

# Beyond Zero Series: Burn Ban - The Benefits of Induction Cooking

At this Beyond Zero Series event, Building Energy Exchange and NYSERDA host a discussion with experts about how induction cooktops offer a major opportunity to realize full building electrification and significantly improve the health, comfort, and safety of New Yorkers.

## Opening Remarks

Lori Borowiak, Senior Project Manager, NYSERDA

## Moderator

Jamal Lewis, Director of Policy Partnerships & Equitable Electrification, Rewiring America

## Speakers

Grennan Milliken, Projects Associate, Building Energy Exchange

Chef Chris Galarza, Founder and Culinary Sustainability Consultant, Forward Dining Solutions

Avery Gray, Project Manager, Zakrzewski + Hyde Architects

Katie Ross, Global Real Estate & Facilities Sustainability Lead, Microsoft

Yu Ann Tan, Associate, Carbon Free Buildings, Rocky Mountain Institute

September 22, 2022 | 6 to 7:30 pm | 1.5 AIA LU|HSW

Building Energy Exchange | 31 Chambers St, New York, NY



NYSERDA

be  
ex

building  
energy  
exchange





# Opening Remarks

*Lori Borowiak*

*Senior Project Manager*

*New Construction*

*NYSERDA*



# Now we're cooking with(out) Gas: The Merits of Induction Cooking

Beyond Zero Series: 2022



building  
energy  
exchange

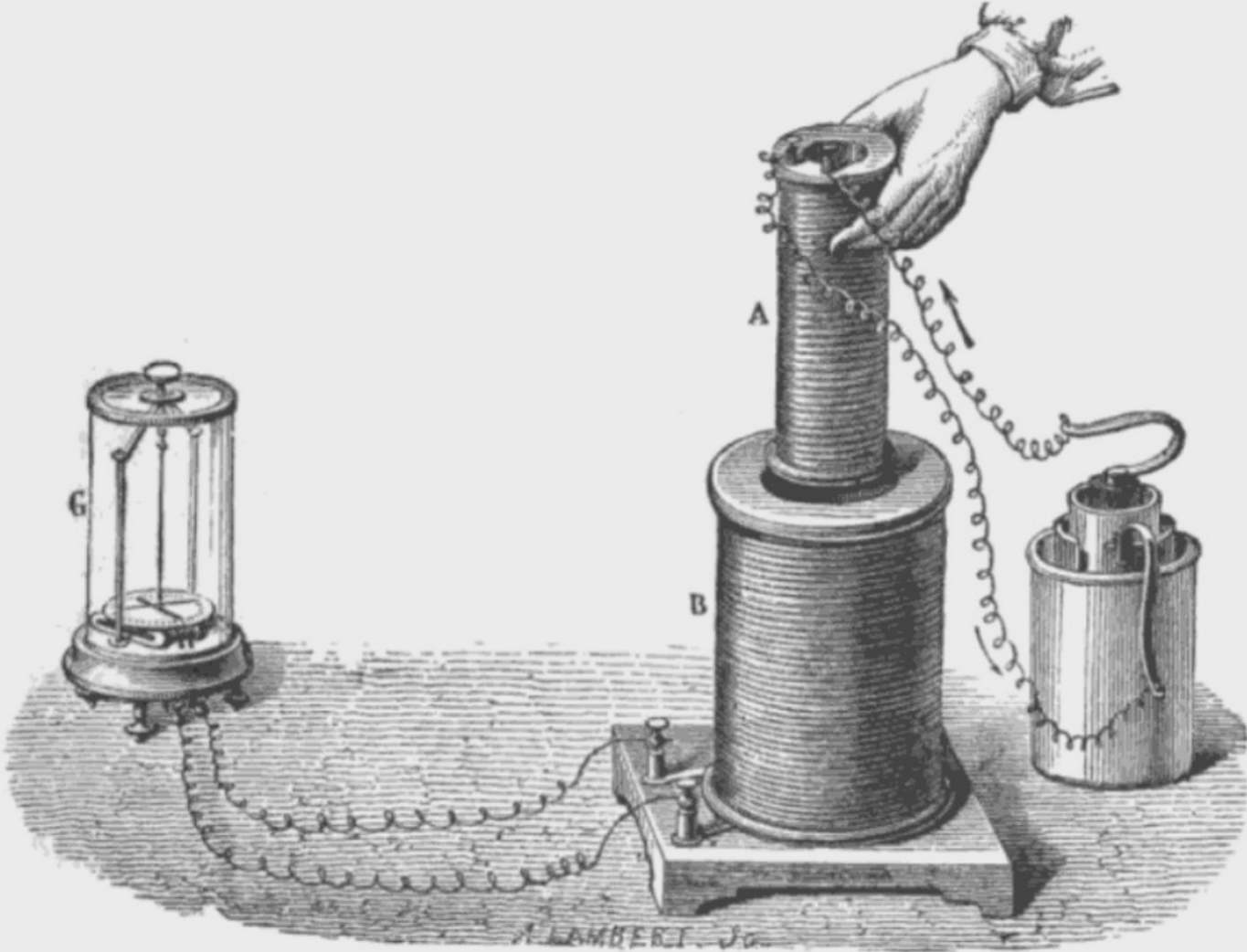


NEW YORK  
STATE OF  
OPPORTUNITY

NYSERDA



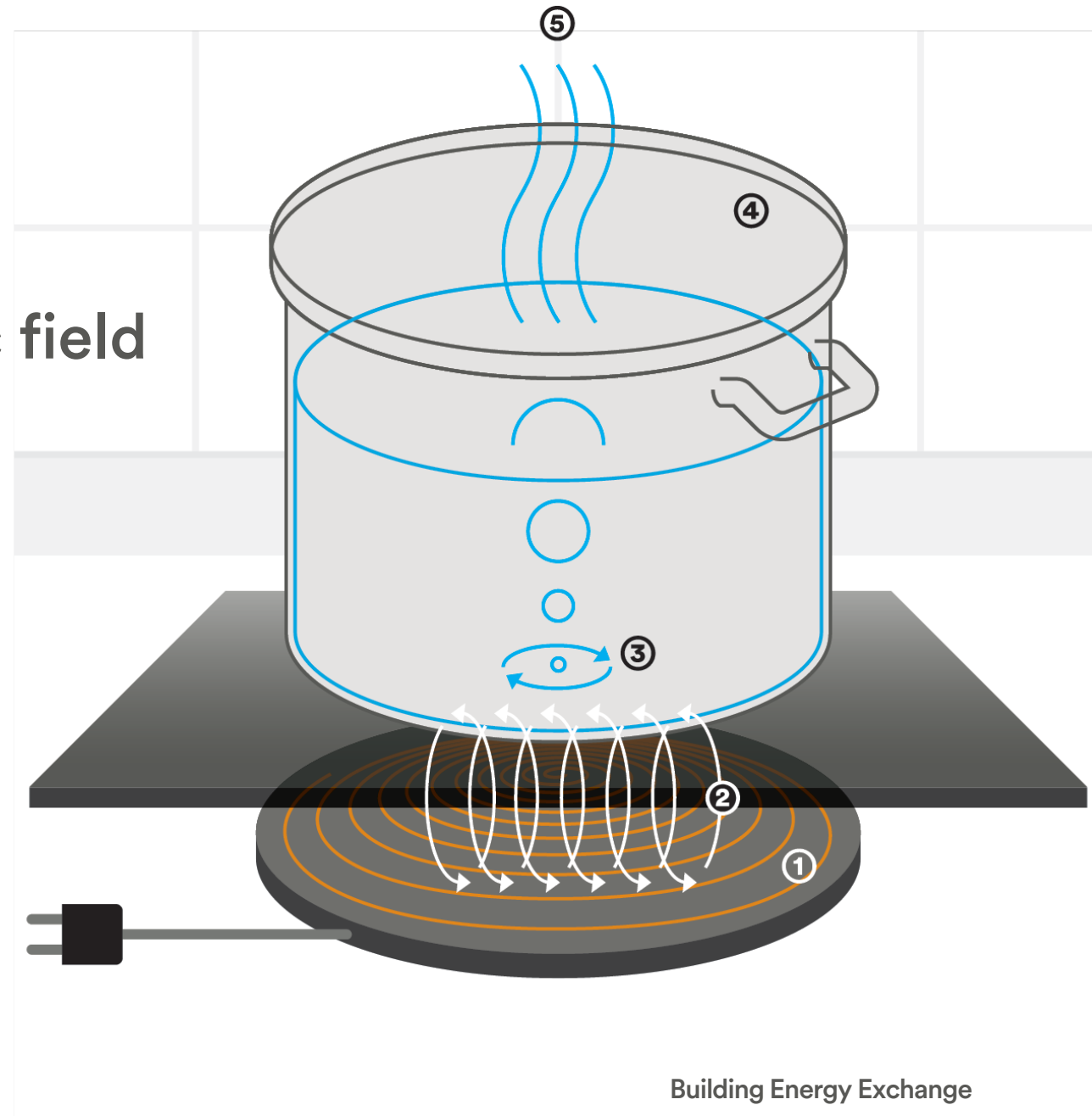
# What is Induction?





