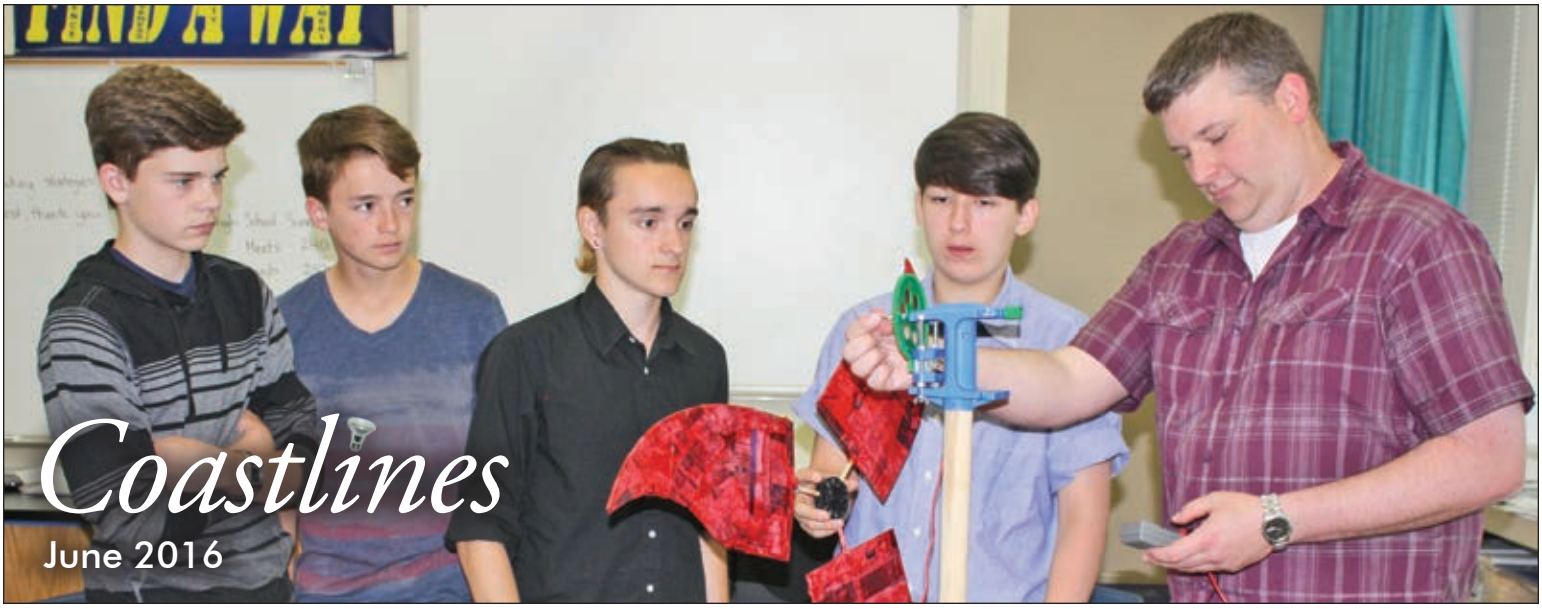

Coastlines

June 2016

Jaydn Spangler, Tristan Wilkison, Zachary Casberg & Logan Glenn watch Ben Ewing get ready to measure the output of their wind turbine

Blowing Away the Competition

Toledo High School students demonstrate they can compete with the best aspiring wind energy engineers in the U.S.

They smile softly as they think about their accomplishment: Two teams building wind-driven turbines so good these teens flew away with first and second places for Toledo High School, just east of Newport.

Educators have made STEM (science, technology, engineering and math) classes a high priority, as many of the jobs available in the future will require STEM skills. The Oregon Coast STEM hub, one of several in the state, hosts annual Renewable Energy Challenges to spur STEM learning. This year's Challenge in Newport included competitions in wind, wave, and solar energy. Nearly 200 students competed, bringing 59 devices for judges to review. "We're judged not just on our device's output, but on our effort, learning capacity, and a presentation we produce and show the judges," says Jaydn Spangler, the Toledo team's media designer.

