FORESTERDAILYNEWS

Waste

CTs: Why, Where, What, and When (Number 2)

Reestablishing investor confidence in advanced bioenergy waste management solutions

John Trotti • August 9, 2016

Following the 2016 Southern California Conversion Technology Conference (SCCTC), put on by the Los Angeles County Department of Public Works (LACDPW) two weeks ago, I asked Jim Stewart, head of the BioEnergy Producers Association, to provide some background on the situation CTs face in helping fulfill the state's aggressive organic waste diversion mandates. At issue for an entire decade has been a scientifically inaccurate statutory definition of gasification, as well as other statutory and regulatory provisions that stand in the way of expanding the integrated waste management toolbox to include clean technologies capable of converting landfill-bound materials to beneficial use.

Here's what Stewart had to say:

During the past five years, waste disposal in California has increased from 30.4 million to 33.2 million tons per year. Theoretically, this has enough energy value to produce more than 1.6 billion gallons of biofuels per year.

Ft. Irwin Pyrolytic CT Plant Integrated Energy System

Despite the administration's virtually exclusive focus on recycling, anaerobic digestion and composting, little, if any, progress has been made in reducing our dependence upon landfills. Per-resident disposal has been essentially flat, and in 2015 the state's recycling rate dropped to 47%, below where it was in 2010.

In announcing these statistics, Scott Smithline of CalRecycle said, "The state's economic resurgence is impressive, but we have to find ways around the barriers to consistent, sustainable reductions in disposal." Conversion technologies could and should be a key element in this effort, if only our state's administration and its legislators would move to create a reasonable legislative and regulatory environment for these

technologies.

There are major initiatives evolving in Sacramento, perhaps a perfect storm of initiatives, which lead us to believe that the time is approaching for our governor and legislature to recognize the potential of these 21st century technologies and take action.

AB 341 has mandated the 75% recycling of organics by 2020, 100% by 2025.
AB 350 has mandated that 50% of our power be renewable by 2030. For Southern California Gas alone, that would require 50 billion cubic feet of renewable natural gas per year. Southern California Gas has estimated the types and number of facilities that the utility will require to meet that goal. It includes 14 gasification facilities capable of producing 42,000 SCFM of RNG (biomethane) from municipal solid waste (MSW).
We now have a Low Carbon Fuel Standard in place, with no technologies available in California that can produce qualifying gasoline. Solid waste conversion technologies exist that can produce drop-in gasoline with a carbon intensity that meets this standard.

And the Governor remains committed to his goal of reducing California's consumption of petroleum transportation fuels by 50% by 2030, and achieving by 2050, greenhouse gas emissions from the transportation sector that are 80% below those in 1990.
To achieve 75% diversion of organics from landfills by 2020 will require the state to reduce by 10 million tons the amount of waste being landfilled today…and this, when green waste used as daily cover in landfills will no longer qualify as diversion.

It will also require regulatory changes that allow renewable natural gas to be injected in California's pipelines. Waste-derived renewable natural gas is now being injected into pipelines elsewhere in the country and sold into California for the production of power, but current regulations prevent you from producing that same RNG and injecting it into a pipeline here within this state.

Safe 21st century thermal technologies are an essential element of any effort to achieve these goals, to interdict solid waste before it is placed in landfills and to produce fuels, chemicals and other products, and importantly, to produce biomethane for renewable power production. We believe their time has come and that the next session of our legislature may be the time to try again.

It has been estimated that energy recovery will ultimately generate 70% of the revenue attributable to next-generation waste management technologies in North America.
California law (PRC 40180) defines recycling, as "the process of collecting, sorting, cleansing, treating, and reconstituting of materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products, which meet the quality standards necessary to be used in the marketplace."

In the administration's implementation of AB 341 and other waste-related initiatives, current regulatory practice rarely adheres to this definition, overlooking technologies capable or returning recyclable materials "to the economic mainstream in the form of

raw materials," i.e., embracing the recycling of carbon on the molecular level, not simply recycling finished products. In many states across the country, the production of renewable energy is accepted as a primary step in recycling, not the last step.

The BioEnergy Producers Association believes the issues to be addressed under AB 341 should be much more far-reaching. The industry has embarked on a paradigm shift. We maintain that by the end of this decade, the production of renewable energy from organic wastes will be widely accepted as a primary step in recycling, not the last step.
The recycling of MSW's carbon content at its molecular level will be seen as an asset, a strategic resource in a circular economy.

What do you think?

Interestingly, as I was putting this blog to bed, I received my latest issue of Aviation Week and Space Technology, featuring an editorial piece regarding aviation's contribution to atmospheric pollution and climate change. Referring to the situation as having an elephant in the room no one wants to see, the author pointed out that air travel and related emissions have doubled in the past 15 years with aircraft the largest transportation source not subject to US greenhouse gas standards. He went on to say that while the use of alternative fuels was expected to provide a large measure to the push for pollution reduction by 2020, the effort has been slow to develop with only two airports—Oslo and Los Angeles–offering biofuels to airline customers.
Here again is an opportunity, perhaps one that can be viewed as a genuine requirement for California and other jurisdictions to not just remove restrictions to CTs but lend their support as well.

While much of what Jim Stewart had to say is California-specific involving opinions of the BioEnergy Producer's Association, its viewpoint is not unique to either entity as confirmed by other SCCTC presentations. That said, I want to invite your thoughts and comments on the subjects involved so they can become a part of this series on conversion technologies.