



# Metropolis 2050

## The Net-Zero City of 2050

By 2050, we will  
have no choice  
but to live  
sustainably.

The path we  
choose now may  
make all the  
difference.

### This workshop is for:

- Planners
- Architects
- Engineers
- Scientists
- Sociologists
- Educators
- Students of all ages  
(high school +)

Continuing Education Units  
are available.

<http://www.icsdec.com/>

### Return Building Information Modeling to the back of an envelope

Bring an open mind, a willingness to make staggering assumptions - and a pencil. We're headed back to basics.

Net-Zero planning and design – as distinct from standards like LEED or concepts like “return on investment” – is a simple strategy: production of a renewable resource should equal consumption at some reasonable scale. Bigger than a building, smaller than a country, the ideal Net-Zero scale is most likely the size of an urban center.

In this workshop, teams will tackle the challenges of creating a NetZero metropolis using five different sample “densities,” ranging from a City center that contains the tallest building in the world to a disadvantaged ex-urban tract where conservation development may take primacy. Transportation networks that link these areas are a sixth focus, with optimum mode split and reasonable trips per day reflecting average convenience.

### Learning Objectives/Goals

Participants will get a feel for the scale of the challenges we face preparing our children to live in the environment that will likely prevail in 2050. Participants will focus on land use challenges, energy and water management strategies, sociopolitical and geopolitical trends and technology transfer and development.

### Syllabus / Schedule

**Hour 1:** Expert moderators present their vision of the 2050 Net-Zero urban community, including assumptions and metrics.

**Hour 2 - 4:** Participants will be sorted into different groups, each devoted to design of a net-zero community along a transect of declining density - from a block in a city center that may contain the tallest building in the world, to a disadvantaged ex-urban tract where conservation development may take primacy. At the end of the workshop, NO internal presentations will be made; presentations will be made the following day at the beginning of the 9:20 AM panel discussion.

**Mid-course correction:** At midpoint, each group will present findings, challenges and breakthroughs to the others. At this point, participants will be given the option to change working groups. High density participants may negotiate a transfer to lower-density groups, and vice versa. (Table “captains” may not transfer.)

**Presentation (Monday May 11 @ 9:20 AM):** No one will have the last word until Monday morning., table captains are invited to present their models to the assembled conference delegates at the beginning of the “Metropolis 2050,” Monday morning’s panel session.

### Publication Opportunities

Co-authors are sought for documentation of this workshop, which will be included in the conference proceedings. Please contact Lonnie Coplen for more information at [Lonnie.coplen@gmail.com](mailto:Lonnie.coplen@gmail.com)

**Kiss + Cathcart, Architects**

44 COURT ST. TOWER C  
BROOKLYN NY 11201  
tel 718 237 2786  
fax 718 237 2025  
[www.kisscathcart.com](http://www.kisscathcart.com)



# Metropolis 2050: The Net-Zero City

<http://www.icsdec.com/>

In the first hour, each expert will present their vision of the net-zero 2050 community, including concept, assumed technologies and metrics.

In the ensuing three hours, participants will break out into different groups, each devoted to design of a net-zero community along a transect of declining density - from a block in a city center that may contain the tallest building in the world, to a disadvantaged ex-urban tract where conservation development may take primacy.

The planning and design process will involve numerous opportunities for cross-fertilization of ideas.

The workshop will end with presentations by each group to the assembled participants.

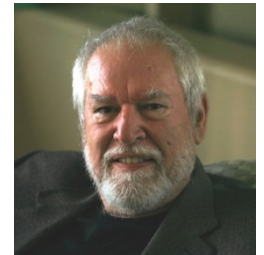
**Colin Cathcart** founded Kiss + Cathcart with Gregory Kiss in 1983 based on high standards of design, economy, ecology. Cathcart's many successful green projects include Stuyvesant Cove Environmental Learning Center (2010), Pitt Street Residence on Houston Street, New York (2008), Aljira, a Center for Contemporary Art in Newark, NJ (2002), New Museum of Contemporary Art in Soho, New York City (1997), feasibility and urban planning studies for the Regional Plan Association, Photovoltaic production facilities for Chronar Corporation in New York and Alabama, among many others. Mr. Cathcart is an associate professor at Fordham University, where he has served on the executive committee of the Urban Studies program, as Associate Director of the Environmental Studies Program, and developed cross-disciplinary Pre-Architecture program.



**Gregory Kiss** has designed and consulted on many groundbreaking high performance building projects in the Americas, Europe and Asia. His ongoing research into the functional and aesthetic improvement of photovoltaics for buildings has led to several new products and systems. He has authored numerous technical manuals for the Department of Energy, and lectures frequently on recent advances in solar technologies and their potential for integration into architectural design. Recent projects include Bushwick Inlet Park in Brooklyn, and the Bronx River Greenway River House, both for the New York City Department of Parks and Recreation. Other projects include solar and sustainable housing in the Netherlands, the PV system at 4 Times Square, the Bocas del Toro Station for the Smithsonian Tropical Research Institute in Panama, the photovoltaic glass train shed for New York City Transit's Stillwell Avenue Terminal in Coney Island, and a photovoltaic manufacturing facility for Heliodomini in Greece. In addition to his work at Kiss + Cathcart, Greg Kiss is cofounder of Native American Photovoltaics (NAPV), a non-profit venture on the Navajo reservation in Arizona



**Dickson D. Despommier** is an emeritus professor of microbiology and Public Health at Columbia University. In recent years, Despommier has received considerable media coverage for his ideas on vertical farming. He developed his concept of vertical farming over a 10 year period with graduate students beginning in 1999, with work continued by Ontarian eco-architects like Gordon Graff from the University of Waterloo's School of Architecture. Ultimately, Despommier is concerned about protecting food crops from severe weather events such as floods and droughts.



**Porie Saikia-Eapen** joined MTA in April 2014 as the Director of Sustainability and Environmental Compliance and is responsible for taking forward the vision for Sustainability developed over time across the entire family of MTA Agencies. She is the Founder and Past Managing Director of PRIA Global Inc., which offers strategic solutions for the built environment and a global collaborative, and was formed to develop economic and physical infrastructure development solutions and to drive social change. Eight years ago she served as the Chief Architect at NYCT leading the architectural design of an unprecedented surge of new projects for MTA-NYCT in the aftermath of 9/11.



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