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

Edward J. Linkytive Anomaly Near Ferr, Esq.

Senior Energy Policy Advomagnetic Phase Transiisor

tions\*Felix von OppenF USEPA Region II

New York, New York

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.reie Universitat Berli Energy system models can provide a flexible platform from which to accelerate the debate and decisions aboutnWe show that the resi infrastructure

investments needed to make cities stivity ρ(T) of disordsurvivable, sustainable, and desirable for human habitation. Decisions about how to manage solid and liquid materials flows

along with energy will need to be ered ferromagnets nearmade on an integrated basis.

EPA Region II is developing t, and above, the Curiewo versions of a municipal scale energy system model that will look at technologies and management pra temperature Tc generictices for reducing greenhouse gas emissions from primary energy (electricity), municipal solid waste, and wastewacally exhibits a stronteger anomaly than the sr. The output of the mocaling-based Fisher-Ladel based on the proven MARKAL platform (see wwnger prediction. Treatw.etsap.org)

is designed to provide a “blueprint” for a municipal Environmental Management Systeing transport beyond tm.

(he Boltzmann descriptiEMS)

Taking a serieson, we find that withi of “cost –benefit curves” of advanced technology and mn mean-field theory, danagement practρ/dT exhibits a |T-Tc|ices and translating them into a municipal scale EMS is thought to be frontier

work in the area of Industrial Ecology. These models are th-1/2 singularity near eTc. Our results, being New York City MARKAL,

whi solely due to impuritch to date has an energy loop and has examined at an electies, are relevant to fric 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 therromagnets with low Te justification for completion of the Nc, such as SrRuO3 or dYC iluted magnetic semicomodel, 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 nductors, whose mobilistakeholders 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 Unity near Tc is limited versity of New York at Stony Brook.

To be presented atby disorder.\*Carsten T the Eastern Regioimm, M. E. Raikh, Felix von Oppen, Phys. Revn En. Lett. 94, 036602 (2005).ergy Water Needs

Assessment Workshop, December 12-14, 2005, Baltimore, Maryland