

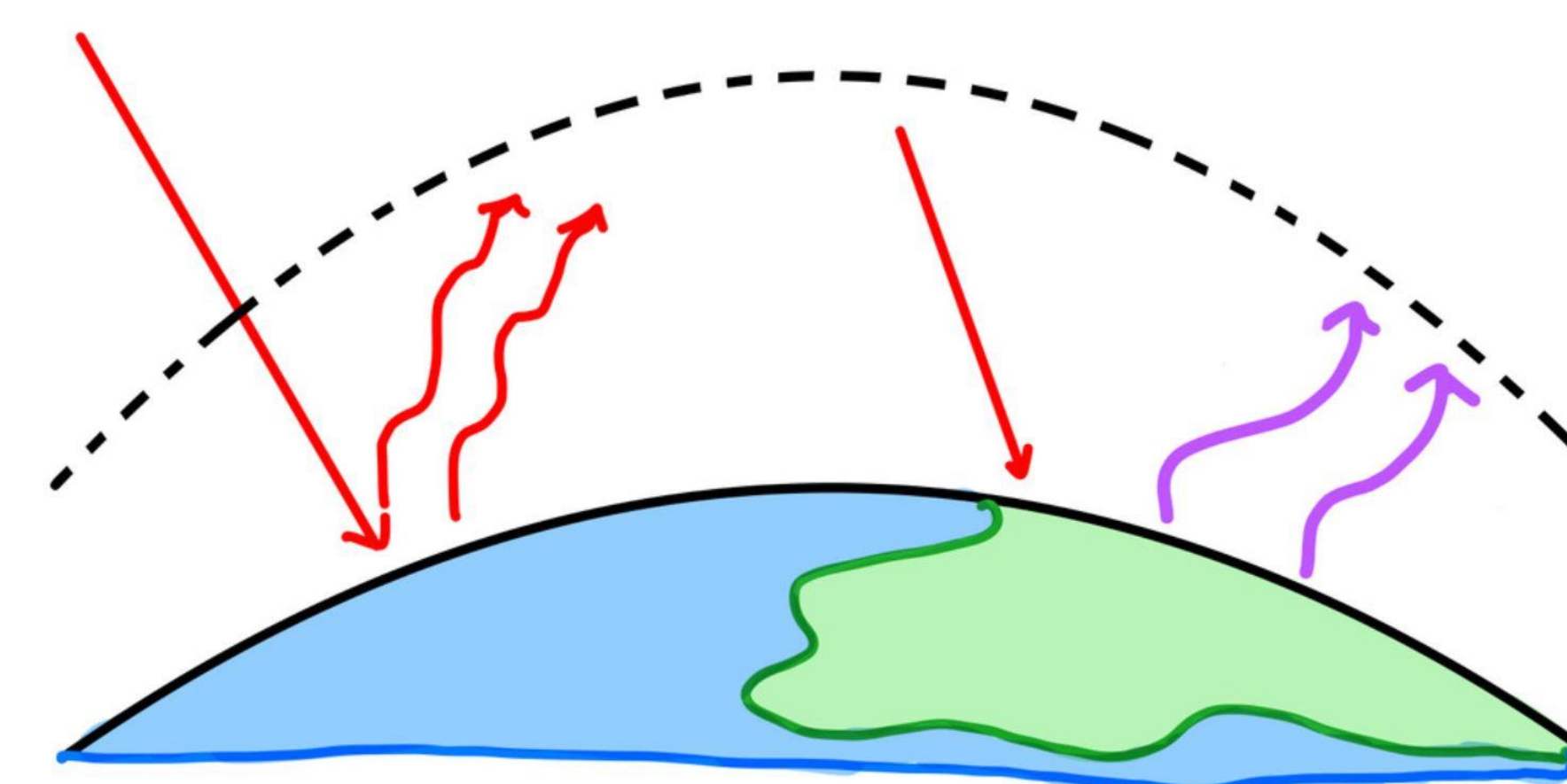


Greenhouse Gases



Greenhouse Gases (GHGs) - traps heat from the sun and warms the earth's surface

- ✓ 38% of GHG emissions in Ireland are from agriculture
- ✓ Sheep and goats produce 7.4% of global GHG emissions
- ✓ The main GHGs are:
 - Methane (CH₄) - 66% of GHG
 - from enteric fermentation and manure storage
 - Nitrous Oxide (N₂O) - 19% of GHG
 - from slurry/manure application/storage, chemical N and grazing
 - Carbon Dioxide (CO₂) - 15% of GHG
 - from concentrate/fertiliser production, fossil fuels & lime application



