

Open-House Tour
5 – 6pm

Alaska Solar Tour

DILLINGHAM

May 5, 2018

Timothy Oliver

Tour starts at 5pm at UAF Bristol Bay Campus
World's largest grassroots solar event is coming to town
Map of sites coming soon at www.AlaskaSolarTour.org

Learn more about wind and solar energy, wood gasification boilers and world record breaking, energy efficient construction techniques. Find out how your neighbors are trimming their energy bills by utilizing renewable energy and by becoming more energy efficient. Attending are the Students of the concurrent Energy Efficient Building class at UAF BBC.

Please meet at the Bristol Bay Campus. For more information contact Professor Tomas Marsik at (907) 842-5109 or email him.



Dillingham, AK Home Energy Tour May 5, 2018

SITE 1: UAF BRISTOL BAY CAMPUS

<https://uaf.edu/bbc/academics/>



The UAF Bristol Bay Campus (UAF BBC) has developed several sustainable energy projects. The college offers an Occupational Endorsement Sustainable Energy Degree, and has been leading by example. In the fall of 2009, they installed a 4 kW PV solar system. This system has been helping to lower the campus' usage of diesel powered electricity and is used as an educational tool for their Sustainable Energy Program. Also, students of a construction trades technology program built an experimental, extremely energy efficient structure largely based on the Passive House standard. The small building features 28" thick walls and is designed to be heated primarily by passive solar gain and heat produced by bodies, lights and a computer. Data are being collected to determine the building's energy performance. There is also a small wind turbine on the campus with a battery system used for educational purposes, an electric car built by students and a bicycle generator which utilizes pedal power to charge students' laptops. In 2015 the University of Alaska Fairbanks Bristol Bay Campus (UAF BBC) received the 1st University of Alaska Leadership in Energy and Environmental Design (LEED) award from U.S. Green Building Council. This confirms that the facility is environment friendly, healthy for its occupants, and has low use of energy and water.

<https://www.uaf.edu/bbesl/sustainable-energy/leed/>

SITE 2: MARSIK/DONALDSON RESIDENCE

<http://energy-alaska.wikidot.com/nzer-dillingham> <https://www.youtube.com/watch?v=t65oQhRT1bE>



Tom Marsik and Kristin Donaldson constructed a small house largely based on the Passive House standard. The home is built using advanced cold climate construction techniques and has many energy efficient and green building features. It's double-wall framing and 28" thick walls provide for remarkable R-values of 90 in the walls and 140 in the ceiling. The home lacks a conventional heating system, occasionally heat is supplemented by a small electric heater. Since it is so energy efficient and tight, body heat is part of the home heating calculations.

The home was recently recognized as the world's tightest residential building by the World Record Academy with recent blower door test results of 0.05 ACH at 50Pa! (the avg conventional home in USA is 3ACH to 4ACH at 50Pa, EE avg is 0.5ACH to 1AH at 50Pa)

http://www.worldrecordacademy.com/technology/tightest_residential_building_Dillingham_house_sets_world_record_213292.html

