



*[www.flinkenergy.com](http://www.flinkenergy.com)*

## Sustainable Energy Consulting

**Ken Dragoon**

[k.dragoon@flinkenergy.com](mailto:k.dragoon@flinkenergy.com)

July 16, 2015

# Two Wave Energy Reports

[www.oregonwave.org](http://www.oregonwave.org)



## Wave Energy Utility Integration

Advanced Resource Characterization and Integration Costs and Issues

Prepared by  
Pacific Energy Ventures (J. Klure), Ecofys (K. Dragoon), Jeff King and Gordon Reikard  
On behalf of the Oregon Wave Energy Trust

December 31, 2013

## Second DRAFT

### Wave Energy Industry Update A Northwest US Perspective

Prepared by Flink Energy Consulting (K. Dragoon, J. Eckstein, L. Patton) On  
behalf of the Oregon Wave Energy Trust

This work was funded by the Oregon Wave Energy Trust (OWET). OWET was funded in part with Oregon State Lottery Funds administered by the Oregon Business Development Department. It is one of six Oregon Innovation Council initiatives supporting job creation and long-term economic growth.

Oregon Wave Energy Trust (OWET) is a nonprofit public-private partnership funded by the Oregon Innovation Council. Its mission is to support the responsible development of wave energy in Oregon. OWET emphasizes an inclusive, collaborative model to ensure that Oregon maintains its competitive advantage and maximizes the economic development and environmental potential of this emerging industry. Its work includes stakeholder outreach and education, policy development, environmental assessment, applied research and market development.

# Wave Energy Utility Integration

- Wave Energy is less variable and more predictable than wind energy.
  - Integration costs expected to be small fraction of wind integration costs.

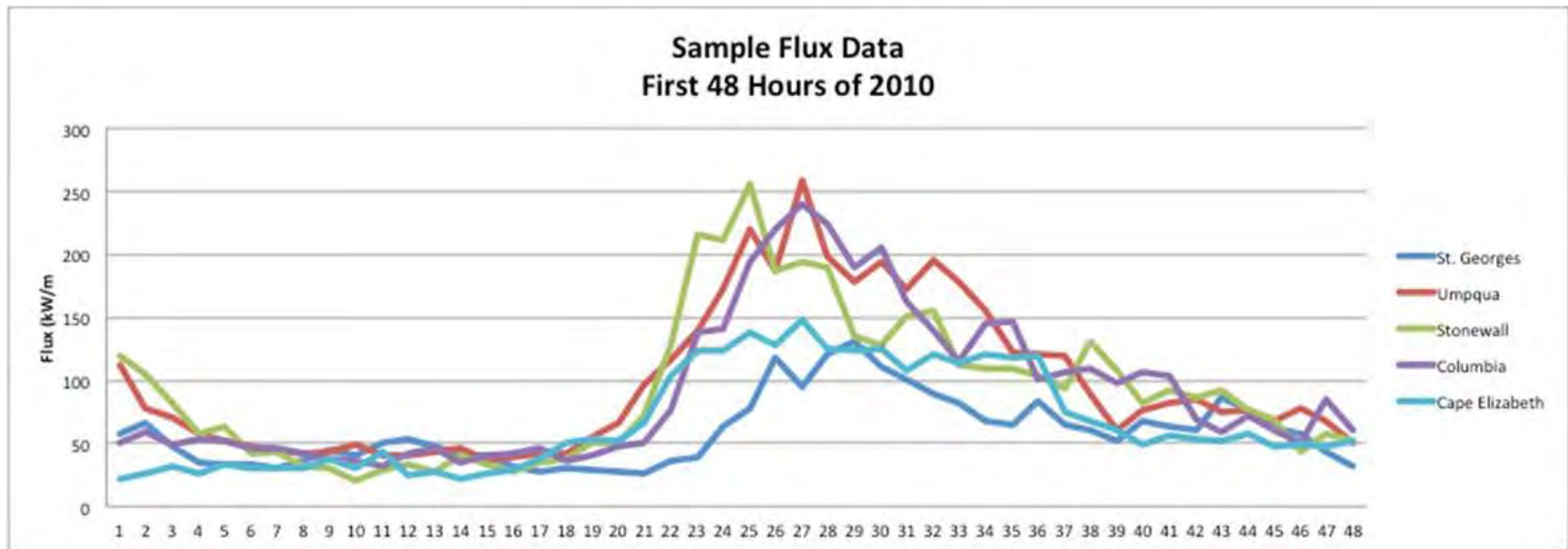


Figure 13: Sample wave energy flux data illustrating correlation among distant NDBC buoy sites

# Draft Wave Energy Industry Update

- A number of advantages of wave energy.
  - Significant source of low carbon power
  - Seasonal shape similar to regional loads
  - Integration costs are low compared to wind
  - Transmission support
- Not fully commercial yet
- A few recommendations
  - Consistent financial support at sustainable levels
  - Closer involvement and cooperation with regional utilities