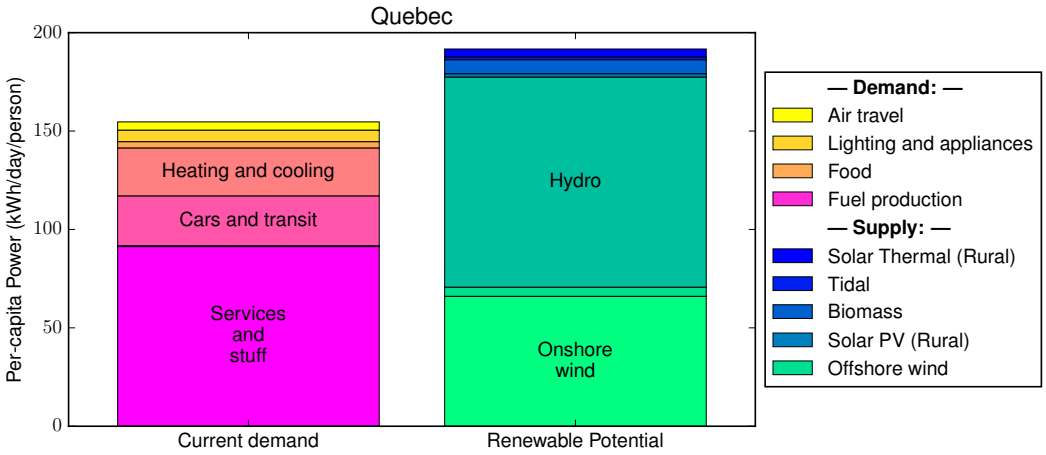
Renewable energy scenario for Quebec

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

Per capita energy demand in Quebec is typical of other provinces, at around 150 kWh per person, per day. Quebec is already exploiting an enormous hydroelectricity resource but, as shown in below, it has further capacity and in addition a large potential for wind power. Together, these would be more than sufficient to cover all of the existing energy demand of Canada's second largest province. As a reminder, the "Current demand" includes not only existing electricity use, but also all fossil fuel consumption for transportation, heating and cooking, and industry. Moreover, as in British Columbia, Quebec's huge load-stabilizing hydroelectricity capacity gives it a major advantage for developing intermittent renewables such as its onshore wind resources. In addition to these two primary energy sources, Quebec has the potential to generate power from biomass, tides, and offshore wind.



The stack on the left shows the sum of all energy currently consumed, as both electricity and combustion, in Quebec. 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.