solvents and open cell foams) is 0.01% for the GWP-weighted bank and 0.3% for  
 23 the GWP-weighted emissions in 2030.

24