WWF
50 YEARS
OF CONSERVATION
IN CANADA
THANK YOU
FOR YOUR SUPPORT

HABITAT-FRIENDLY RENEWABLE ENERGY

Meeting our climate commitments through renewable energy sources will create new demands on our lands and oceans, which will increase potential conflicts with existing land uses and the pressures on wildlife, which are already threatened by habitat loss and fragmentation.

WWF's Living Planet Report shows global populations of wildlife have declined on average by 58 per cent between 1970 and 2012. At this trajectory, the decline could reach 67 per cent by 2020. The primary threats to wildlife include habitat loss, fragmentation, pollution, over-exploitation and climate change. To reverse the trends in wildlife loss, we have to fundamentally change how we are producing and using energy. According to the Global Footprint Network, Canada has the 5th highest footprint per capita in global hectares (8.8 gha/capita[1]). Canadians, on average, are using natural resources at a rate equivalent to 5.13 Earths each year[2] – the fifth highest rate in the world - and the majority is attributed to our energy use.

Canada has committed to reducing its greenhouse gas emissions by 80% by 2050. This means a rapid transition to renewable energy will be necessary to offset electricity generation from coal and other fossil-fuel based sources. If new wind, solar and hydropower projects are not planned strategically, the potential impacts of their development on wildlife and their habitats could be staggering. For example, recent energy scenarios for Canada indicate new generation capacity for wind power will require the installation of over 12 GW[3] wind capacity equivalent to more than 4,000 large scale wind turbines. While in Alberta, the province's renewable energy commitments could require more than 4000 acres of new solar panels to be built. Further, future energy scenarios suggest we can expect on the order of 100GW of new hydropower by 2050. These large-scale energy development projects may lead to considerable conversion, degradation and fragmentation of wildlife habitats.

Potential environmental impacts of renewable energy projects, and the associated concerns from communities and key project stakeholders, can become an impediment towards in the transition to renewable energy and could become a hurdle to overcome for rapid progress in GHG reduction as part of climate change action plan. Environmental impacts of proposed projects have become a critical impediment for some recent renewable energy projects, including in Ontario where concerns for the Blanding turtle halted a proposed wind development project in Prince Edward County, and in Saskatchewan where the Chaplin Lake wind project required a change in project location due to concerns for potential impacts on birds.

[1] http://www.footprintnetwork.org/content/documents/ecological_footprint_nations/ecological_per_capita.html
[2] http://data.footprintnetwork.org/compareCountries.html?yr=2013&type=earth&cn=33
[3] Canada's Energy Future 2016 – National Energy Board

RENEWABLES FOR NATURE© TOOL

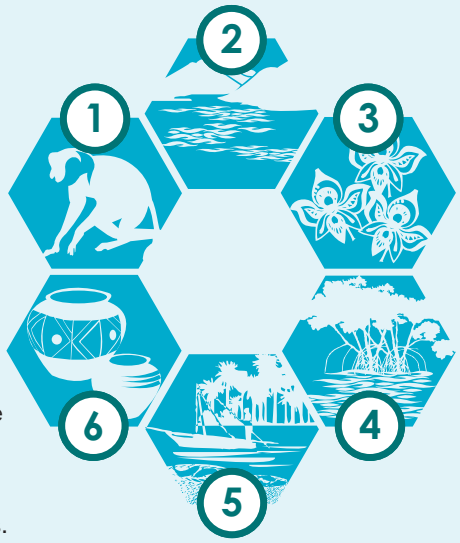
As an organization providing a scientifically robust approach to overcome this key barrier to large scale renewable energy deployment, WWF-Canada has developed a framework and an interactive tool for helping the transition to renewable energy, and combating climate change, by doing so in a habitat-friendly way.

WWF-Canada undertook this project after extensive consultations with industry and an in-depth review of international best-practices, which made it clear that there wasn't a consistent framework to identify and account for ecological values in renewable-energy development. We took it upon ourselves to fill that gap and help inform decision makers on larger-scale, community-led or industrial energy projects. We did so by adapting the High Conservation Value (HCV) framework – well known in Canada for its use in Forest Stewardship Certification (Figure 1) – to the renewable-energy landscape. No other tool like this exists in Canada.

The Six High Conservation Values

HCV 2 Landscape-level ecosystems and mosaics
Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

HCV 1 Species diversity
Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.



HCV 3 Ecosystems and habitats
Rare, threatened, or endangered ecosystems, habitats or refugia.

HCV 6 Cultural values
Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

HCV 4 Ecosystem services
Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

HCV 5 Community needs
Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc...), identified through engagement with these communities or indigenous peoples.

The HCV framework is used to guide decision making based on areas of high importance for social or environmental reasons. This framework brings forward a holistic approach that includes community needs and values.

