



Ultra-Clear Glass Eckelt Lite-Wall

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Depiction of Ultra-Clear Glass by DBOX, as part of the marketing material for 432 Park Avenue

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# TRANSSCALAR TOWERS

THE ULTRA CLEAR-GLASS PLAN. A design-based intervention on the territorial dimension of a high-end segregational response to climate crisis

Advanced Architectural Design Studio – Columbia University. GSAPP – Fall 2019

*Traveling studio. 9/27-10/2 Road trip to Susquehanna Valley (PA), Cleveland, Toledo (OH), Wedron (IL), Chicago.*

Instructor: Andrés Jaque  
 TA: Marylynn Pauline Antaki

This Advanced Studio is part of the Buell Center's Public Works for a Green New Deal

# WHAT?

## *A TRANSSCALAR INQUIRY INTO ULTRA-CLEAR GLASS*

This studio interrogates the current obsession for ultra-clear glass (also known as low-iron glass) in contemporary high-end apartment and office buildings in globalizing urban settings, and the way its use is rhetorically presented as a contribution to the process of turning cities into environmentally sensitive floor-to-ceiling architectural schemes. UCG is known for its capacity to intensify the blue part of the spectrum of sun light, which makes the sky look bluer and turns invisible the band of yellowy air that results from NO<sub>2</sub> manifesting in skies.

# WHAT WILL WE BE DOING?

## *TRANSSCALAR TOWERS*

More than 200 towers with UCG envelopes are being constructed in New York City now. The network of locations in the city these buildings occupy, and their larger transscalar footprint, will be the studio site. We will stop the construction in these sites and we will design an alternative equity and commons-based alternative scheme in order to intervene/complete their construction.

Each student will work on intervening one of these NY towers, stopping its construction right as it currently stands, and designing a *transscalarly green* alternative to complete its construction.

The result will be an alternative **TOWER** that incorporates in its design the environmental and political challenges the planet faces now.

# WHY?

## *THE ULTRA-CLEAR GLASS PARADOX AND THE ROLE OF ARCHITECTURE IN THE MAKING OF SOCIAL/ENVIRONMENTAL SEGREGATION*

Even though its carbon footprint triples conventional float glass, and though it is responsible for a significant increase in the concentration of NO<sub>2</sub> in Cleveland, and despite its production depending on the highly polluting sand extraction mining industry at La Crosse, WI, ultra-clear glass is commercially characterized as a “green” product that facilitates the incorporation of ultraviolet and infrared filtering coatings in the envelopes of high-profile buildings. A seemingly unimportant paradox is that when we unpack UCG through scales, it becomes obvious how UCG sits at the center of a number of design arrangements meant to socially and geographically redistribute the cost of the climate crisis on the basis of segregation and inequality.

Ultra-clear glass seems to be green, but what it really does is transfer the place of pollution away from the place where it performs, thus creating a divide between those that celebrate its bluing capacity and those who are affected by its embedded environmental impact.

### ***BLUE SKIES AND GLOBAL HIGHENDCRACY***

The rendering of urban skies as bluer in places like New York City—or the overall network of the so-called “global green cities”<sup>1</sup>—is an architectural business that articulates the efforts of the architectural rendering industry, the mayor’s eco-plans, and architectural materiality and detailing—all as part of an interscalar plan to create an environmentally adapted green, urban, and global elite.<sup>2</sup>



Susquehanna Valley

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<sup>1</sup> As characterized in networks such as the Bloomberg-promoted C40 Cities. “Around the world, C40 Cities connects 94 of the world’s greatest cities to take bold climate action, leading the way towards a healthier and more sustainable future. Representing 700+ million citizens and one quarter of the global economy, mayors of the C40 cities are committed to delivering on the most ambitious goals of the Paris Agreement at the local level, as well as to cleaning the air we breathe.” <https://www.c40.org/about>

<sup>2</sup> A historical and conceptual frame for this discussion has been provided by Reinhold Martin in “Sacred Ground: The Big Easy in the Big Apple”: <https://averyreview.com/issues/40/sacred-ground>

# HOW?

## *THE THREAD*

1. We will stop the projects as they are
2. We will design an alternative design
3. We will make sure this new design brings a equalitarian relationship with others
4. By doing this, innovative and inventive forms of vertical architecture (green verticality) will be invented

The studio will quantify and draw all the elements/players collaborating in the enactment of ultra-clear-glass as a segregation-based archiurbanism and the relationships/interdependencies/transferences between them.

