As part of our national plan for climate action, the Government of Canada has committed to reducing its greenhouse gas emissions by 80 per cent 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. With 66 per cent of electricity production in Canada already coming from renewable resources, we are uniquely positioned to lead the global transition to a 100 per cent renewable energy future. However, increasing conflicts with wildlife and community concerns about renewable energy projects impede development in Canada. Strategic spatial planning is necessary to inform siting of renewable energy projects to build community support and reduce potential conflicts during the development process.

Over the past four years, WWF-Canada has developed a robust, science-based framework for assessing a region’s renewable resource development potential that considers ecological and cultural values. Our High Conservation Value (HCV) approach helps minimize the impacts of renewable energy projects on nature, while maximizing economic and community benefits. This “habitat-friendly” approach to development provides investors, developers and communities with important information on species at risk, biodiversity and cultural significance for local or Indigenous people before investing further in a project site. By guiding and easing decision making by government and industry, we are helping energy leaders lay the foundation for a green and prosperous energy future for both people and wildlife in Canada.

WWF-Canada’s framework was finalized in 2015 following a review of international best practices in renewable energy planning, how the HCV model could address critical gaps and, finally, extensive consultations with Canadian experts—from academic researchers to government sciences to industry leaders. Since then, we piloted the application of the HCV framework for renewable energy in New Brunswick and neighbouring Bay of Fundy. We compiled thousands of data points to identify key ecological values, determine their relative sensitivity to six types of renewable energy (solar, onshore- and offshore-wind, tidal, biofuels and hydro) and map hotspots of biodiversity across the region.

SHAPING A SUSTAINABLE ENERGY FUTURE IN CANADA

OUR VISION

WWF-Canada’s vision is a nation powered 100 per cent by renewable energy by 2050.

HCV FRAMEWORK

CONSERVATION VALUES

1. Species diversity
2. Landscape-level ecosystems and mosaics
3. Ecosystems and habitats
4. Ecosystem services
5. Community needs
6. Cultural Values

APPLYING THE HIGH CONSERVATION VALUE FRAMEWORK

© NATGEO / SARAH LEEN / WWF

SHAPING A SUSTAINABLE ENERGY FUTURE IN CANADA

OUR VISION

WWF-Canada’s vision is a nation powered 100 per cent by renewable energy by 2050.

HCV FRAMEWORK

CONSERVATION VALUES

1. Species diversity
2. Landscape-level ecosystems and mosaics
3. Ecosystems and habitats
4. Ecosystem services
5. Community needs
6. Cultural Values

APPLYING THE HIGH CONSERVATION VALUE FRAMEWORK

WWF-Canada’s framework was finalized in 2015 following a review of international best practices in renewable energy planning, how the HCV model could address critical gaps and, finally, extensive consultations with Canadian experts—from academic researchers to government sciences to industry leaders. Since then, we piloted the application of the HCV framework for renewable energy in New Brunswick and neighbouring Bay of Fundy. We compiled thousands of data points to identify key ecological values, determine their relative sensitivity to six types of renewable energy (solar, onshore- and offshore-wind, tidal, biofuels and hydro) and map hotspots of biodiversity across the region.
Renewables for Nature (renewables4nature.wwf.ca) is a web-based tool that synthesizes the results of our pilot analysis into an interactive map intended to inform renewable energy development that minimizes environmental impacts. The platform overlaps layers of renewable energy capacity and ecological values, such as species-at-risk and zones of rich biological diversity, which are valuable in assessing risk and prioritizing development portfolios.

As a planning tool, Renewables for Nature is especially useful for informing decisions on where to locate commercial-scale energy projects before moving into a full environmental assessment and approval processes. Today, industry, government and communities can use Renewables for Nature to identify areas in the New Brunswick-Bay of Fundy region with high energy potential and low ecological conflicts to ensure successful renewable energy development. Our tool will reduce negative and resource-consuming nature-related conflicts over renewable energy development. It will also improve strategic decisions on renewable energy by providing a means to ensure that wildlife, habitat and related community and cultural priorities are taken into account.

CATALYZING RENEWABLE ENERGY DEVELOPMENT

WWF-Canada is aiming to expand the habitat-friendly renewables project across Canada, adapting our Renewables for Nature model to other regions. Similar interactive tools will be finalized for the province of Alberta by the summer of 2017 and for Saskatchewan by the fall of 2017. We are conducting significant outreach with industry, government and communities, soliciting feedback on the prototype to enhance the functionality and ease-of-use of the national-scale tool. Next steps include engaging communities in a survey and participatory mapping exercise to ensure the tool accounts for community values derived from the environment, including agriculture, forestry, fishing and recreation.

Renewables for Nature interactive maps will be based on the available energy and ecological datasets in the regions. 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.

We are at an exciting time in the development of habitat-friendly renewable energy alternatives across the province of Alberta. **Renewables for Nature can help accelerate renewable energy development while ensuring ecosystems and communities benefit.**