

Rendez-vous Collectivités viables 2017

#RDVVCV17



L'ARCHITECTURE ET L'URBANISME, DES ALLIÉS POUR RÉDUIRE LES ÉMISSIONS DE GAZ À EFFET DE SERRE

Carl Elefante

1er vice-président et président élu 2018, American Institute of Architects

25 May 2017

Sustainable
Collectives
Rendez-vous
Planning for a
Low Climate Impact
Urban Growth



**Design
Impact
Matters**

**Carl Elefante FAIA
2017 AIA First Vice President
2018 AIA President-elect**

Design Impact Matters

Architects Shape Lives

*“First,
we shape our
buildings;
thereafter,
they shape us.”*



Winston Churchill

Design Impact Matters Architects Shape Lives



1870 Deaths from Infectious Disease in NYC: **64%**

Design Impact Matters Architects Shape Lives

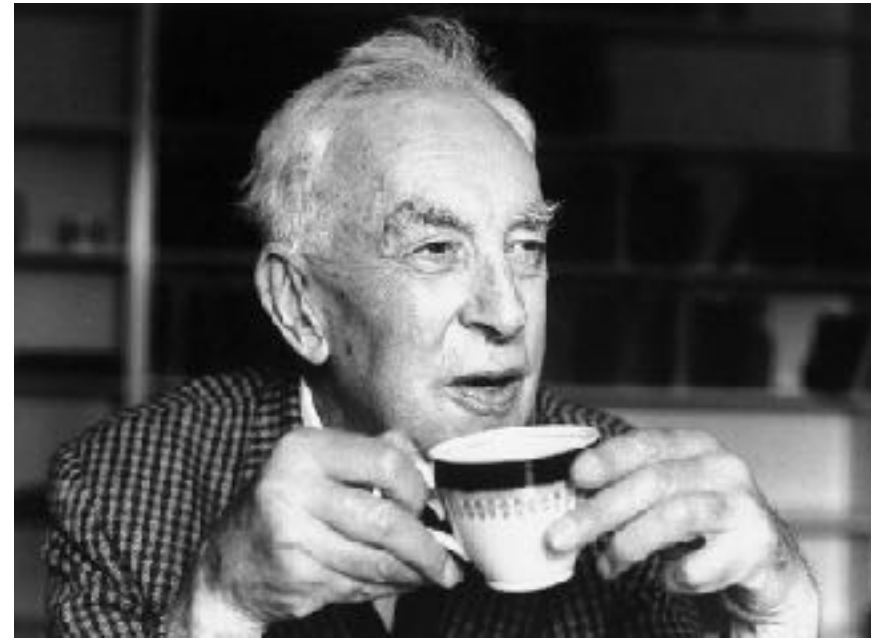


1940 Deaths from Infectious Disease in NYC: **11%**

Design Impact Matters

Architects Shape Lives

*“The 20th century will be chiefly remembered by future generations not as an era of political conflicts or technical inventions, but as an age in which **human society dared to think of the welfare of the whole human race as a practical objective.**”*



Arnold J. Toynbee



Habitat III

The New Urban Agenda

Population Growth

1.35 Billion by 2030 (19%)

3.3 Billion by 2050 (47%)

Urban Impacts

2% Land

70% GDP

60% Energy

70 % GHG Emissions

70%



Joan Clos





Conference of the Parties 21

The Paris Agreement

Paris Agreement Targets

Cap Global Temperature Rise to:

2°C

above pre-industrial levels

1.5°C

preferred target

Reach Zero Net Carbon (ZNC)

2050

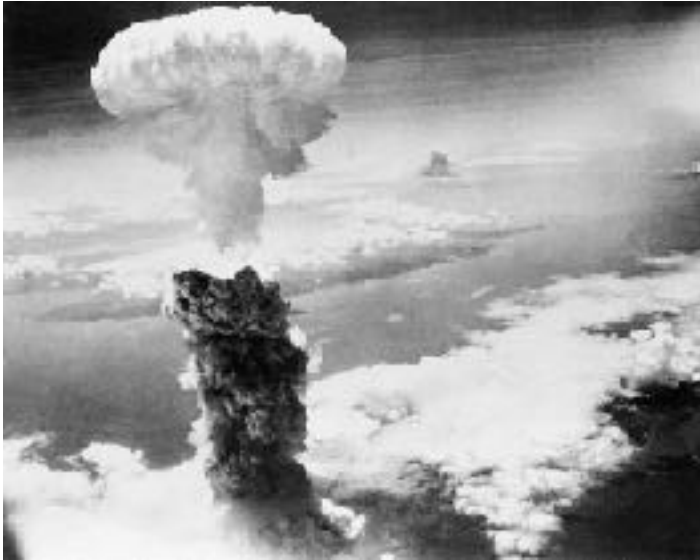


**Karen
Christiana
Figueres Olsen**



Compulsary Global Cooperation

1945



2017





Cities ARE Human Progress

“Cities...have been engines of innovation since Plato and Socrates bickered in an Athenian marketplace.”



