

Climate change will have severe impacts on the biosphere that human society depends on, with repercussions increasing in step with the quantity of greenhouse gases emitted into the atmosphere. These impacts can be avoided by drastically reducing emissions from human society by transitioning to a 100% renewable energy system (100% RE) and reducing the quantity of energy needed overall. In 2016 Oxford County, Ontario set a goal to reach 100% RE by 2050. Using Oxford as a case study, this thesis describes best practices for transitioning to 100% RE for local governments in Canada. This thesis identifies the current progress toward reaching 100% renewable energy in Oxford County and existing strategic gaps that need to be addressed to achieve their goal of 100% RE by 2050 at the community level. It also sets out best practices and recommendations for future research in regards to achieving 100% RE in municipalities across Canada. This thesis also extends thinking on conceptual and theoretical approaches to achieving 100% RE in particular relation to municipal land use planning. The methods used in this analysis are based on the constant comparative method, utilizing a triangulation of (a) literature, (b) policy documents and (c) interviews with 17 expert informants from Canada and abroad. The value of communicative planning, planning tools and the various roles of planners are defined in the context of contributing to a 100% RE transition. Oxford County's energy and land use planning policies were reviewed and compared against those of other jurisdictions. Engagement, dwelling density, mixed use development, energy mapping, building retrofits and energy efficient building codes can all serve as effective tools to reduce GHG emissions when properly utilized. Oxford County has laid the ground work for a 100% RE future, though much work will need to be done to help it reach this ambitious goal. The policies of other jurisdictions provide some guidance. Over the past decade, the concept of utilizing land use planning to develop low GHG emission communities has become part of mainstream discourse. More recently, plans to reach 100% RE at the community level have become a globally phenomenon. This research is part of an emerging trend in research and policy, recognizing land use planning as an integral part of 100% RE Plans.