CELLULOSIC ETHANOL AND GASIFICATION

Last week, six companies were awarded by the DOE $385 million in grants aimed at jumpstarting ethanol production. Surprisingly, half of the projects chosen will use a gasification process first discovered almost a century ago.

Brent Erickson, executive vice president of BIO's Industrial & Environmental Section. "The grants will help bring more ethanol motor fuel to the pump within the next few years, reducing both our reliance on imported oil and our emissions of greenhouse gases. Furthermore, these grants will bring thousands of new jobs to rural economies in Idaho, Iowa, and Kansas, where new biorefineries will be built. This is a win for consumers, a win for our rural economies, and a win for the environment.

The awards can match up to 40 percent of the companies' funding with federal grants, allowing both construction of new biorefineries and expansion of existing ethanol refineries to include large-scale cellulosic processing units.

Erickson continued, “Federal government cost-sharing for the construction of these large-scale biorefineries to convert cellulosic biomass to ethanol and other useful consumer products is a critical step toward bringing recent industrial biotech breakthroughs to the market”.

But the other winner here was gasification. Right now, it is a more expensive technology intensive process than current methods, but the DOE is apparently hoping that it might also provide a faster and more versatile way to produce ethanol or other from biomass.

A gasifier turns plant material into a synthesis gas consisting mostly of carbon monoxide and hydrogen. The “syngas” then could be turned into a variety of fuels including ethanol, hydrogen and environmentally friendly versions of diesel or gasoline.

So, the breakdown of the grants awarded goes like this:

Cellulosic ethanol:

– Iogen

– Broin (together with Dupont and Novozymes)

Gasification:

– Alico Inc.

– Range Fuels Inc.

Cellulosic ethanol and gasification:

– Abengoa Bioenergy, with its technology partner Dyadic International. It received a $76 million matching grant to construct a new facility producing 11.4 million gallons of ethanol from cellulose in Colwich, Kansas. It would use both biochemical and thermochemical processes to convert corn stalks, wheat straw and switchgrass.

By the way, when I mentioned yesterday some the “raw materials” that may be converted to ethanol, I was, apparently, forgetting quite a few. Some of the companies that won awards will also be using citrus peels, wood chips, yard waste and wood waste/timber scraps.

Source: https://technology4life.wordpress.com/2007/03/07/cellulosic-ethanol-and-gasification/