Environmental Impact of Large Language Models
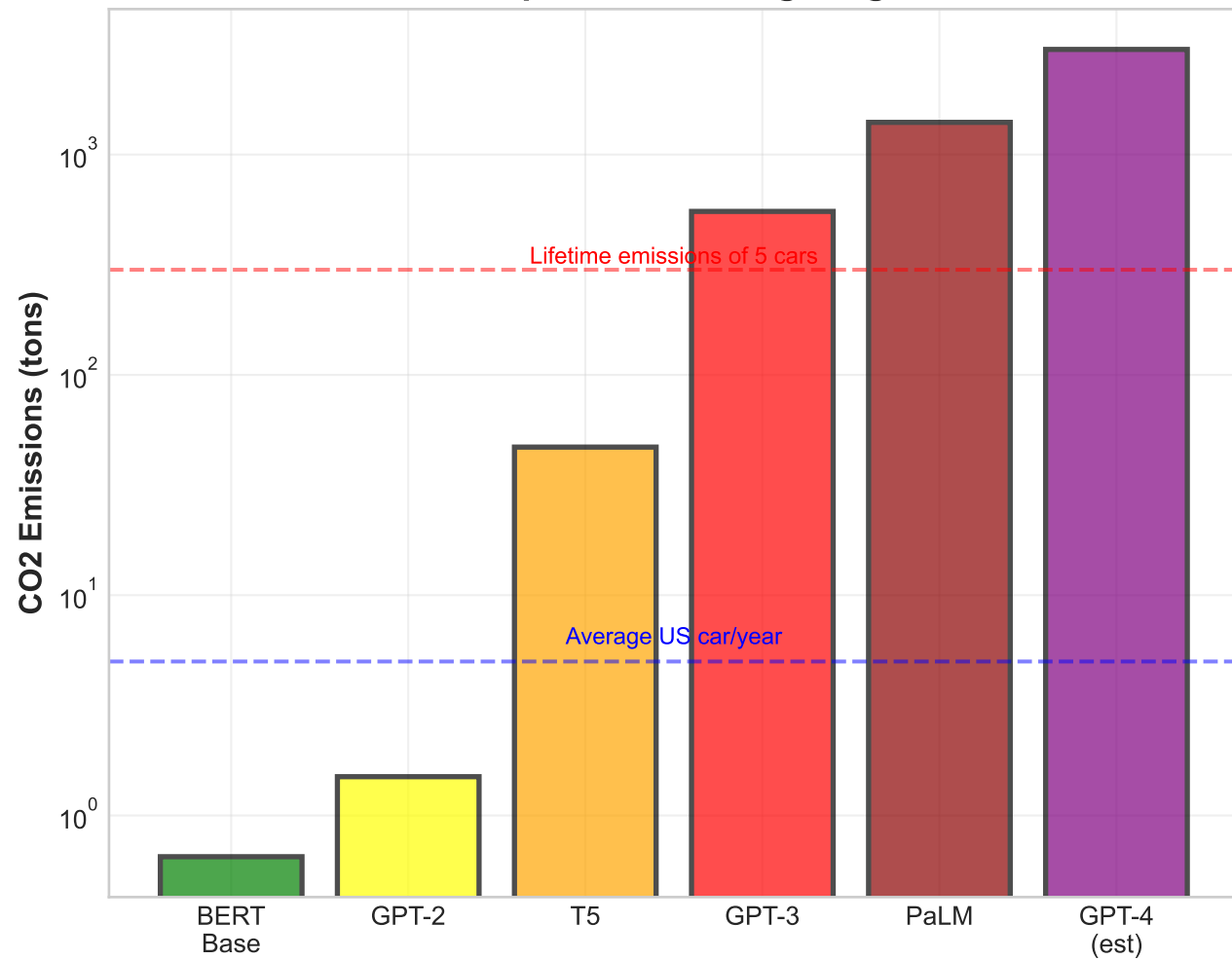
Carbon Footprint of Training Large Models

CO2 Emissions (tons)

Lifetime emissions of 5 cars

Average US car/year

BERT Base, GPT-2, T5, GPT-3, PaLM, GPT-4 (est)

Green AI: Mitigation Strategies

Potential Carbon Reduction (%)

- Compute Optimization: 50%
- Carbon Offsets: 30%
- Green Data Centers: 60%
- Efficient Architectures: 70%
- Model Reuse: 90%