As a significant section of the way the societal is now being constructed in the US in regards to unavoidable climate crisis, this thread of collaborations will be examined through the perspective of the goals, sensitivities, and discussions mobilized by the GREEN NEW DEAL.

The students will collectively work redesigning cases of buildings being constructed now in NY with UCG envelopes, mostly apartment towers. The redesign of each building's threat will include ways to intersect the reparation and reduction of environmental impact with social equity. The design will be based on Silvia Federici's notions of commons.



Fracking pad in Susquehanna Valley, PA



Glass Pavilion at the Toledo Museum of Art, Toledo (Ohio). SANAA



Silica Mines in Wedron, Illinois

## FIELD WORK ROAD TRIP

As an intense field work experience, intended to create involvement and to produce primary knowledge, the studio plans a field work road trip to:

1. Document the territorial extension and impact of UCG production and of the realities directly associated to the segregative project in which it is part.
2. Get in touch with a number of groups already working and advocating for environmental regulation on the activities and establishments the studio interrogates.
3. Provide an account of the actual interscalar and political dimension of design decisions by actually introducing realism and scrutiny to the way design is practiced.

Program:

0. Day zero: Morning meeting with the creative department of DBOX at their headquarters in downtown Manhattan. Meeting with architect Steve Chappell, creative director of DBOX.
1. Day one: From NYC to Susquehanna Valley, PA. Meeting with Vera Scroggins (anti-fracking activist) in Dimock and Binghamton, PA. Spend the day working with Scroggins and other activists/visiting fracking sites. In the late afternoon: Susquehanna Valley to Cleveland.
2. Day Two: Spending the day at VITRO industrial facilities, discussing the fabrication of ultra-clear glass. Afternoon: Toledo, OH. Visit to the Glass Pavilion by SANAA. Spend the night in Toledo.
3. Day Three: Toledo to Wedron, IL. Visit to the Wedron silica sand extraction facilities (owned by Fairmount Santrol) and meetings with environmental activists that have been discussing the result of the Superfund policies in Wedron. Spend the night in Wedron.
4. Day Four: Chicago. Architectural visits. Spend the night in Chicago.
5. Day Five: Architectural visits. Spare time in Chicago. Flight back to NYC.

# Calendar:

09/04 W - Lottery

09/05 T- Lecture on NY TOWERS and addiction to Ultra-Clear Glass (by Andrés Jaque). Studio Debate

09/09 M - Research phase

09/12 T - Studio Meeting - Research Discussions

09/13 F - Studio event in Pennsylvania. All studio members will travel to take part in the Designing a Green New Deal event at the University of Pennsylvania

09/16 M - Design Starts - First Ideas

09/19 T - Desk Crits

09/27 F - Studio event in New York. All studio members will take part in the Designing a Green New Deal event at Columbia University

09/27 F DBOX offices. Downtown NY

09/28 S - Studio field trip. Susquehanna Valley. Dimock and Binghamton, PA.

09/29 Su - Studio field trip. Cleveland and Toledo.

09/30 M - Studio field trip. Wedron

10/01 Tu - Studio field trip. Chicago

10/02 W - Studio field trip. Chicago

10/03 T - Desk Crits

10/07 M - Studio Meeting

10/10 T - Desk Crits

10/14 M - Studio Presentations

10/17 T - Desk Crits

10/21 M - MIDTERM REVIEW. Room 115 Avery Hall

10/28 M - Studio Meeting

10/31 T - Working Session with Gabriel Zucman. Professor from UC Berkeley and expert on inequality, Member of the World Inequality Lab WIL