This approach goes beyond the typical focus in project siting decisions, which are often restricted to regulated values like protected areas and species at the risk. Inclusion of these additional, non-regulatory values raises the importance of community needs and values in siting decision making and enhances the role of the community in the renewable energy development process. The HCV model can be used an open, and transparent framework to identify areas of both regulatory and reputational risk for renewable energy developers.

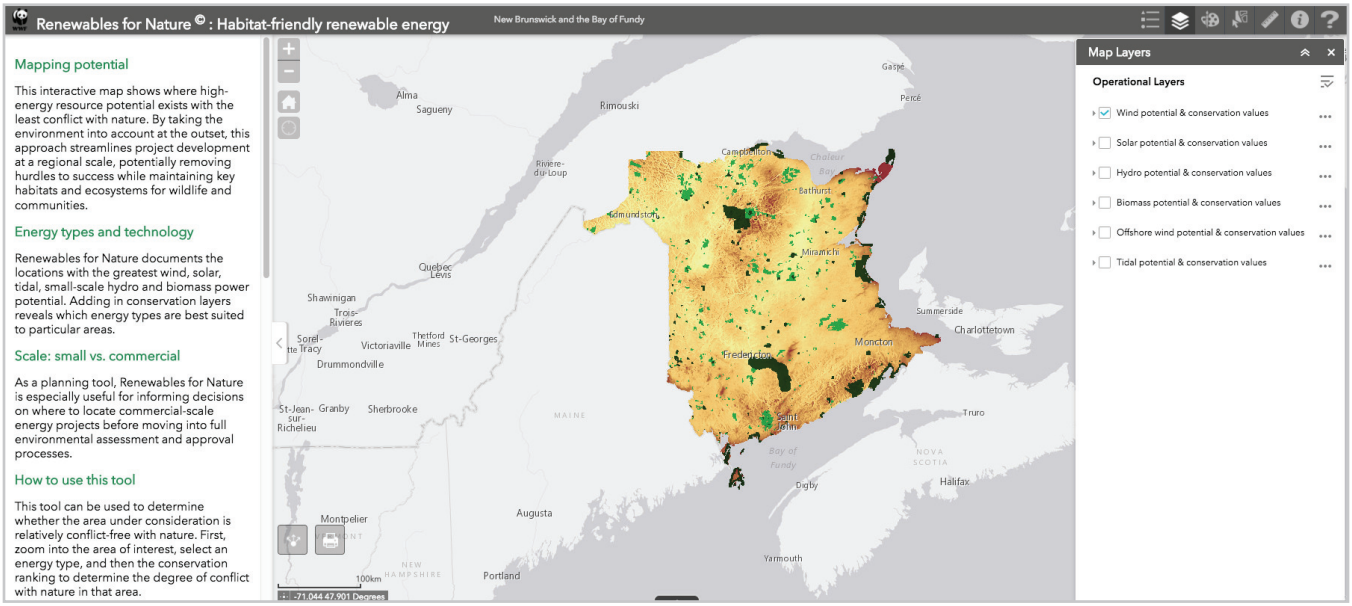
Over the last four years, WWF-Canada has developed a robust, science-based framework for our interactive mapping tool, including through a review of international best practice and extensive consultations with Canadian experts, ranging from academic researchers and government scientists to industry leaders.

The *Renewables for Nature*® is a tool that aims to speed the transition to a low-carbon future while ensuring key ecosystems and species thrive. By informing the earliest stages of renewable energy planning, we can make the needed changes in our energy systems to avoid the worst impacts of climate change, while protecting key wildlife and habitats from the unintended negative consequences of building new renewable energy projects.

Last year, WWF-Canada launched a prototype of the web based interactive tool for the province of New Brunswick and neighbouring Bay of Fundy. We also presented our Renewables for Nature tool to government, industry and community stakeholders and have made it publicly available online at:

http://wwf.ca/renewables4nature

The screen shot of RE4N tool prototyped in New Brunswick



A NATIONAL TOOL

As we scale up to a Canada-wide map, we plan to build more advanced functionalities into the tool, including the ability for user-defined inputs to address key requirements of industry and community groups, as well as enhancing the usability of the tool.

While our focus to date has been on New Brunswick and neighboring Bay of Fundy, we are now actively working to expand the project nationally and map the habitat-friendly renewable energy potential for all of Canada. The tool will enable industry, government and communities across Canada to create custom queries to best inform the sustainability concerns of the renewable energy projects in their region.

While our approach is unique in Canada, this is an innovative model that had broad relevance to inform renewable energy siting decisions, and an open-access data model will ensure this approach can be replicated around the world.