Edward Glaeser

**Triumph
of the City**



The New Urban Agenda

10. Ingredients

1. Natural, Ecological & Biophilic City
2. Fit & Healthy City
3. Food City
4. Material City
5. Zero Net City (Carbon, Energy, Water & Waste)
6. Secure, Resilient & Adaptable City
7. Connected, Mobile & Accessible City
8. Culture & Heritage City
9. Affordable, Equitable, Diverse & Inclusive City
10. Beautiful, Inspiring & Joyful City

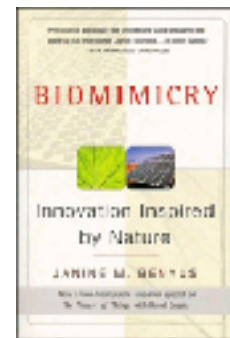


1.

Natural, Ecological & Biophilic City



Janine Benyus
Biomimicry



Urbanism & Natural Systems



Peter Calthorpe
Urbanism
in the Age of
Climate Change





2.

Fit & Healthy City



Boris Lushniak
Acting Surgeon General 2013-4

Designing for Wellness



High Line



**Dr. Richard
Jackson**

**Designing
Healthy
Communities**





3.

Food City

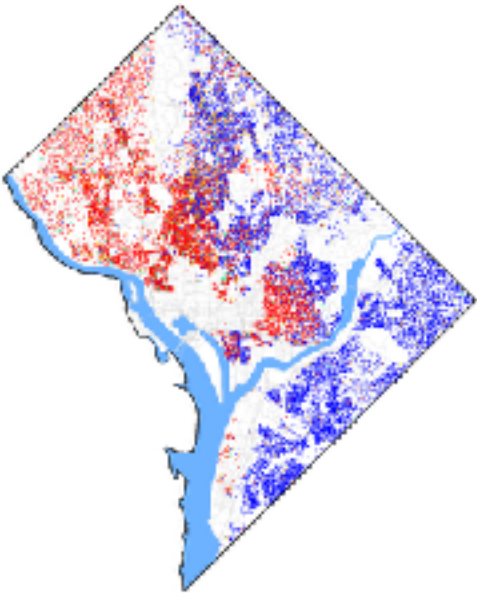


Vandana Shiva
Soil Not Oil

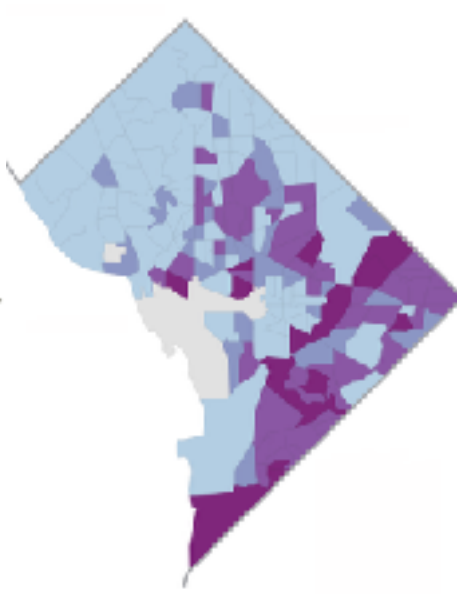


University of Arkansas
Fayetteville 2030
Food City

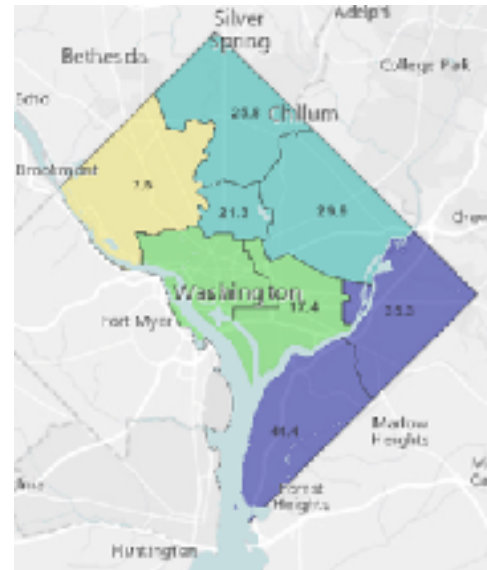
Urban Policy & Public Health



Race



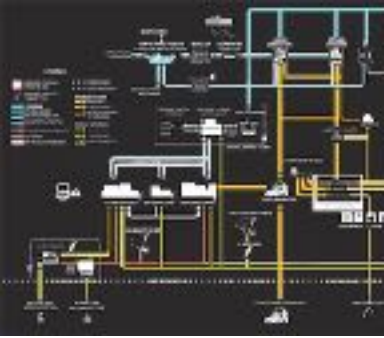
Poverty



Obesity



Food Deserts



4.

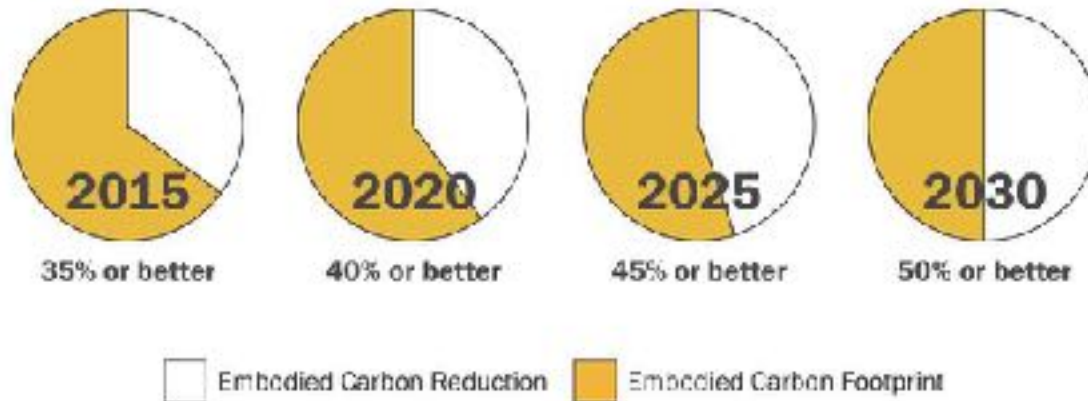
Material City



Peter Busby
Architecture's
New Edges



2050 Roadmap Embodied Carbon



The 2030 Challenge for Products

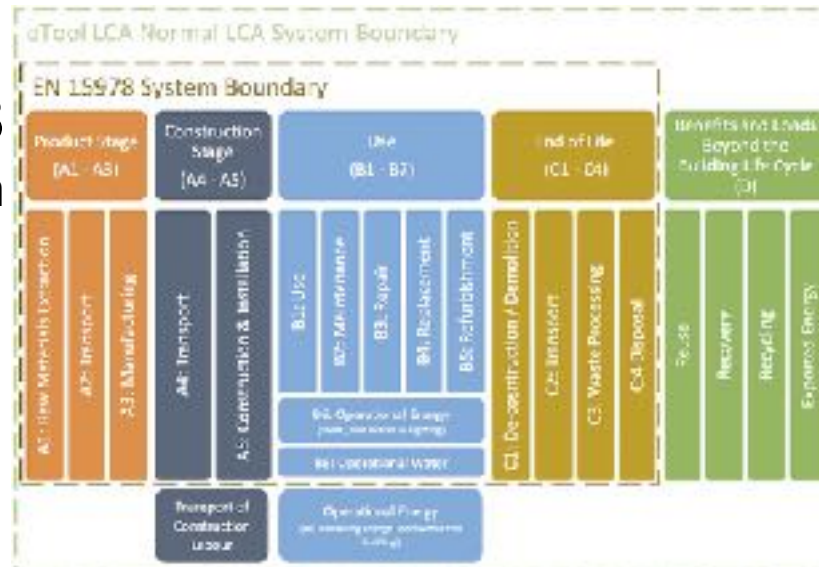
Source: ©2011-2030, Inc./ Architecture 2030. All Rights Reserved.

