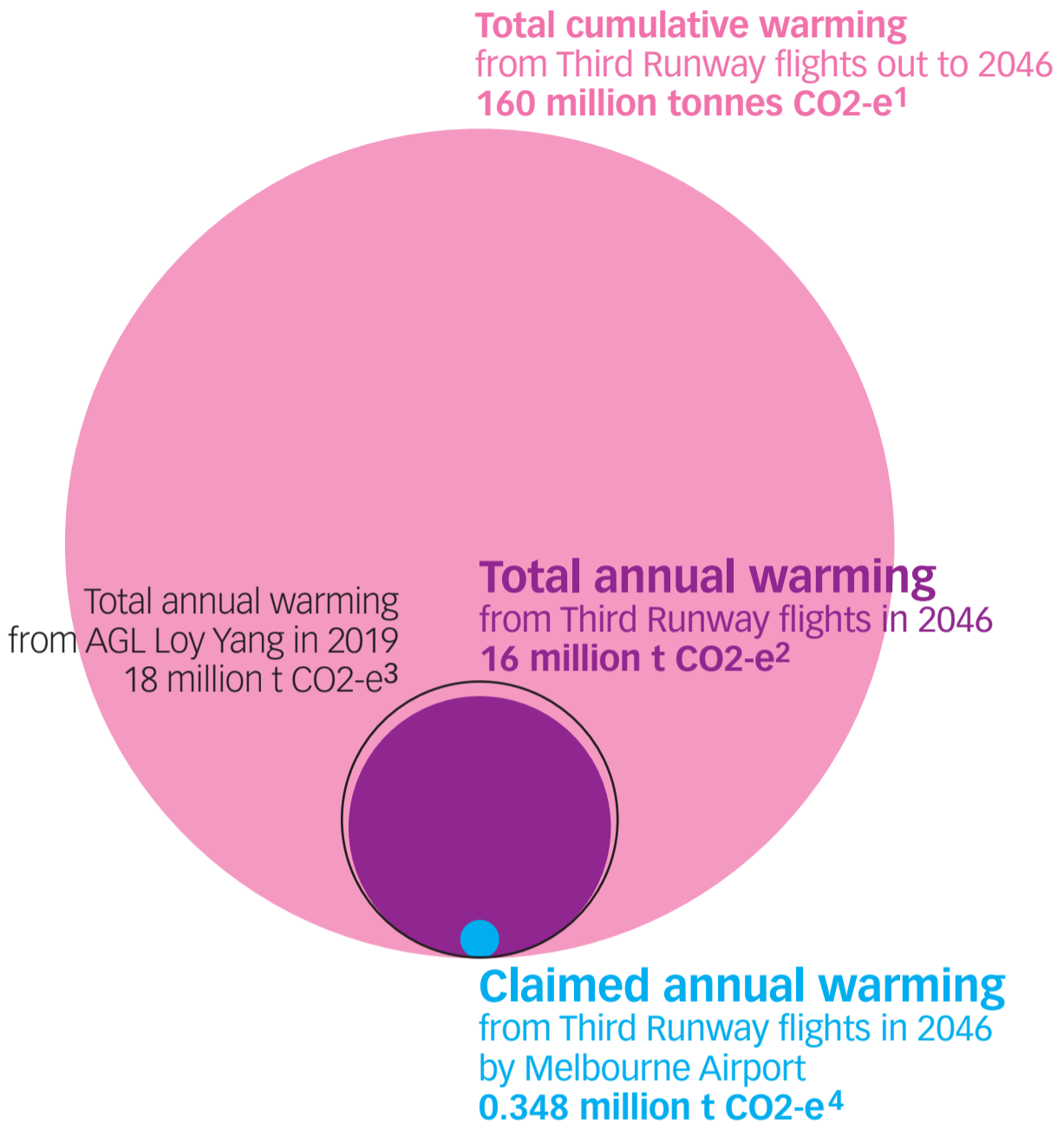


Melbourne Airport 3rd runway enabled flight emissions

50 times more than claimed



1: Cumulative warming emissions can be estimated to total around 160 million tonnes CO₂-e from the Third Runway out to 2046 (<https://caportal.com.au/melair/virtual?hview=modalM3RMasterPlan>
See M3R MDP > Part B > Chapter B11 Greenhouse Gas Emissions > Table B11.17). The “No Build”/“Build” LTO CO₂ emissions difference for 2026 is 19,340 t CO₂-e, for 2031: 50,416 t CO₂-e, and for 2046: 348,294 t CO₂-e. Assuming a linear growth, that’s the same as: 15,538 t for 5 years between 2026 and 2030 (half the 31,076 difference between the 2026 and 2031 figures) = 77,690; 148,939 t for 15 years between 2031 and 2045 (half the 297,878 difference between the 2031 and 2045 figures) = 2,234,085; and 1 year of 348,294 (2046). Added that’s 77,690 + 2,234,085 + 348,294 = 2,660,069 t for LTO. 2,660,069 t x 20 (‘cos LTO is roughly 5% of total) = 53,201,380 t. But 53,201,380 t x 3 (‘cos CO₂ is a third of total warming emissions) = 159,604,140 t. Or 160 million tonnes over the 20 years 2026 to 2046.

2: Total annual warming in 2046 can be estimated as follows. In 2019, there were 246,450 flight movements at Melbourne Airport on its two runways (see MDP, Part B > MP_B6.1.2). In 2018-19 CO₂ emissions from all flights departing Melbourne Airport were 4,650,000 t CO₂ (see <https://airporttracker.org> + https://airporttracker.org/assets/Airport%20Tracker_Technical%20Note.pdf). So if we assume all flights both departing and arriving is double the number departing, then the total CO₂ emissions enabled by the two runways at Melbourne Airport in 2018-19 is twice 4,650,000, or 9,300,000 t CO₂. Note that this calculation is for arriving and departing flights