Student Darius King checks out one of the other THS wind devices

In not quite four months, one winning Toledo team of freshmen and sophomores designed and manufactured a system of gears and blades that generates electric current by harnessing wind. The Renewable Energy Challenge encourages team members to have clearly defined roles, just as professionals do in high tech companies: Darius King is the data collector and researcher, Zachary Casberg the 3-D technician, Logan Glenn the lead designer, and Tristan Wilkison the videographer. They learned to make the calculations necessary to maximize wind energy output, designed their turbine's gears and produced them using a 3-D printer, and chose a unique, yet very productive design for their turbine's bright red blades. They settled on paper mache', but Zachary declares that with more time, "I know we can make them on the 3-D printer!"

Last month, the young designers took what was for some a first-ever plane trip, flying to New Orleans to compete as one of just 30 elite teams in the National KidWind Challenge. Toledo's teams finished at or near the top in the Instant Engineering Challenge (designing a floating structure to support a wind turbine) and in the Knowledge Test (testing team members' knowledge about wind energy).

"This has been one of the best experiences of my life!" one of Toledo's Lead Designers, Cody Kirkey, says excitedly. Toledo co-teachers Ben Ewing and Peter Lohonyay were pleased with their students' showing as well, thanking donors who made the trip possible. "We're grateful for the support from the local community to make this happen," says Lohonyay.

Due to the Oregon Coast's variable winds, wind energy hasn't yet been very productive here. Perhaps these up-and-coming designers will develop the technology needed to harness coastal wind blasts and breezes to turn them into carbon-free and renewable electricity.

Groundbreaking Held for New Operations Center!

The Central Lincoln facility housing our substation, communications, and meter shops are in the tsunami inundation zone and must be relocated, as these employees serve the entire Central Lincoln District, from Lincoln Beach south to North Bend.

Site preparation at the new location, which is geologically stable and well above the tsunami inundation zone, has begun. The new facility will be completed in August next year, helping to ensure we'll be ready to respond when the next disaster strikes the Oregon Coast.

(from left) Central Lincoln board members Judy Matheny, Ron Benfield, Curt Abbott, and Larkin Kaliher join General Manager Debra Smith in breaking ground for our new Operations Center in Newport

If You See Us Parading By, Please Wave– and Say "Hi!"

We love to celebrate, and our Parade Crew made May memorable in the Newport Loyalty Days (left), Florence Rhododendron Festival, and Reedsport Memorial Day Weekend parades. This month, we're gearing up for Waldport's Beachcomber Days (18th), and in July we'll be in the Gleneden Beach 4th of July, North Bend Jubilee (16th), and Toledo Summer Festival (23rd) parades. We'll hand out Tootsie Rolls– and smiles.

The Rest of the Story

The scoop on Angell Job Corps' wind turbines

Last month, we told you about Angell Job Corps, the "little city upon a hill" near Yachats that provides young adults with career training and life skills. Housing, feeding, and classes for 162 people year-round requires plenty of electricity, so about five years ago, Angell got a grant for two medium-sized wind turbines to generate power for the computers in the Center's Education Building. The original turbines had some alternator issues, but since those turbines were under warranty the manufacturer is replacing them with new, updated models. At press time, one new turbine (see photo) is up and generating, the second is expected to be installed this month.

Central Lincoln's Energy Services Administrator Wade Carey will be looking to see how much electricity the new turbines generate. "Challenges on the Oregon Coast for wind energy include our highly variable winds, and our coastal environment (corrosion). The wind here is even more intermittent than the sun," he says. "Consistent wind, such as that in the Columbia Gorge, is better for generating electricity. Solar panels may be a better option here on the coast."

Central Lincoln offers rebates for wind and solar projects.
See our website at clpud.org for more info.