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### A LOOK AT THE SOUTHERN CALIFORNIA CONVERSION TECHNOLOGY PROJECT

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#### ABSTRACT

This presentation provides an overview of conversion technologies, their potential benefits and applicability to solid waste management, and the efforts to develop conversion facilities around the country and specifically, California, including Los Angeles County's model for development. The Southern California Demonstration Project spearheaded by Los Angeles County is a unique project that proposes to develop up to four conversion technology demonstration facilities throughout Southern California, potentially the first of their kind anywhere in the U.S. These facilities will be collocated with material recovery facilities and will be designed specifically to process municipal solid waste residuals.

#### 1. INTRODUCTION

##### 1.1 What's the Problem?

Despite a 52 percent diversion rate, the County of Los Angeles continues to dispose of over 11 million tons of solid waste each year. Upcoming landfill closures, environmental concerns, and other solid waste issues have prompted the County to apply a diversified approach to solid waste management. In addition to expanding local capacity, seeking remote disposal capacity, and enhancing and expanding waste diversion and recycling activities, Los Angeles County has incorporated the development of conversion technologies as a means to accommodate our long-term solid waste management needs.

##### 1.2 Introduction to Conversion Technologies

Spearheaded by Los Angeles County, the Southern California Conversion Technology Demonstration Project is a unique project that proposes to develop up to four conversion technology demonstration facilities in Southern California, potentially the first of their kind anywhere in

the United States. Collocated with material recovery facilities, they will be designed specifically to process municipal solid waste (MSW) residuals. The commercialization of conversion technologies creates a realistic potential to achieve state diversion rates beyond 75 percent according to Martin [1]. Conversion technologies can revolutionize the way solid waste is managed in California, transforming waste that is currently an economic, environmental and political liability into a valuable commodity and resource.

#### 2. WHAT ARE CONVERSION TECHNOLOGIES?

The term conversion technology refers to a variety of state of the art technologies including pyrolysis, gasification, anaerobic digestion, and ethanol fermentation, capable of converting residual solid waste into an array of high value, marketable materials and green fuels such as ethanol, biodiesel, biomethane, and hydrogen, that can produce clean, renewable energy.

Such facilities represent the most significant market opportunity for MSW to come along since passage of California's AB 939 in 1989, which requires municipalities to divert 50 percent of their waste stream from disposal. According to Public Resource Code section 40124 and the California Integrated Waste Management Board (CIWMB), "diversion" is defined as the quantity and type of solid waste material generated within a jurisdiction, which is not disposed at Board-permitted solid waste transformation and disposal facilities [2]. Jurisdictions are allowed to receive 10 percent diversion credit from transformation, which at this time only applies to existing waste-to-energy facilities. As discussed in Section 4, regulatory clarity is vital if conversion technologies are to be considered diversion thus providing another pathway for jurisdictions to meet State mandates.