11/07 T - Desk Crits

11/11 M - Studio Presentations

11/14 T - Desk Crits

11/18 M - Studio Presentations

11/19 Tu - Desk Crits

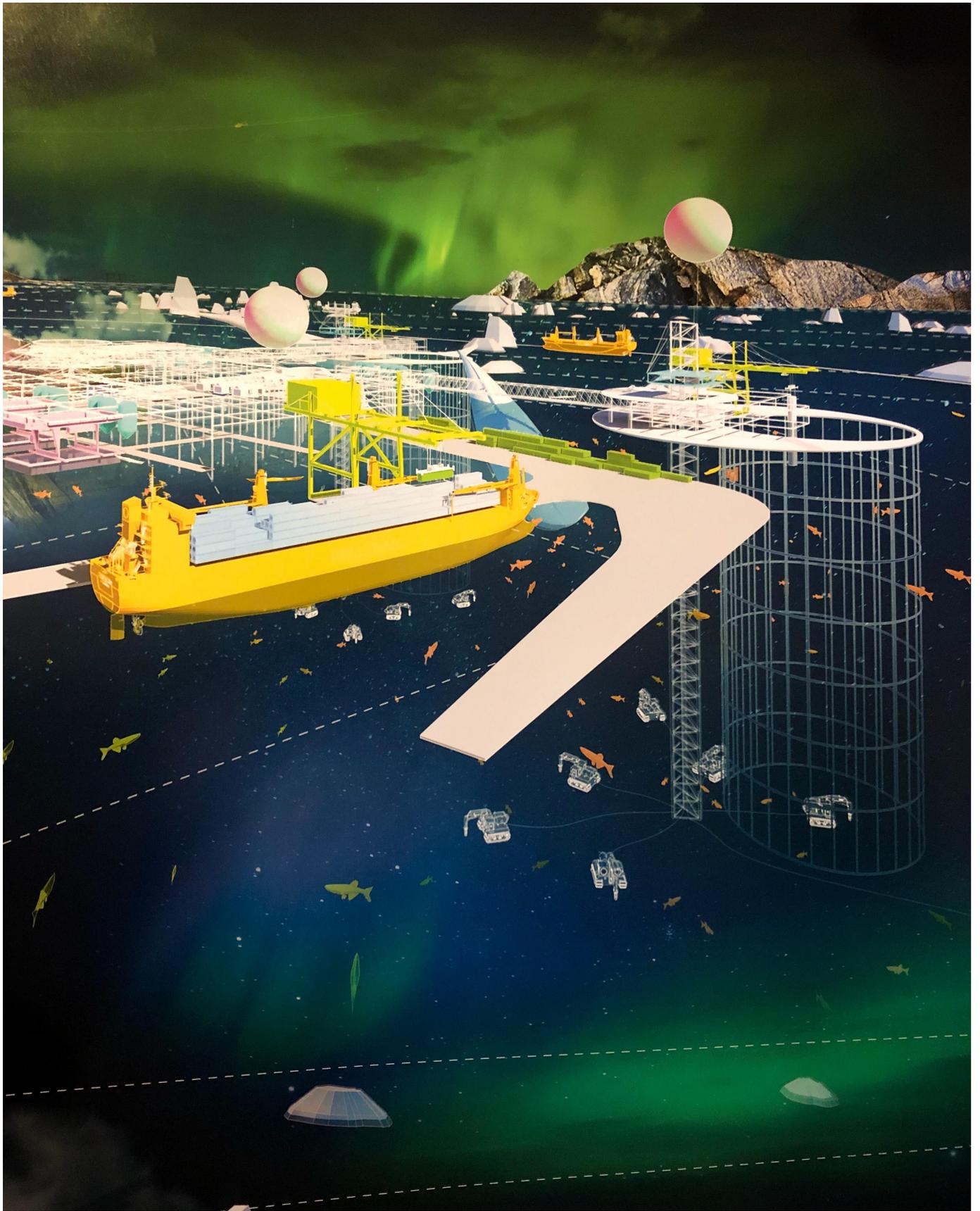
11/20 W - Desk Crits

11/21 T - Desk Crits

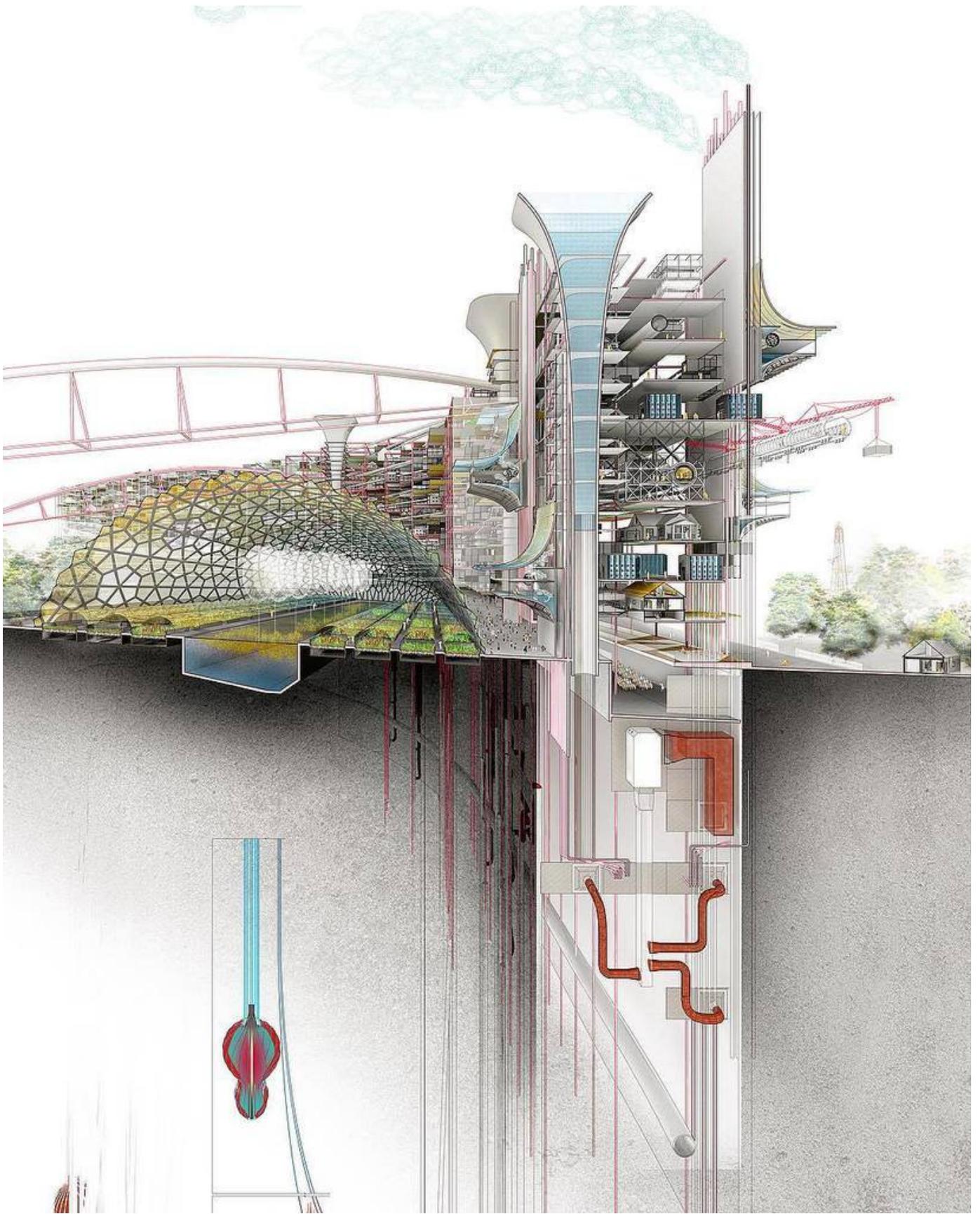
11/22 F - Green New Deal Supercrit Event at GSAPP

11/25 M - Desk Crits

12/10 T - FINAL REVIEW



Planetary Accupuncture by Kevin Hai Pam



Transition to a post-fracking Susquehanna by Troy Lacombe



Alternative Oceanic Energy Urbanism. Yuxin Zheng and Suiyuyi Li.