

## A) **State and Provincial Energy and Bioproducts Efforts | Doll/Herald**

*Moderator: Nick Tindall, AEM*

- a. State Ethanol Efforts, *Senator Jason Frerichs, South Dakota*
- b. Furandicarboxylic methyl ester (FDME), *Paul Bloom, ADM*
- c. Solar Efforts, *Representative Norine Hammond, Illinois*

### Jason Freichs - State Ethanol Efforts

In 1984, South Dakota implemented a 1 penny per gallon pipeline tax on ethanol that resulted in substantial revenue allowing the state to fund Ethanol Blender Pump and Precision Ag Building programs, and Road Funding. The premise was that if you use more ethanol you would pay less state gas tax. Retailers profited and were able to upgrade their operations as well. There are now 15 ethanol plants in South Dakota where the entire state vehicle fleet now uses premium E-30 fuel.

### Paul Bloom – Furandicarboxylic Methyl Ester (FDME)

Chemurgy, the branch of applied chemistry that is concerned with preparing industrial products from agricultural raw materials has been around a long time; Henry Ford was an early advocate. Originally ADM used all renewable resources in their processing until petrol started taking over. Currently ADM is working with DuPont to develop products in their new FDME pilot plant in Illinois. One such product is a FDME (fructose –based) bottle. The intent is to produce products such as packaging that is lighter weight, provides good barrier properties, and provides a longer shelf life. Anything can be made more bio, but performance needs to be there.

### Norine Hammond - Solar Efforts

Under the Illinois Coal to Solar and Energy Storage Act of 2019 many coal plants remaining in the southern part of the state are being repurposed for solar and energy storage projects. Homeowners and businesses are being offered rebates for the value of the energy they provide to the grid. The goal here calls for transitioning Illinois to 100 percent renewable energy by 2050. Components of the act include the solar for all incentives, and a program for mentorship that provides incentives for companies that hire and train individuals from lower income communities. As a follow-up to the Coal to Solar and Energy Storage Act, the Clean Energy Jobs Act has also been recently introduced.

### Discussion Points

- There doesn't seem to be much discussion on reliability vs. diversity in regards to bio-diesel as a fuel source.
- Since solar and wind are interruptible energy supplies, there have been issues in some states.

- Anaerobic digesters run by ADM result in methane, a biogas, which can be purified into pipeline quality natural gas.
- There is a need for logistics to be in place for the different sources of power to be harnessed, and grids that can handle it.
- The FDME bottle ADM has produced is not biodegradable but it is smarter packaging.
- Decisions regarding alternative energy sources can be decisive in rural communities, such as wind turbines due to sighting and aerial spray concerns. In South Dakota, there are state distance and height restrictions; counties can be more restrictive.
- North Dakota has had lobbying roadblocks in attempts to get an E-30 proposition passed.
- Hemp harvesting was researched extensively back in the 1930s. Production could be key in the future, as it results in strong reinforced materials.