What does the IPCC say about the remaining CO_2 budgets?

The United Nations Intergovernmental Panel on Climate Change (IPCC) published the following table in its 2018 Special Report (IPCC SR1.5 2018, Chapter 2, table 2.2., p. 108):

Additional Warming since 2006–2015 [°C]*(1)	Approximate Warming since 1850–1900 [°C]*(1)	Remaining Carbon Budget (Excluding Additional Earth System Feedbacks*(5)) [$GtCO_2$ from 1.1.2018]*(2)			Key Uncertainties and Variations*(4)					
		Percentiles of TCRE *(3)			Earth System Feedbacks *(5)	Non-CO_2 scenario variation *(6)	Non-CO_2 forcing and response uncertainty	TCRE distribution uncertainty *(7)	Historical temperature uncertainty *(1)	Recent emissions uncertainty *(8)
		33rd	*50th*	*67th*	*[$GtCO_2$]*	*[$GtCO_2$]*	*[$GtCO_2$]*	*[$GtCO_2$]*	*[$GtCO_2$]*	*[$GtCO_2$]*
0.3		290	160	80	Budgets on the left are reduced by about −100 on centennial time scales	±250	−400 to +200	+100 to +200	±250	±20
0.4		530	350	230						
0.5		770	530	380						
0.53	~1.5°C	840	580	420						
0.6		1010	710	530						
0.63		1080	770	570						
0.7		1240	900	680						
0.78		1440	1040	800						
0.8		1480	1080	830						
0.9		1720	1260	980						
1		1960	1450	1130						
1.03	~2°C	2030	1500	1170						
1.1		2200	1630	1280						
1.13		2270	1690	1320						
1.2		2440	1820	1430						

In the 'Summary for Policymakers' the IPCC writes (IPCC SR1.5 2018, SPM, p. 14, emphasis and [from 2018] not in the original):

"C.1.3 ***Limiting global warming requires limiting the total cumulative global anthropogenic emissions of CO_2*** *since the preindustrial period, that is, staying within a total carbon budget (high confidence). (...) The associated remaining budget is being depleted by current emissions of* ***42*** *±* ***3 $GtCO_2$ per year*** *(high confidence). (...) Using global mean surface air temperature (...) gives an estimate of the* ***remaining carbon budget*** *[from 2018] of 580 $GtCO_2$ for a 50% probability of limiting warming to* ***1.5°C****, and* ***420 $GtCO_2$*** *for a* ***66% probability*** *(medium confidence). (...)* ***Uncertainties in the size of these estimated remaining carbon budgets are substantial*** *and depend on several factors. (...)."*

The following table is an extract from table 2.2.:

Approximate Warming since 1850 – 1900 We have interpolated the degree numbers above 1.5°C.	**Remaining Carbon Budget** [$GtCO_2$ from 1/1/2018] *Probability*	
[°C]	***50%***	***67%***
~ 1.50	**580**	**420**
~ 1.57	**710**	**530**
~ 1.60	**770**	**570**
~ 1.67	**900**	**680**
~ 1.75	**1040**	**800**

Updated data can be found in the Sixth Assessment Report of Working Group 1 of the IPCC, published on 09.08.2021. Here you will find the main results.