Holistic carbon accounting means the “embodied” carbon **MUST** be addressed

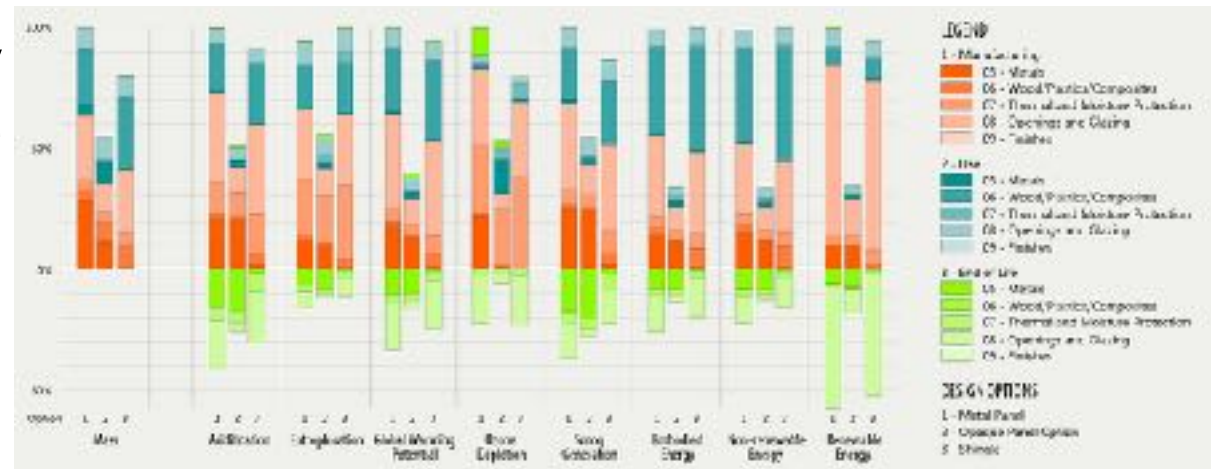


Life-Cycle Assessment

EN 15978 LCA System



Tally LCA Software





5.

Zero Net City Carbon, Energy, Water & Waste

Paris Agreement Building Sector Framework

- The building sector is the most reliable path to predictable carbon reduction
- The building sector holds the potential for the largest carbon reductions within the 2050 timeframe
- Holistic life-cycle carbon accounting is required to achieve carbon reduction targets



