California Integrated Waste Management Board
Session Summary:

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A German Regulatory Perspective

Summary of presentation by Dr. Helmut Schnurer prepared by CIWMB Staff

Dr. Helmut Schnurer is the former head of the Waste Management Directorate at the Federal Ministry for the Environment in Bonn, Germany, where he had a significant influence on the development of the German and European waste philosophy, which changed from waste disposal to sustainable resource recovery.

Dr. Schnurer's presentation was entitled, "A German Regulatory Perspective." He began by providing a broad overview of Germany's waste management program, including its legislative history. He said the main principles of Germany's program are priority for (avoidance), recycling and recovery of waste; implementation of extended producer responsibility; stop landfilling biodegradable waste; pretreatment of solid wastes nationwide; contribution to climate protection; and harmonization within European Union.

He discussed the Closed Substance Cycle and Waste Management Act of 1996 and some of the resulting priorities, such as the first priority now on the substitution of resources (raw materials for production or secondary fuels for energy, with priority given to the more environmentally friendly way). He said recycling and recovery quotas in Germany were steeply increased to greater than 50 percent up to 80 percent. He added that because only producers can change their products and make them recyclable, the Act also laid down producer responsibility requirements; he said implementation is by legal ordinances, voluntary agreements and some individual activities.

Dr. Schnurer described the high standards of recycling for different waste types, including some of the problems encountered with each program. He said composting is only allowed for separately collected biodegradable wastes and there were 813 compost facilities in 2004. He added that due to the promotion of renewable energy (climate protection), there were 85 anaerobic digestion facilities in 2004. He said there was increasing use of wood waste for energy production due to the promotion of electricity from renewable resources and a prohibition against disposal in landfills.

He said not all waste can be recycled or recovered at present. He added landfilling is not a good solution and for the long term is the most expensive solution and contrary to sustainability. He observed that mixed waste contains organic as well as hazardous substances and only 50 percent of landfill gas can be collected and treated; the remaining 50 percent is a hazard to the climate. He said a Waste Storage Ordinance that became effective in June 2005 requires wastes to be pretreated before being landfilled so that it cannot degrade further or release pollutants. He added there are pretreatment goals to mineralize organic substances before landfilling and to destroy or extract soluble hazardous substances or convert them to a stable condition. He said to reach these goals the solutions are: first priority, waste incineration with efficient energy use and stringent emission control; second priority, mechanical-biological treatment with energy recovery of the high calorific fraction; third priority, co-incineration of certain wastes in fossil fired power plants and cement kilns; anaerobic digestion of organic wastes with energy use is increasing; and some (very few) solutions like gasification or pyrolysis. He noted the common denominator is thermal treatment. He said an additional advantage of these solutions is the substitution of energy. He added, there are currently 67 MSW incinerators and co-incinerators, and 58 mechanical-biological-treatment facilities. He noted the political vision for the future is to end landfilling by 2020.

Dr. Schnurer concluded his presentation by discussing how waste management contributes to climate protection. He said methane emissions from dumps are 21 times more dangerous to the climate than carbon dioxide and out-phasing landfills in Germany has reduced carbon dioxide emissions by 40 million tons, which is the highest individual contribution to climate protection in Germany - more than solar or wind power or biomass.