BIE-IEED-ANL sponsored competition to promote careers in the green and renewable energy professions

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WASHINGTON – Assistant Secretary-Indian Affairs Larry Echo Hawk today announced the second competition for students attending high schools and tribal colleges funded by the Bureau of Indian Education (BIE) that will promote careers in the fields of green and renewable energy. This year's competition will be looking for designs of a conversion process that will change biomass into diesel fuel. The Indian Education Renewable Energy Challenge is being sponsored by the BIE in partnership with the Indian Affairs Office of Indian Energy and Economic Development (IEED) and the U.S. Department of Energy's Argonne National Laboratory (ANL).

"I am pleased to see this partnership provide such wonderful opportunity for students to design an innovative process that will convert biomass into diesel fuel," Echo Hawk said. "Our BIE students are incredibly talented, and this is an opportunity to take on a real world challenge to demonstrate a renewable energy and technology process that tribes can use to promote economic self-sufficiency in Indian Country."

The challenge is designed as a two-part competition. During Phase I, each school and college will establish a team of students to process designs for converting biomass to diesel fuel using any raw biomass material they wish, and must indicate how their process design ensures safety in view of the flammable product and the properties of any chemicals that may be used in the production. Five high school and five college design teams with the best submissions will receive $3,500 apiece to construct prototypes of their inventions. In Phase II, the teams will be provided with a diesel-powered generator so that each team can conduct performance data collections to submit, along with detailed reports and videos of their prototypes in operation, to ANL for evaluation by a team of judges. There are eight requirements to be met for Phase II of the challenge in order for the judges to view the final submissions:

1. A narrated video showing the process by which bio-diesel fuel has been made from biomass material. 2
2. A narrated video showing the generator in operation fueled by the bio-diesel and powering some appliance.
3. A 100 milliliter sample of the produced bio-diesel fuel, to be shipped in a container provided by Argonne National Laboratory.
4. Chemical equations showing the reactions used to convert the biomass material to biodiesel fuel. Include a per cent yield calculation for your process.
5. A flow chart for your process.
6. A specification sheet for the bio-diesel showing generator fuel consumption versus output power.
7. A written discussion of the safety issues associated with your process and with generator usage and the specific procedures that have been followed to ensure safe operation.

8. PowerPoint slides that will comprise a poster that will be displayed in Washington, D.C., in the event that your team wins the competition.

One top project will be selected from the high school teams and one from the college teams. The two winning teams will see their projects prominently displayed in Washington, D.C., where they also will have the opportunity to meet with senior Interior Department officials and attend a reception to be held in their honor.

Design proposals for the Indian Education Renewable Energy Challenge must be submitted to the ANL by November 30, 2010. The 10 teams whose projects have been selected will be notified by December 15, 2010. The submission deadline for final projects is May 1, 2011. Winners will be announced shortly after the final submissions.

For further information and application forms visit the Argonne National Laboratory's website at http://www.dep.anl.gov/indianed_energychallenge/.

The Assistant Secretary-Indian Affairs (ASIA) oversees the Office of Indian Energy and Economic Development, whose mission is to foster stronger American Indian and Alaska Native communities by helping federally recognized tribes with employment and workforce training programs; helping tribes develop their renewable and non-renewable energy and mineral resources; and increasing access to capital for tribal and individual American Indian and Alaska Native-owned businesses. ASIA also oversees the Bureau of Indian Education which operates the federal school system for American Indian and Alaska Native children from the federally recognized tribes. The BIE is responsible for ensuring the implementation of federal education laws, including the No Child Left Behind Act, in 183 BIE-funded elementary and secondary schools and residential programs located on 64 reservations in 23 states serving approximately 42,000 American Indian and Alaska Native students and employing over 5,000 teachers, administrators and support personnel. The BIE also provides resources and technical assistance to 124 tribally administered BIE-funded schools, 26 tribal colleges and universities and two technical colleges. It directly operates two post secondary institutions: Haskell Indian Nations University in Lawrence, Kan., and the Southwestern Indian Polytechnic Institute in Albuquerque, N.M. BIE website: http://www.bie.edu/
