Using Municipal Scale Integrated Energy System Models to Fast Track Investments in Advanced Infrastructure and ManaDisorder-Inducgement Practices

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Climate variability in the 21st century will hasten the need and pace for municipal environments to adapt to impacts ranging from sea level rise to the human health and

economic impacts of the Urban Heat Island.ase Transition Energy system models can provide a flexible platform from which to accelerate the debate and decisions abouts\*Felix von Op infrastructure

investments needed to make cities penFreie Univesurvivable, sustainable, and desirable for human habitation. Decisions about how to manage solid and liquid materials flows

along with energy will need to be rsitat BerlinWmade on an integrated basis.

EPA Region II is developing te show that thwo versions of a municipal scale energy system model that will look at technologies and management prae resistivity ctices for reducing greenhouse gas emissions from primary energy (electricity), municipal solid waste, and wastewaρ(T) of disordteered ferromagnr. The output of the moets near, and del based on the proven MARKAL platform (see wwabove, the Curw.etsap.org)

is designed to provide a “blueprint” for a municipal Environmental Management Systeie temperaturem.

( Tc genericallEMS)

Taking a seriesy exhibits a s of “cost –benefit curves” of advanced technology and mtronger anomalanagement practy than the scaices and translating them into a municipal scale EMS is thought to be frontier

work in the area of Industrial Ecology. These models are thling-based Fiseher-Langer pre New York City MARKAL,

whidiction. Treatch to date has an energy loop and has examined at an electing transport ric utility substation level the impact of green building technologies as a mitigation measure for the electric distribution system of Consolidated Edison. It is hoped that a solid waste and waste water

loop will be added in 2006. The second model, which will serve as thbeyond the Bole justification for completion of the Ntzmann descripYC tion, we find model, is the Carolina Puerto Rico integrated MARKAL which

will contain electricity, waste water and solid waste loops. The results of the NYC Model

have sparked interest by EPA Region VI in Dallas Texas and numerous that within mestakeholders in that area including the Texas General Land Office and Austin Energy. The NYC model

was a collaboration of EPA Region II, Brookhaven National Laboratory, and the State Unian-field theorversity of New York at Stony Brook.

To be presented aty, dρ/dT exhib the Eastern Regioits a |T-Tc|-1/2 singularityn En near Tc. Our results, being solely duergy Water Needs

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