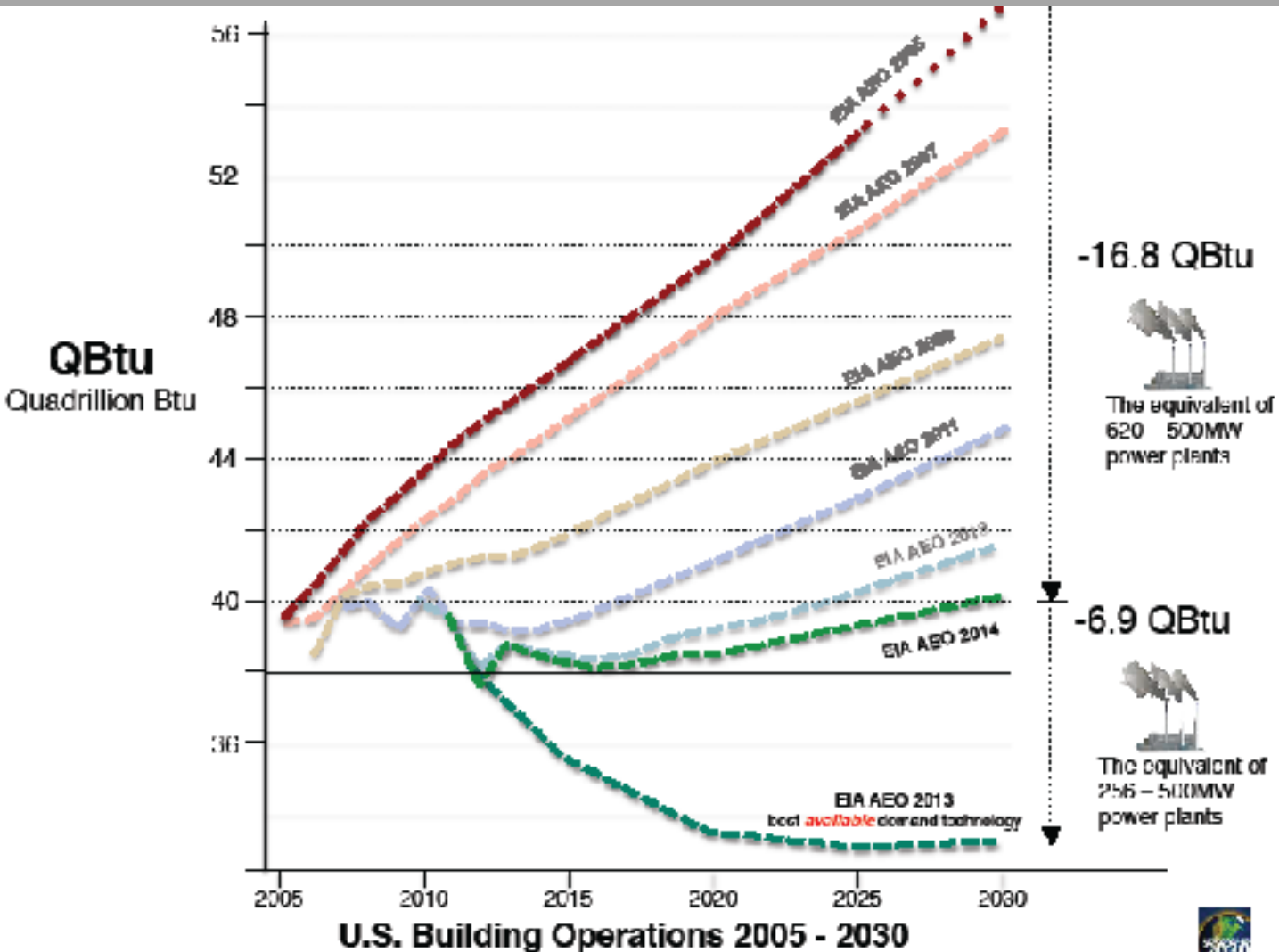
Ed Mazria

Roadmap to Zero Emissions



2050 Roadmap

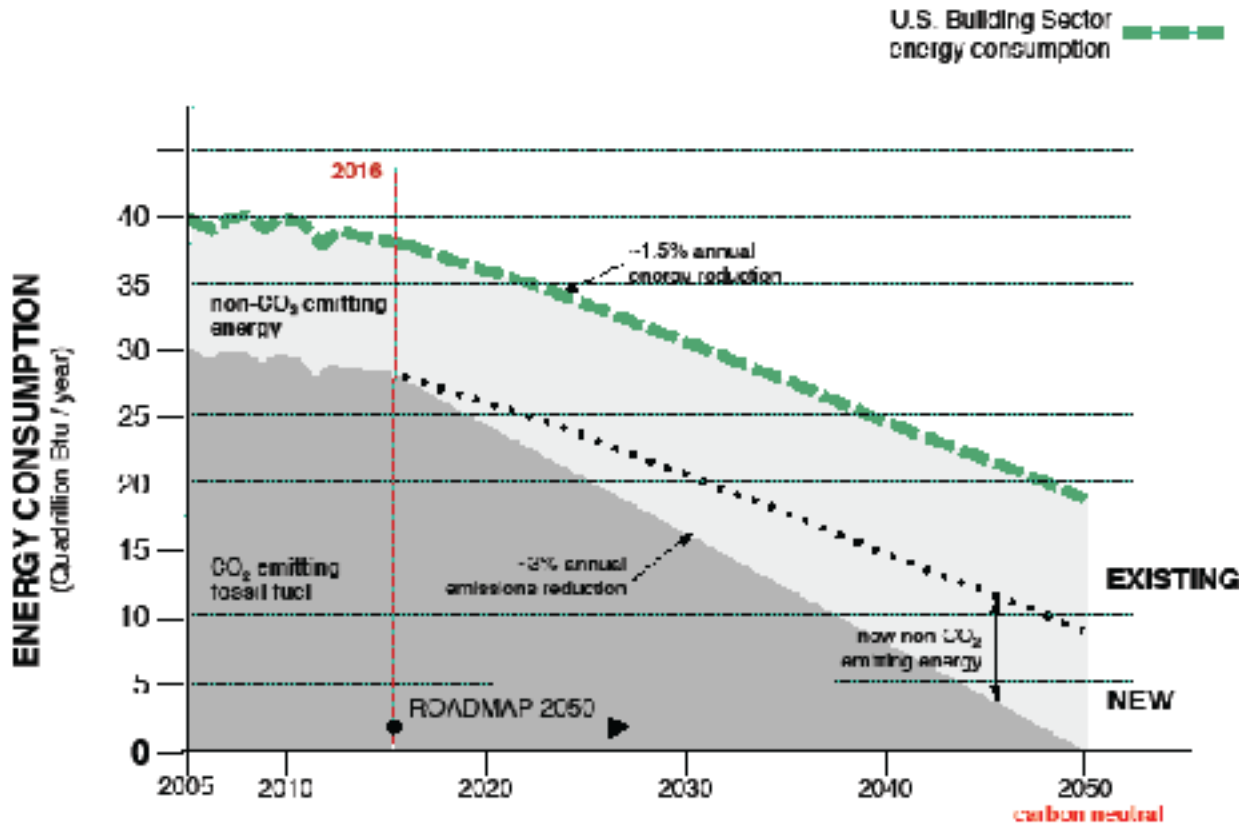
US Building Sector Achievement



Since 2006 the US building sector has added **20 billion sf** without increasing carbon output



2050 Roadmap US Building Sector Plan



Roadmap 2050

U.S. Building Sector Targets 2016 - 2050

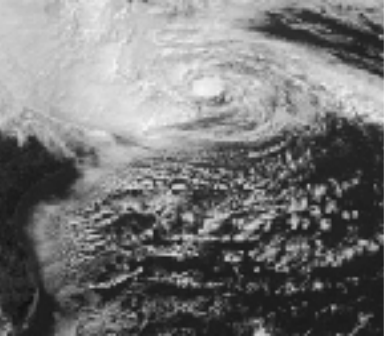
Source: Architecture 2030; Data adapted from the EIA Annual Energy Outlook 2014

US targets can be achieved by:

Using best-available technology

Reducing Current Emissions by 50%

Doubling current renewables



6. **Secure, Resilient & Adaptable City**



Hurricane Sandy



The BIG "U"

Performance by Design



Lance Hosey
The Shape
of Green





7.

Connected, Mobile & Accessible City



**Janette
Sadik-Khan
Street Fight**



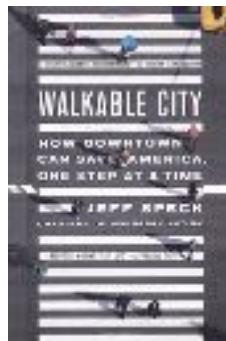
Walkable City

“The General Theory of Walkability explains how, to be favored, a walk has to satisfy four main conditions: it must be useful, safe, comfortable, and interesting.”



