Oregon Coast Renewable Energy Challenge
2015 Competition Guidelines

OVERVIEW

Who: 3rd-12th grade students from Oregon Coast STEM Hub partner districts
When: Tuesday, April 21, 2015 from 10am to 2pm
Where: Hatfield Marine Science Center Visitor Center in Newport, OR

The Oregon Coast Renewable Energy Challenge educates students about renewable energy options currently being investigated along the Oregon Coast and provides opportunities and support for teachers seeking to integrate STEM in their classrooms. At this event, students can bring their wave energy devices, wind turbines, and/or solar devices to the HMSC Visitor Center to test in wave tanks, wind tunnel or under high-powered lights to see which designs produce the greatest amount of energy. Volunteer judges from research and industry will be onsite to interact with students, assess student designs and provide feedback. Lunch will be provided for all participants.

WHAT TO BRING

1. Student-created renewable energy device (see below)
2. Poster - All entries must be accompanied by a poster display which details the design process and overall cost of the device. Teams of engineering judges will visit the posters and interview each team. Engineering judges’ scores will reflect student teams’ basic knowledge of energy and the engineering design process, teamwork and communication skills. Posters will be displayed on tables.
3. Video/Photo personal release form for each participating student, signed by a parent or guardian. Find this form on pg. 3 and 4, or follow http://bit.ly/16lkGJM

RENEWABLE ENERGY DEVICES

All devices must be student-created. Although “kits” may be utilized in the creation of devices, the more original the design and components used, the higher the score for the device will be. Awards will be given for wind, wave and solar devices based on:

- Functionality of the device (amount of energy produced, distance traveled, etc)
- Engineering design and construction
- Innovation
- Use of recycled materials
WIND
Wind energy devices will be tested in a wind tunnel and must conform to KidWind standards which can be found at:  http://challenge.kidwind.org/events/rules-and-prizes

Winning wind turbine designs will have the opportunity to advance to KidWind’s Regional Challenge (winning teams from WA, OR, CA, UT, ID) which will be held on May 9, 2015 at the Oregon Museum of Science and Industry (OMSI) in Portland, Oregon.

WAVE
Wave energy devices may be no more than 12 cm wide and 20 cm long (deep) due to the constraints of the wave tanks in which they will be tested. Examples of wave energy generators and construction tips can be found at:  http://nnmrec.oregonstate.edu/sites/default/files/we_curriculum.pdf

SOLAR
Solar devices may fall into the category of cars, boats, or other devices (solar oven, etc.). Races will be run to determine fastest boat and car. All devices in this category must be run on solar power only. Boats and cars can be no larger than 6 inches wide and 10 inches long.

HOW TO REGISTER
Teachers, please register your teams online at  http://bit.ly/1FaUdl5. You will be asked how many students and chaperones you will be bringing to the competition, and how many projects in each category you will be bringing. In order to participate, each student, teacher and chaperone will need to bring a Photo/Video Release Form (signed by a parent or guardian if under 18 years old). Please bring these signed forms with you on competition day.

QUESTIONS
If you have questions about the Oregon Coast Renewable Energy Challenge, contact Tracy Crews at OregonCoastSTEM@oregonstate.edu.
Video/Photo Personal Release
for Students and Participants in Oregon Coast STEM Hub 2014-15

I authorize the Oregon Coast STEM Hub and its partners, including Lincoln County School District, Tillamook School District, Oregon State University, Oregon Sea Grant, Hatfield Marine Science Center, and Oregon Coast Aquarium, acting pursuant to their authority to:

(a) Record me on videotape or audiotape, in photographs, or in any other recorded medium. I understand that these recordings may be used in any medium, including print, World Wide Web, video, or audio.

(b) Over 18: Use my name, likeness, voice, and biographical material in connection with recordings. Under 18: Use my likeness and voice only. No names will be associated with likenesses.

(c) Exhibit or distribute such recording in whole or part without restrictions or limitation for any educational or promotional purpose, which the Oregon Coast STEM Hub partners cited above and those pursuant to their authority deem appropriate.

I waive any right to inspect or approve the finished medium or the use to which it may be applied.

I represent that I have read and fully understood the above paragraphs and am knowingly and voluntarily executing this release. A parent or guardian signature on this document is required for individuals who are not at least 18 years of age.

___________________________________________________________
Name (PLEASE PRINT)

___________________________________________________________
Title

___________________________________________________________
Organization

___________________________________________________________
Street

___________________________________________________________
City          State       Zip

___________________________________________________________
Telephone (area code first)

___________________________________________________________
Parent/Guardian signature (if under 18)

___________________________________________________________
Parent/Guardian Name (printed)   Date

For Use by Oregon Coast STEM Hub: Received by __________________________ Date __________________________
Intended Use: Professional Development, Classroom and field experience observations, Publicity of project activities
Optional Information

Ethnicity
___ African American
___ Asian
___ Hispanic
___ Native American
___ Pacific Islander
___ White

Gender
___ Male
___ Female

Age___

Grade___

School District
___ Lincoln County
___ Tillamook
___ Coos Bay
___ North Bend
___ Siuslaw
___ Reedsport
___ Bandon
___ Nestucca
___ NeahKahnie
___ Astoria
___ Warrenton-Hammond
___ Seaside
___ Port Orford
___ Other: __________________________