Tyonek Coal-to-Liquids (CTL)

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Ground Truth Trekking

Table of Contents

Summary

In October 2010, the Tyonek Native Corporation (TNC) (http://www.tyonek.com/) announced that they had signed an agreement (http://www.petroleumnews.com/pntruncate/704322680.shtml) with a technology company called Accelergy (http://www.accelergy.com/) to develop a coal-to-liquids (CTL) (/Issues/AlaskaCoal/CoalToLiquids.html) plant on Tyonek land. This facility would produce aviation fuel as well as gasoline and diesel, and would generate 300 MW of electricity with waste heat.

TNC has long expressed interest in the CTL process and was involved in discussions (http://www.tyonek.com/forms/CEO%20Ltr.pdf) surrounding the now-shelved Beluga CTL plant (/Issues/AlaskaCoal/BelugaCTL.html). However, this proposed plant would use a new technology (http://www.petroleumnews.com/pntruncate/704322680.shtml) called “integrated coal-biomass-to-liquids” (ICBTL). This technology (http://biofuelsdigest.com/bdigest/2010/07/12/2554/) captures some of the carbon dioxide for use in the plant itself, and uses the rest to grow algae which is then be combusted in the plant

for energy generation. The combination of recycling carbon dioxide and the use of biomass could improve the efficiency of the CTL process while simultaneously reducing greenhouse gas emissions. Accelergy claims that 90% of the energy present in the coal is used in final products, though some of that energy is captured from the sun by algae along the way. However, Accelergy does not have any commercial production facilities and this technology remains untested on a large scale.

Coal feedstock for the operation could either be from the nearby proposed Chuitna coal mine (/Issues/AlaskaCoal/ChuitnaCoalMine.html) or from another new strip mine in the region. However, the latter case would add a lot of uncertainty and cost to the project.

TYONEK DOCK —

If the Tyonek CTL (/Issues/AlaskaCoal/TyonekCTL.html) project were to enter production, the fuels would be shipped out of this dock on Cook Inlet

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    <a class="figure-caption__link" href="/photos/tyonek-dock/">Get
Photo</a></figcaption></figure>
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Environmental Concerns

Coal mines have a wide range of local environmental impacts (/Issues/AlaskaCoal/CoalImpacts.html) to water and air quality, and the Chuitna prospect is already opposed (http://www.centerforwateradvocacy.org/news/view/146294/?topic=22776) by the nearby village of Tyonek. A large coal strip mine near Cook Inlet would inevitably have a significant environmental impact on the area. Also, though Accelergy's process is theoretically better than conventional gasoline for greenhouse gas emissions, it still results in extraction and combustion of fossil carbon that might otherwise have remained sequestered underground.

Current Status

This project is at an extremly early stage and would require another partner for development since Accelergy would only provide the technology for the facility.