5 reasons *Americans should* CARE about Canadian Hydropower

Canadian Hydropower Association
Association canadienne de l'hydroélectricité

www.canadahydro.ca
info@canadahydro.ca
Twitter @CanadaHydro

1. HYDROPOWER IS KEY TO AMERICAN ENERGY INDEPENDENCE AND SECURITY

Hydropower is a shared and integrated North American resource. This source of reliable electricity helps Canada and the US to reduce dependency on foreign energy supplies.

Canada, already a leader in hydropower generation has the potential to more than double its current capacity to help meet growing American energy demand while supporting clean energy objectives.

If only half of Canada's total undeveloped potential was built and dedicated to powering plug-in electric vehicles, Canada could power its entire current light-duty vehicle fleet plus a full quarter of the current US fleet with clean, renewable, secure hydropower.

New, abundant sources of baseload hydropower will be necessary if the US is to develop its own secure and clean energy sources. As the only renewable form of baseload electricity, hydropower is essential to leading the transition away from unstable and volatile foreign energy sources while maximizing environmental benefit. Canada has abundant clean, stable hydropower capacity.

THAT'S SECURITY.

2. CANADIAN HYDROPOWER DELIVERS COMPETITIVE, SUSTAINABLE ENERGY AND AMERICAN JOBS

Approximately 1% of overall U.S. electricity is supplied by Canadian hydropower. Canadian hydro is a vital source of electricity in regions such as New York, New England, the Midwest and the Pacific Northwest.

The U.S. and Canada are each other's largest trading partners and this relationship extends to energy. It is estimated that for every dollar the U.S. spends on Canadian energy, the U.S. receives 91 cents from products that Canadians buy from the U.S.

Canadian hydropower is cost-competitive, which keeps rates low for American customers. **Affordable energy is a key driver for economic development and job creation in the US.**

Drawing on hydro storage capacity, operators can increase or decrease production more rapidly from hydropower than from any other electricity source, whether it is renewable or non-renewable. This flexibility can help facilitate additional wind and solar power projects in the US, creating new, green, American jobs.

Communities serviced and supported by hydropower can attract industries precisely because of its unique operational and environmental attributes. For example, BMW automobiles recently chose to build its advanced carbon fiber manufacturing facility in the US Pacific-Northwest specifically because the region is serviced by clean, renewable and competitive hydropower.

THAT'S SUSTAINABLE.

3. HYDROPOWER IS CLEAN & RENEWABLE

Hydropower draws energy from falling or flowing water and converts it into electricity, without consuming, wasting or depleting water in the process.

Converting over 90% of available energy into electricity, hydropower is one of the most efficient sources of electrical energy. By comparison, the best fossil fuel power plants are less efficient and convert only 60% of available energy into electricity.

Hydropower produces no air pollutants, and minimal greenhouse gases – the US National Academy of Sciences has found that **emissions from the construction and operation of a hydropower facility are comparable to other renewables such as wind power and many times less than natural gas.**

Together, Canadian and US hydropower resources represent approximately 80% of total renewable electricity generation in North America and is estimated to avoid approximately 350 million tonnes of greenhouse gas emissions per year.

As in the US, Canadian hydropower projects face the most stringent environmental regulation and protection of any electricity generation source. Each stage of a project is assessed to avoid, minimize, mitigate or compensate any impacts and to encourage positive outcomes for the environment.

THAT'S RENEWABLE.

4. 130 YEARS OF PROVEN TECHNOLOGY, HYDROPOWER CONTINUES TO LEAD

Hydropower facilities have a long service life, which can be extended indefinitely through refurbishment and upgrades. Some operating facilities in North America are over 100 years and older.

Hydropower is essential in maintaining the stability of electricity supply on both sides of the US - Canada border. It is a readily available energy source that guarantees rapid responses to changes in demand such as peaking or crisis management. Given its particular operational characteristics, **Canadian hydropower ensures safe, secure and reliable electricity supply to both the US and Canada.**

Canadian hydropower developers are leaders in weather and climate change modeling research. The Canadian hydropower industry is focused on ensuring its ability to continue generating flexible, competitive and reliable electricity, even as the climate changes.

THAT'S RELIABLE.

5. HYDROPOWER COLLABORATES WITH ABORIGINAL COMMUNITIES

The Canadian hydropower industry works closely with aboriginal community partners in the planning, construction, and implementation of new hydropower projects. Ensuring local communities share the benefits of a project througemployment, business opportunities, capacity building, and long-term revenues is fundamental to Canadian hydropower development.

Improved communication and relationships with aboriginal communities have created a two-way knowledge transfer that has enhanced environmental protection and aboriginal social well-being.

Recent Canadian hydropower development agreements represent some of the largest aboriginal energy partnerships in North American history.

THAT'S PROGRESS.

HYDRO BY THE NUMBERS

0	Air pollutants and ultra-low greenhouse gas emissions
1	World's leading renewable electricity source
1	Percent of the United States overall electricity supply from Canadian hydropower
60	Percent of Canada's electricity generation
50 -100	Years of hydropower facility life
175 000	Megawatts of installed capacity in Canada and the U.S.
250 000+	Megawatts of potential in Canada and the U.S.
50 000 000+	Equivalent households powered annually in Canada and the US
350 000 000	Tonnes/year of avoided greenhouse gas emissions in Canada and the U.S