total emissions, since the MDP reports arriving and departing flights LTO emissions. In 2046 there are projected to be 136,500 Third Runway flight movements (see MDP > Part A > Chapter A2 Need for the project > Table A2.3). So, if 246,450 flight movements (see https://www.bitre.gov.au/publications/ongoing/airport_traffic_data) created 9,300,000 t CO₂ in 2019, then, presuming the range of flight distances remains in the same proportion, we can estimate that 136,500 flight movements will create 5,149,898 t CO₂ (9,300,000 divided by 246,450 times 136,500) in 2046. This assumes that CO₂ per flight movement will not change, and that any fuel efficiency gains are cancelled out by increased longer flight movements. But CO₂ emissions contribute just a third of a flight’s total warming (see https://stay-grounded.org/wp-content/uploads/2020/10/SG_Factsheet_Non-CO2_2020.pdf) So total warming from CO₂ and non-CO₂ flight emissions is three times 5,149,898 t, or 15,449,994 t CO₂-e. Upstream jet fuel or Well To Tank CO₂ emissions for jet fuel are equivalent to roughly 20% of flight CO₂ emissions. So 0.2 x 5,149,898 = 1,029,979 t CO₂. The UK government reported in 2018 the ratio between total emissions and in flight emissions (whether as CO₂ or GHG) as 1.2 (not including radiative forcing), as in, total is 120% of flight emissions (see <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019>). If we add that we get 15,449,994 + 1,029,979 = 16,479,973 t CO₂-e. So Third Runway flights in 2046 will create 16,479,973 t CO₂-e

3: See <http://www.cleanenergyregulator.gov.au/NGER/National%20greenhouse%20and%20energy%20reporting%20data/electricity-sector-emissions-and-generation-data/electricity-sector-emissions-and-generation-data-2019-20>

4: See MDP Part B, Chapter 11, 11.8