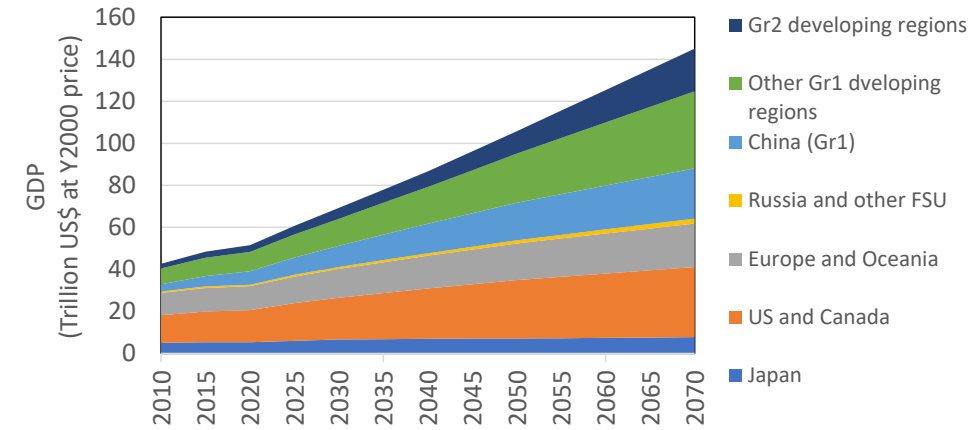
Supplementary Information

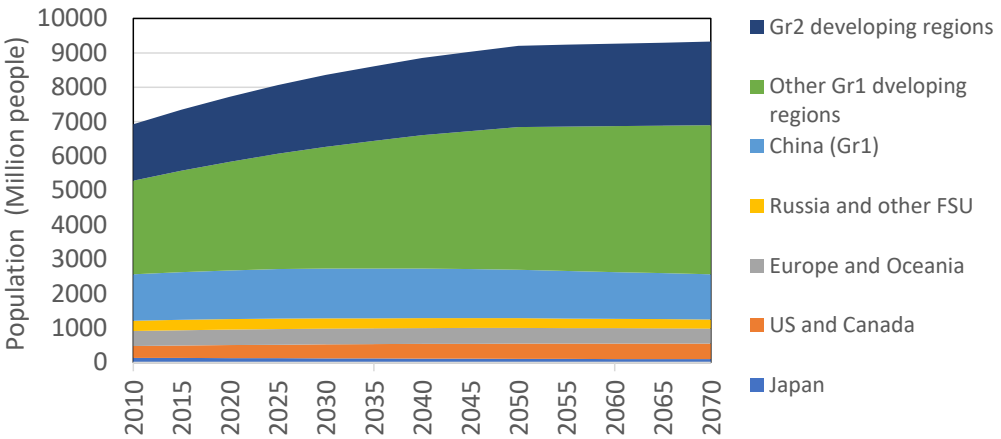
Combined effects of refrigerant substitutions of residential air conditioners and improvement in lifecycle refrigerant management on reduction of global greenhouse gas emissions

Figure S1 shows regional GDP, population and numbers of household assumed in this study, based on the SSP2 " middle of the road " scenario in SSPs (the Shared Socioeconomic Pathways) [1,2].