Jeff Speck

Walkable City





8. Culture & Heritage City

*“How will we know
it’s us without our
past?”*

John Steinbeck
The Grapes of Wrath

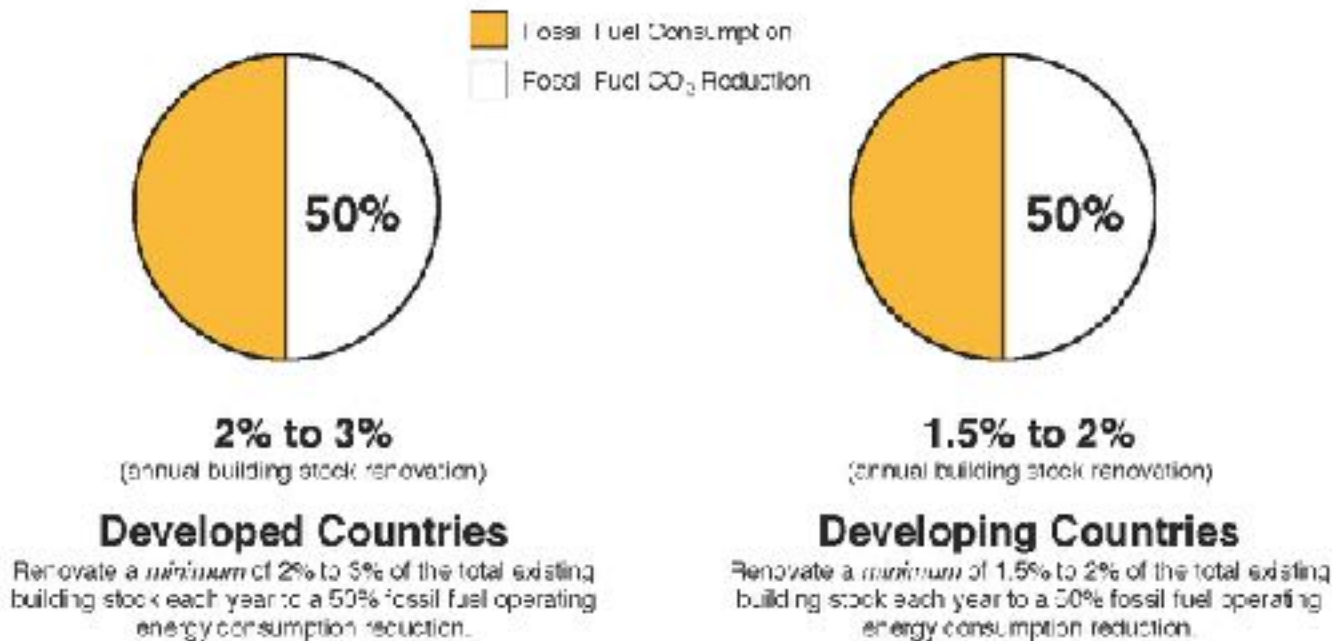


**Stephanie
Meeks**

**The Past and
Future City**



2050 Roadmap Building Re-Use



Roadmap 2050

(ACTION ITEMS)

2. Existing Buildings Fossil Fuel CO₂ Reduction Targets

Source: Architecture 2030

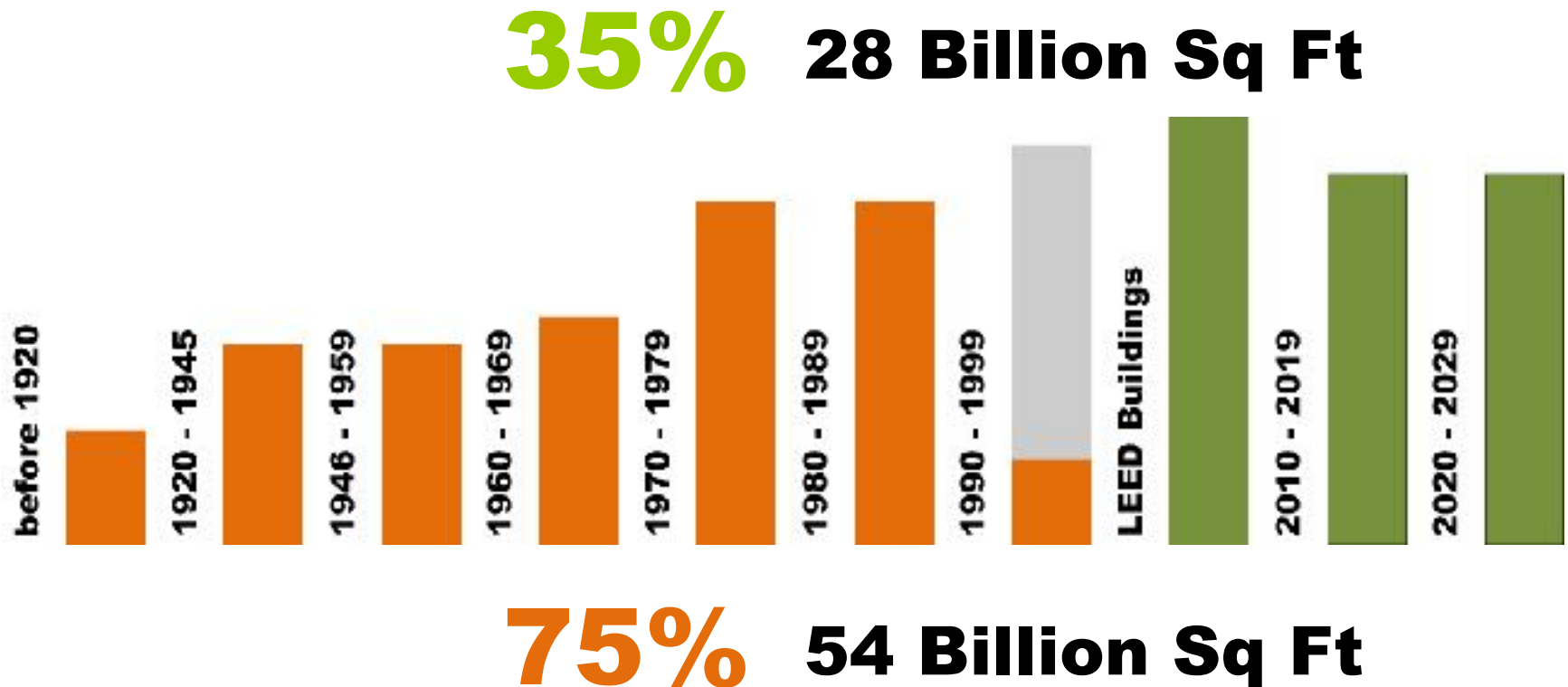
2050 Roadmap includes targets for deep energy retrofits

