

NAWTEC 12 Speaker Abstract

**The Emergence of Conversion Technologies in California
as a Viable Alternative to Landfilling**

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In the 1980's, California faced landfill siting problems and a projected shortage of landfill capacity that could impact the health and safety in California. To address this issue, the California Integrated Waste Management Act was passed in 1990 and established a framework to limit reliance on landfills. This framework gives greater emphasis to recycling, waste prevention, source reduction, and composting. The Integrated Waste Management Act required each city and county to implement plans to divert 25% of solid waste by 1995 and 50% by 2000 from landfills. Although we have achieved a 47% diversion rate and have 170 composting facilities, we still have approximately 30 millions tons of material being landfilled. This may be an untapped resource for energy and alternative fuels production.

Today we face a new set of issues. California must diversify its sources of electricity to reduce our reliance on natural gas. We must also achieve a 20% threshold of renewable energy by 2017. California will need between 600 million and 900 million gallons of ethanol annually to replace MTBE. We cannot rely on Midwest corn ethanol as the sole supplier of our ethanol needs.

For the last four years, the California Integrated Waste Management Board has been researching how conversion technologies such as gasification, pyrolysis, and hydrolysis can help address these vexing issues while at the same time diverting materials from landfills. The Board recently funded two separate studies that look at technical and lifecycle aspects of conversion technologies and how they would affect the current waste management system.

We have contracted with the University of California, Riverside's Center for Environmental Research and Technology, and in cooperation with UC Davis, to evaluate conversion technologies. The evaluation will include, at a minimum, an analysis of the performance characteristics, current technical limitations and commercial status of each technology. The evaluation will also include an identification of emissions, residues (hazardous and non-hazardous), nuisance factors, other environmental impacts associated with each technology, and a description of applicable non-hazardous feedstock and feedstock requirements.

The second study the Board has funded is a study of the lifecycle environmental impacts and market impact implications that conversion technologies may have on recycling and compost markets. The lifecycle analyses will compare the environmental performance of individual solid waste management processes (e.g. gasification, hydrolysis, composting, landfilling) for specific scenarios in the Los Angeles and San Francisco Bay region. A market impact analysis will be conducted to determine what impact conversion technologies may have on recycling (specifically paper and plastics) and on organic materials management. More specifically, the goal of the market impact assessment is to quantitatively analyze whether the development and growth of conversion technologies in California will have a negative, neutral, or positive impact on paper, plastic, and organic materials management industries' ability to remain viable and/or expand.

The results of these studies, which will be presented at NAWTEC, will be included in a report that will be sent to the California Legislature. The report to the Legislature will include policy recommendations pertaining to the development of conversion technologies in California.

Linda Moulton-Patterson was appointed as a full-time member of the California Integrated Waste Management Board on August 30, 1999. Representing the public, she was Governor Gray Davis' first appointment to the Board. She was elected as Board Chair in May 2000. Ms. Moulton-Patterson was re-appointed by Governor Davis on January 5, 2001. A former member of the California Coastal Commission, she is also committed to preserving California's beaches, parks, and wetlands. Ms. Moulton-Patterson has a strong background in public service. She served as Mayor and Council Member of the City of Huntington Beach and as President and Board Member of the Huntington Beach Union High School District. Before entering public life, she was a teacher at the elementary and community college levels.