(a) Real GDP



(b) Population



(c) Number of household

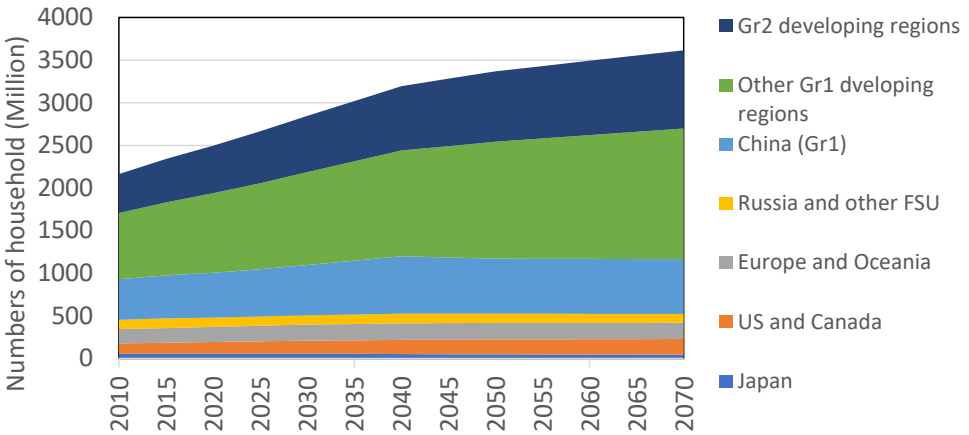


Figure S1 Regional GDP, population and number of household

Figure S2 shows numbers of residential air conditioners during operation. The stocks of residential air conditioners are estimated using Gi et al. [3] and per-capita GDP in Figure S1.

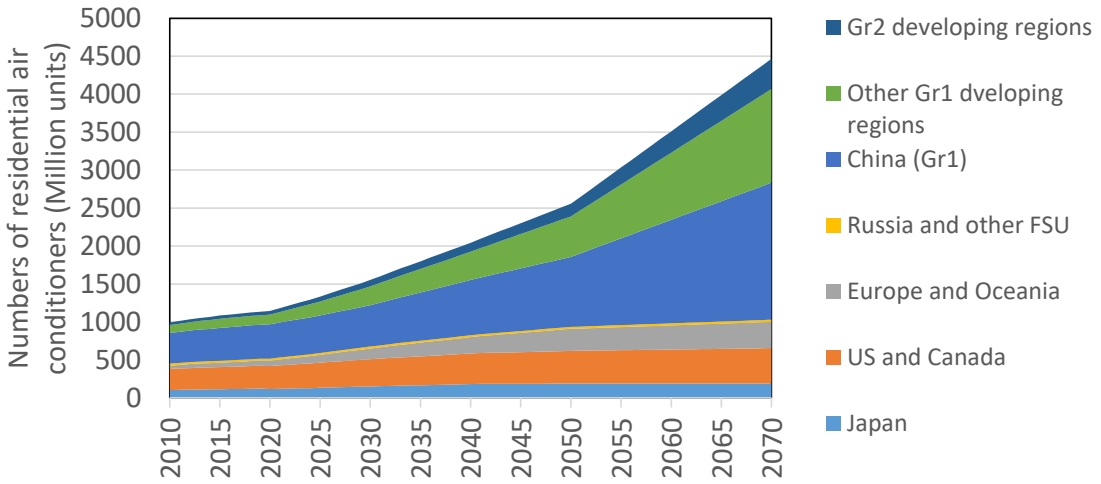


Figure S2 Stocks of residential air conditioners during operation

References

1. O'Neill, B.C.; Kriegler, E.; Riahi, K.; Ebi, K.L.; Hallegatte, S.; Carter, T.R.; Mathur, R.; van Vuuren, D.P. A new scenario framework for climate change research: The concept of shared socioeconomic pathways. *Clim. Change* **2014**, *122*, 387–400.
2. Riahi, K.; van Vuuren, D.P.; Kriegler, E.; Edmonds, J.; O'Neill, B.C.; Fujimori, S.; Bauer, N.; Calvin, K.; Dellink, R.; Fricko, O.; et al. The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. *Glob. Environ. Change* **2017**, *42*, 153–168.
3. Gi, K.; Sano, F.; Akimoto, K.; Tomoda, T.; Oda, J. A Global Analysis of Residential Air Conditioning Energy Demand Considering Cooling Capacity and Energy Efficiency. *Mitig. Adapt. Strateg. Glob. Change* **2018**, *23*, 51–79.