



2007 Renewable Energy R&D Projects
August 22, 2007

Assessment of PNW Wave & Tidal Current Power Resources and Interaction with Electricity Demand
([Powertech Labs](#), [BC Hydro](#))

- Wave and tidal energy assessment for selected sites in the Pacific NW.
- Dynamic modeling for two leading wave and tidal energy conversion devices.

BPA Control Area Regional Wind Resource Dataset for the Determination of Wind Energy Integration Impacts ([3Tier](#))

- Wind assessment at high resolution for entire BPA control area.

Development of a Scalable, Transportable Energy Storage System ([North Carolina State University](#))

- Emitter Turn-off (ETO) energy storage system for voltage regulation on weak bus generation resources (i.e. Condon).

Improved Next-Day Forecasts of Rapid Wind Ramp Events ([3Tier](#))

- Identifying wind ramps periods in the preschedule using innovative meteorological techniques at three wind plants in the BPA control area.

Tacoma Narrows Tidal Energy Feasibility Project ([Tacoma Power](#))

- Feasibility study to assess various in-stream tidal generation devices, evaluating tidal current models and identifying permitting and environmental issues in the Tacoma Narrows.

Tidal In-Stream Energy Conversion Project ([Snohomish PUD](#))

- Survey seven sites in Puget Sound for tidal in-stream energy conversion devices, characterize several tidal prototypes, perform preliminary engineering design and assess environmental and regulatory issues at each site.

Wave Energy Lab and Test Beds ([Oregon State University](#))

- Build a wave energy linear test bed and establish an ocean deployed wave energy device test bed.

Wave Forecasting ([Electric Power Research Institute \[EPRI\]](#))

- Proposal to employ the operational forecasting products of NOAA/NECP models to predict ocean wave energy at water depths of coastal wave energy projects.

Wide Area Energy Storage and Management System ([Pacific Northwest National Laboratories \[PNNL\]](#))

- Mitigating intermittency and fast wind ramps between the BPA and Cal ISO control areas using energy storage, dispatchable load and distributed generation resources.

Wind Ramp Forecasting System Using Improved Doppler SODAR ([Second Wind](#), Oregon State University)

- Evaluation of capability of SODAR (sound based radar) to provide surface wind measurement data to support a real time wind ramp forecast system.