

Renewable energy is energy from sources that are constantly renewed by natural processes.¹ The most relevant renewable energy sources to PNCIMA are wind power, water (hydroelectric) power, and ocean power from tidal and wave energy.

Existing and proposed projects are presented in the accompanying map. As of November 2010 there were 124 renewable energy tenures in PNCIMA issued as Licences of Occupation, Standard Leases or Investigative Permits. There were also 319 applications currently in process for licences or permits with the province at that time.² The accompanying map displays both tenures and applications.

It should be noted that tenures are both offered and expire over time; the BC Land and Resource Data Warehouse should have the most up to date information.³

Wind Power

Wind energy can be harnessed by turbines and converted into electricity.

As of November 2010 there were 79 wind power tenures held in PNCIMA and an additional 81 in the application phase. Wind energy projects are located both offshore and onshore within PNCIMA. There are a number of tenures located both onshore and offshore on northern Vancouver Island. There are large onshore tenures located on Aristazabal and Price Islands in the Central Coast as well as on Banks, McCauley and Porcher Islands in the North Coast. There are also large wind energy tenures currently held in Hecate Strait.²

Water Power

Water power is derived from the energy produced by the fall of water turning the blades of a turbine.⁴ Although not strictly marine, upstream water power projects can have downstream linkages to coastal areas.

There were 124 renewable energy tenures in PNCIMA in 2010

As of November 2010 there were 33 water power related tenures held in the watersheds flowing into PNCIMA including 14 in the investigative permit phase. A single project often requires multiple tenures for various aspects of the operation including the penstock, powerhouse and associated roads and transmission lines. An additional 230 tenures were in the application phase at that time.²

It was not possible to separate the data by project size. Therefore, the accompanying map includes all water power projects, regardless of their size.

Ocean Energy (Wave and Tidal)

The ocean produces mechanical energy from tides and waves. Ocean energy can be harnessed using systems fixed onshore or floating offshore.⁵

As of November 2010 there were 12 tenures for ocean power held in PNCIMA, all investigative permits, with an additional eight in the application phase.²

Power and Transmission Lines

Power and transmission line tenures and applications are included in the accompanying map because they are an integral component in the distribution of power derived from renewable energy sources.

Material presented is drawn from the following literature reviews, which include primary references:
 1 Government of BC. 2007. The BC energy plan. Ministry of Energy, Victoria, 44pp.
 2 Province of BC. 2010. Tantalus - Crown Tenures. November, 2010. Geographic Data Discovery Service. <https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=54099&recordSet=IS019115> (Accessed January 2011).
 3 British Columbia Marine Conservation Analysis Project Team. 2011. Marine atlas of Pacific Canada: a product of the British Columbia Marine Conservation Analysis. Available from www.bcmca.ca (Accessed March 2011).
 4 BC Ministry of Environment. 2010. Water stewardship. http://www.env.gov.bc.ca/wsd/water_rights/waterpower/ (Accessed January 2011).
 5 Cornett, A. 2006. Inventory of Canada's marine renewable energy resources. Canadian Hydraulics Centre, National Research Council. CHC-TR-041. 156 pp. http://chc.nrc-cnrc.gc.ca/Coastal/Projects/proj-6_e.html (Accessed November 2010)



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