For US to meet its target,

3x to 4x
current rate of renovation must be achieved

Projected **Growth** Projected **Rehab**

Millions of Square Feet



2006 Architect Magazine
The Boom to Come – America Circa 2030



9. Affordable, Equitable, Diverse & Inclusive City



Alejandro Aravena



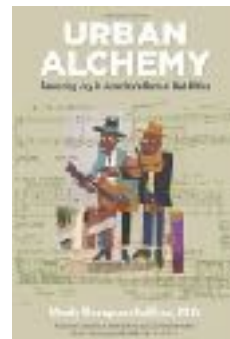
Quinta Monroy Housing
Iquique, Chile

“Whole” City

- People live in a **“good enough”** place
- People **feel settled** in home, neighborhood, and region
- People **contribute to caretaking** of the personal and shared portions of the environment
- People **know their neighbors** and interact with them to solve problems



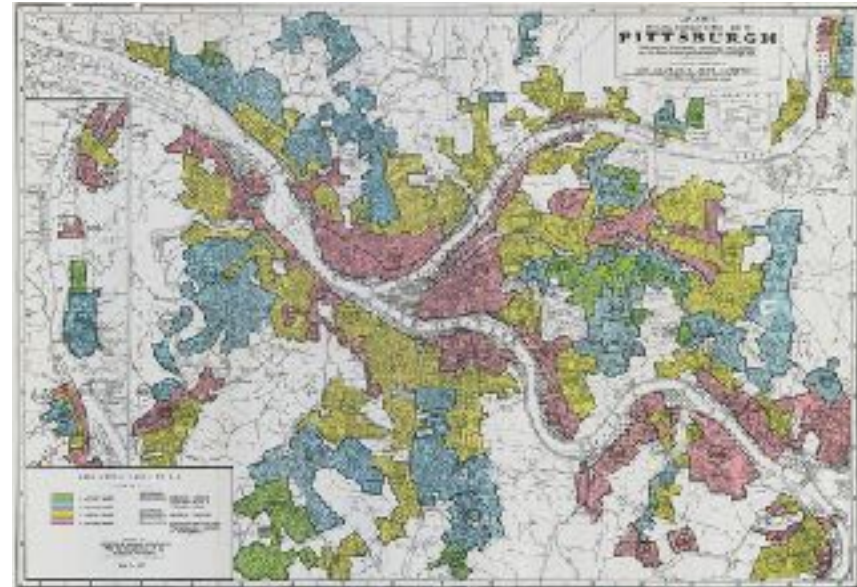
**Mindy Thompson
Fullilove**
Urban Alchemy



“Sorted Out” City



Hill District Urban Renewal



Pittsburgh Redlining Map



10.

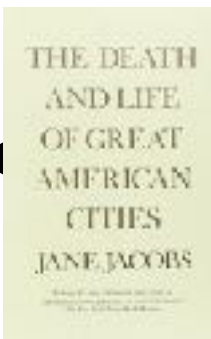
Beautiful, Inspiring & Joyful City

“Whenever and wherever societies have flourished and prospered rather than stagnate and decay, creative and workable cities have been at the core of the phenomenon.”



Jane Jacobs

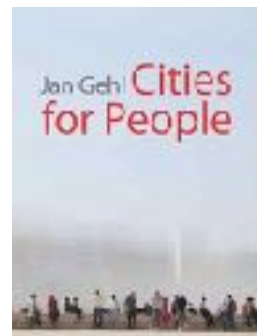
**The Death and Life of
Great American
Cities**



Cities for People



Jan Gehl
Cities
for People



City Beautiful



World Columbian Exposition 1893



Sophia Gregoria Hayden



Daniel Burnham & company

Design Impact Matters

Architects Shape Lives

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”



Margaret Mead