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SOLID WASTE CARBON PLANNING TOOL

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ABSTRACT

The EPA has developed the Waste Reduction Model (WARM) to help solid waste managers estimate greenhouse gas (GHG) emission reductions from several different waste management practices. This model is useful for high level analysis but breaks down when applied to specific local systems. This paper will discuss new work currently being done by HDR to provide more reliable analysis of local conditions. This capability is of growing importance given the emergence of national carbon regulations which will require solid waste managers to develop greenhouse gas reduction strategies for their local systems.

INTRODUCTION

Public and governmental interest in climate change has increased dramatically over the past ten years. State and local governments have taken the lead in developing regulations and mandates related to reducing greenhouse gas emissions (GHG). Recently, momentum has been building in the United States (U.S.) Congress to pass some type of national climate change legislation. Politicians are being pressured by concerned citizens who would like to reduce GHG emissions and by private companies who would like to replace the current uneven policy environment with a uniform federal regulation. According to the Pew Center on Global Climate Change, the lawmakers in the 110th Congress have introduced 180 bills, resolutions and amendments focusing on global climate change and GHG emissions by February 2008. Only 106 pieces of similar legislation were submitted in 2005 and 2006 combined. Solid waste management is one of the largest sources of GHG emissions within local governments. As a result, many solid waste managers are beginning to evaluate their GHG emissions and explore system changes to reduce their carbon footprint.

In an article published in the proceedings for the National Waste-to-Energy Conference (NAWTEC) in May 21-23, 2007 and recently in the October issue of the MSW Management Magazine called "Low Carbon Solid Waste Management Systems", HDR described a process for developing strategies to lower the carbon footprint of a given solid waste

management system. The process includes establishing a baseline, setting a goal, calculating emissions, developing internal policies to meet the goal, and reporting results to stakeholders. In a panel discussion at the WASTECON 2007, HDR professionals discussed their experience in applying the high level process described in the NAWTEC paper to a specific solid waste system. To further help solid waste professionals begin to understand how to develop a greenhouse gas emission reduction strategy for their own systems, HDR is working with the Solid Waste Association of North America (SWANA) to develop a carbon accounting planning tool to provide solid waste managers with a methodology to evaluate program change impacts on system carbon emissions to meet carbon reduction goals, which are likely to be set; and eventually take advantage of potential carbon credits. The planning tool will allow managers to evaluate potential offset-generating strategies for their various solid waste system components as they develop their solid waste plans (although addressing issues such as additionality and certification of reductions would be a separate process). The solid waste carbon accounting tools currently available to solid waste managers can help them begin to determine the carbon footprint of system components. However, these tools do not allow solid waste managers to easily evaluate a number of program options from their entire solid waste management system that are available to them to reduce GHG emissions. HDR is developing a Solid Waste Carbon Assessment Planning Tool (Waste CAPT) to allow solid waste managers to better evaluate the impact of changes to system components and waste diversion efforts on their overall carbon footprint over time. HDR is planning to have the Waste CAPT ready for peer review by summer 2008.

POLICY ENVIRONMENT

Over the past 20 years, the level of awareness and action in response to climate change has moved from the international level to the local governmental level; from providing information and establishing high level goals to state and municipal initiatives and regulations; and from governmental concern to private initiative. The U.S. participated in the initial international efforts by signing and ratifying the United Nations