Global Warming Potential (GWP) – quantity of heat a GHG traps in the atmosphere relative to CO₂

- ✓ GWP measures accumulative warming over a 100-year period
- ✓ GWP is reported in CO₂ equivalent (CO₂ eq)
 - Carbon Dioxide is 1 kg CO₂ eq
 - Methane is 28 kg CO₂ eq
 - Nitrous Oxide is 265 kg CO₂ eq



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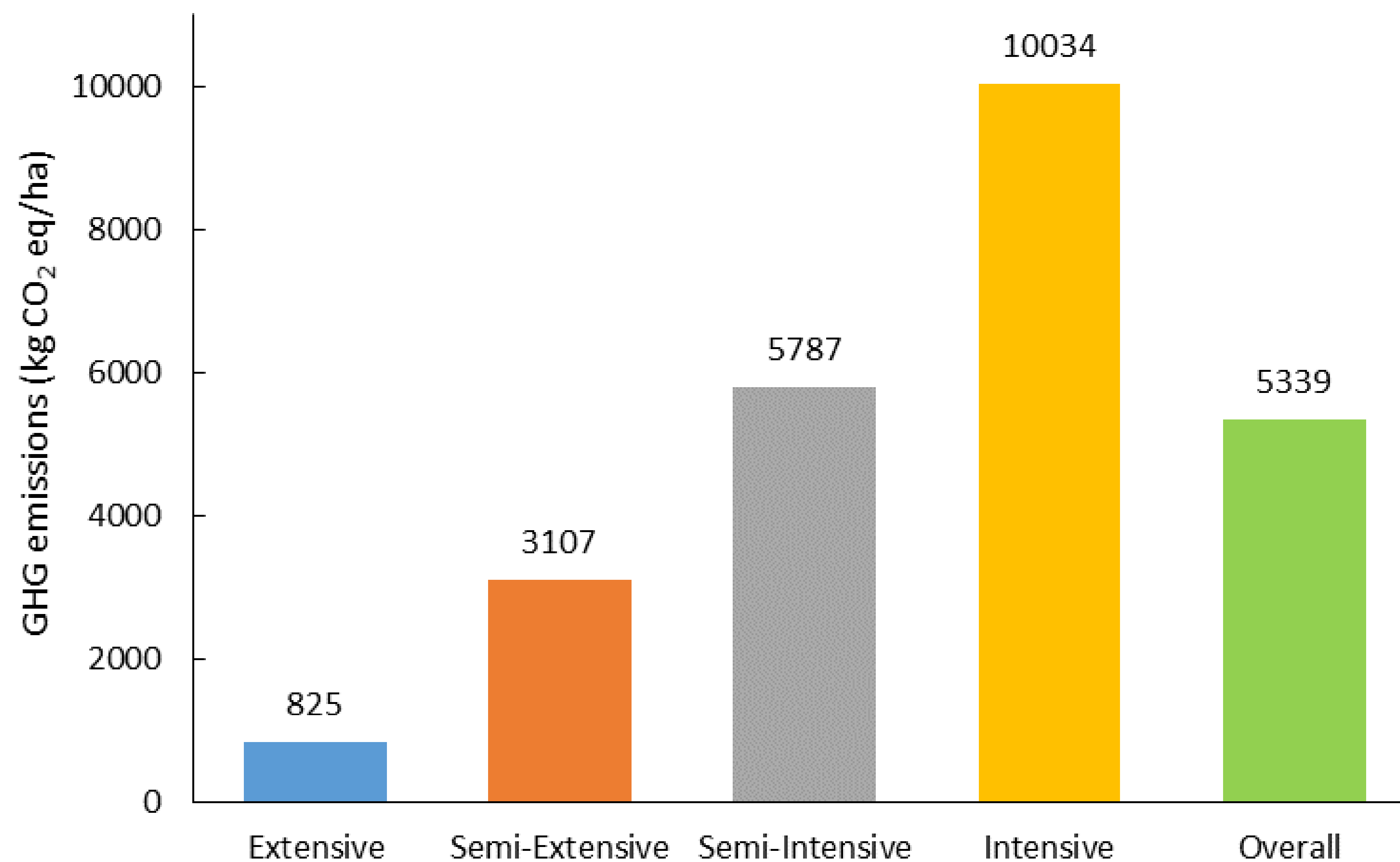
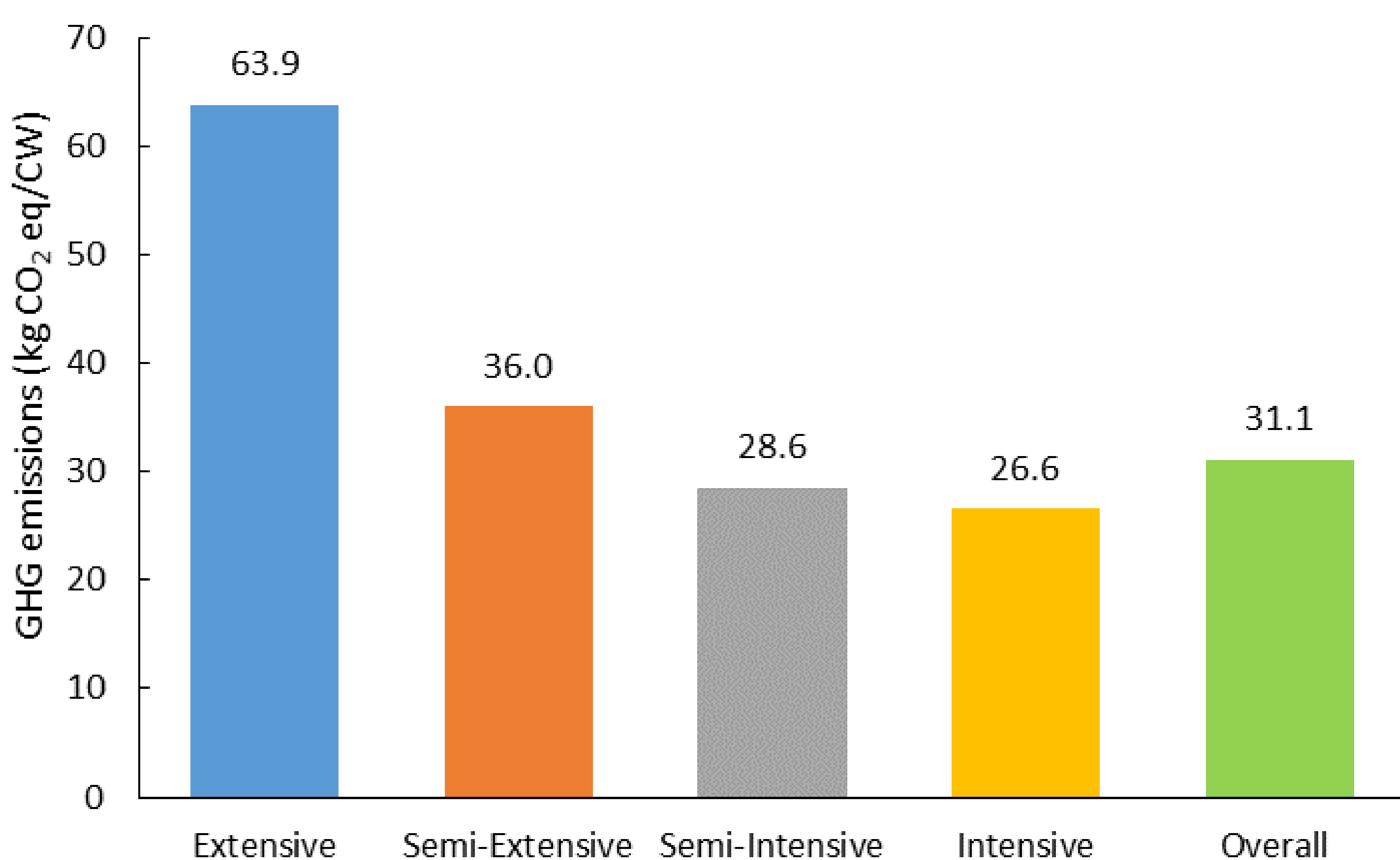




GHG emissions on sheep farms



Agricultural GHG emissions for Irish sheep systems



Mean GHG emissions = 31.1 kg CO₂ eq/kg carcass weight (excluding sequestration)

Mean GHG emissions = 5339 kg CO₂ eq/ha (excluding sequestration)

GHG mitigation practices

- 1) Grassland management (protected urea, clover, soil pH, P and K)
- 2) Manure management (low emissions slurry spreading)
- 3) Animal:
 - nutrition
 - genetics and breeding
 - health and welfare (e.g. animal longevity)

