

IPCC AR5 Synthesis Report (2015) Table 2.2 - ‘carbon integrals’ 2011 onwards, using both ‘complex models’ (RCP) & ‘simple models’.

Integrals (weight totals) for Carbon budgets are taken from the Intergovernmental Panel on Climate Change’s Fifth Assessment Report (AR5); see Synthesis Report, page 64, table 2.2

https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf

Cumulative CO2 emissions from 1870 in Gt CO2									
Net anthropogenic warming	<1.5° C			<2.0° C			<3.0° C		
Fractions of simulations meeting goal	66%	50%	33%	66%	50%	33%	66%	50%	33%
Complex models, RCP scenarios only	2250	2250	2250	2290	3000	3300	4200	4500	4850
Simple model WGIII scenarios.	no data	2300-2350	2400-2950	2550-3150	2900-3200	2950-3800	n.a.	4150-5750	5250-6000
Cumulative CO2 emissions from 2011 in Gt CO2									
Complex models, RCP scenarios only	400	550	850	1000	1300	1500	2400	2800	3250
Simple model WGIII scenarios.	no data	550-600	600-1150	750-1400	1150-1400	1150-2050	n.a.	2350-4000	3500-4250
Total fossil carbon available in 2011 3670 to 7100 Gt CO2 (reserves) and 31300 too 50050 Gt CO2 (resources)									

Using RCP data Future ‘carbon *path*-integrals’ (Plan B budgets) are from 2014 onwards & expressed in Gt Carbon only.

In the table, RCP budgets are in Gigatonnes of carbon dioxide (Gt CO₂) i.e. billions of tonnes. For Plan B, they’re converted into ‘carbon only’ by dividing by the conversion factor of 3.664

Deducting for years 2011, 2012, 2013, the Plan B ‘carbon only’ budgets from 2014 are: -

Green Budget 117 Gt C (150 Gt C less 3* 11 Gt C)

Lower risk, 50% odds for 1.5° C

Amber Budget 199 Gt C (232 Gt C less 3* 11 Gt C)

Medium risk, 33% odds for 1.5°

Red Budget 240 Gt C (273 less3* 11 Gt C)

High risk, 66% odds for 2.0° C

These ‘integrals’ are then plotted as ‘*path* integrals’, with very slight differences in weight between the carbon integrals only, in the table 2.2 on page 64 of the IPCC AR5 Synthesis Report published in 2015.

