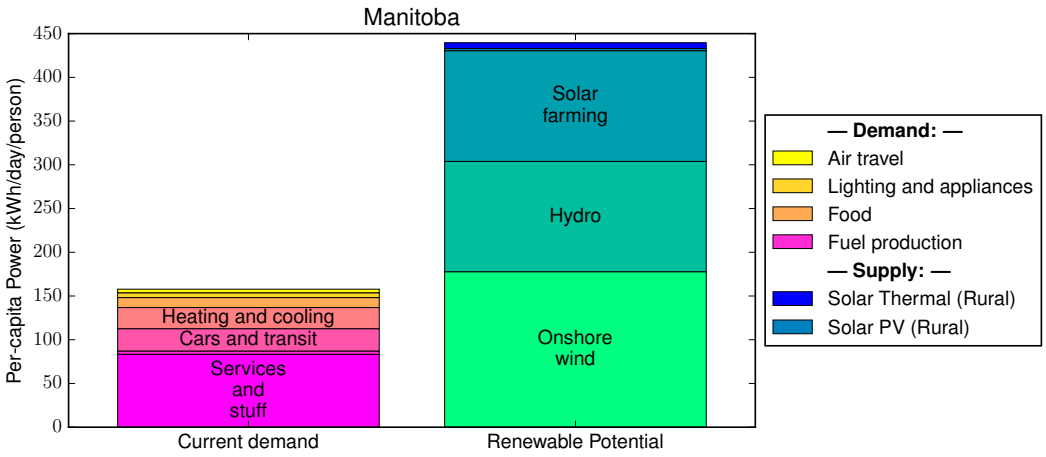
Renewable energy scenario for Manitoba

This snapshot is based on "The renewable energy landscape in Canada: a spatial analysis," *Renewable & Sustainable Energy Reviews* (2016), doi:10.1016/j.rser.2016.11.061. Our project assembles all sources of energy use into familiar household categories, and it identifies feasible sites for renewable energy generation across Canada. CONTACT: C. BARRINGTON-LEIGH, MCGILL UNIVERSITY

In comparison with Saskatchewan, Manitoba, portrayed in below, has less easily accessible wind power but more hydroelectric potential. Plenty of each of these, along with a deployment of solar farming as in Saskatchewan, would leave Manitoba with a 200% excess of renewable energy over its own (current) needs. In fact, this surplus would be sufficient, through exports, to close the gap between Ontario's demand and potential supply. Moreover, the complementarity of solar and wind power, which tend to peak at different times, and the further complementarity of these intermittent power sources with the throttlable resource of hydroelectricity, give Manitoba a particularly enviable endowment of renewables.



The stack on the left shows the sum of all energy currently consumed, as both electricity and combustion, in Manitoba. On the right is a breakdown of available renewable energy resources.

For maps, methods, sources, and more detailed discussion, see our full paper. We do not carry out an economic analysis, but our criteria for generation siting relate also to economic feasibility. Overall, our analysis shows that all but two provinces in Canada have sufficient renewable energy potential to meet the entire current energy demand.