# In Cooking:

1. Alternating electric current
2. Fluctuating electromagnetic field
3. Small currents
4. Electrical resistance
5. Heat





# Induction vs. Electric

- More efficient & precise
- Faster cook times
- Safer





# Induction vs. Gas

- More efficient
- Healthier
- Safer
- Better for climate





# Health & Safety Impacts of Gas Cooking

- Combustion releases pollutants
- Can lead to respiratory illness
- Burns
- Equity



# Climate Impacts

- Methane
- 25 times warming potential of CO<sub>2</sub>
- Induction has no onsite emissions

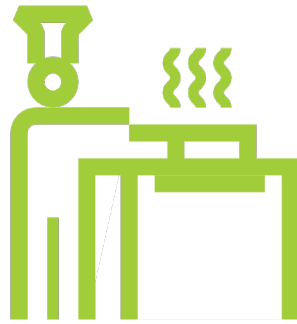


# Next Steps

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**Implementation  
in Housing**



**Commercial  
Kitchens**



**Make  
Policy**

# Read More



tech primer

## Induction Cooking

### User-friendly cooktops and ranges that reduce emissions and improve air quality

tech overview

applicable building types  
all buildings

implementation  
anytime

fast facts

- improves air quality
- reduces GHG emissions
- keeps the kitchen cooler
- faster, more responsive cooking performance
- sleek appliance that is easy to clean



costs & benefits\*

GHG Savings



Tenant Experience Improvements



Utility Savings



Capital Costs



Maintenance Requirements Costs



\* ratings are based on system and use, see back cover for details.

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# Beyond Zero Series: Burn Ban – The Benefits of Induction Cooking

Avery Gray, RA CPHD



# Passive Houses From S - XL



Ditmas Park

**XS**



Brooklyn

**S**



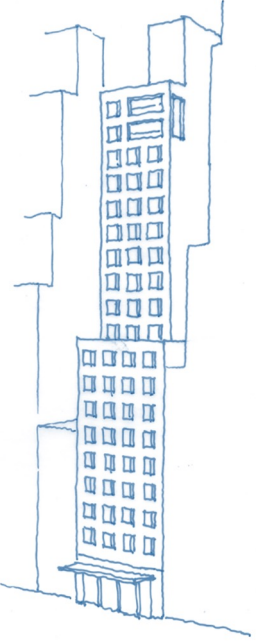
Brooklyn

**M**



Tribeca

**L**



29th Street

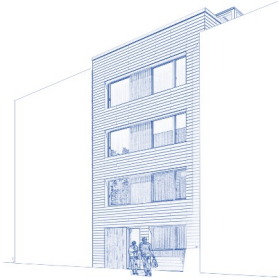
**XL**



# Passive Houses Induction Cooking



**XS**



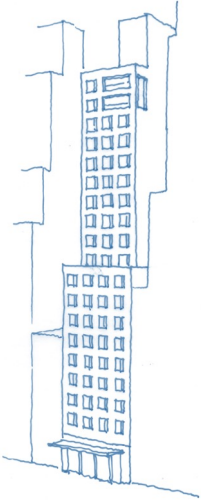
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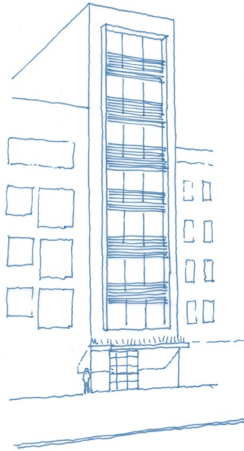
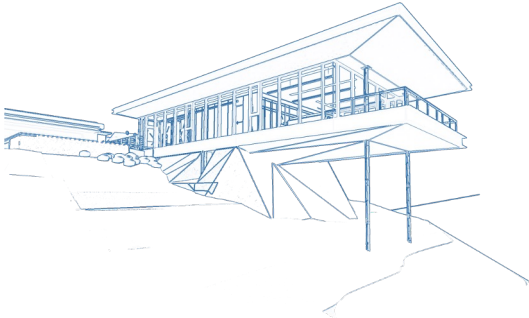
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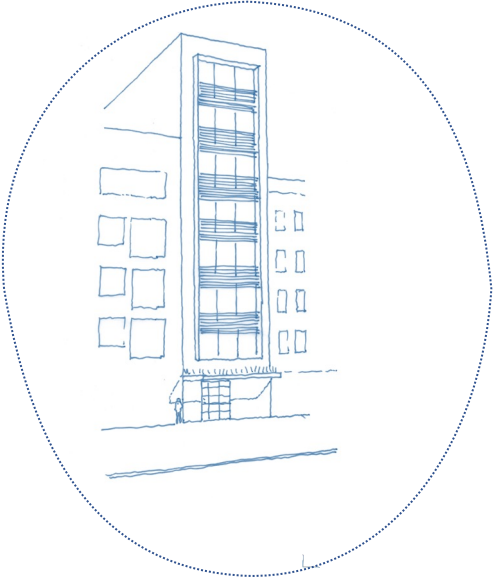
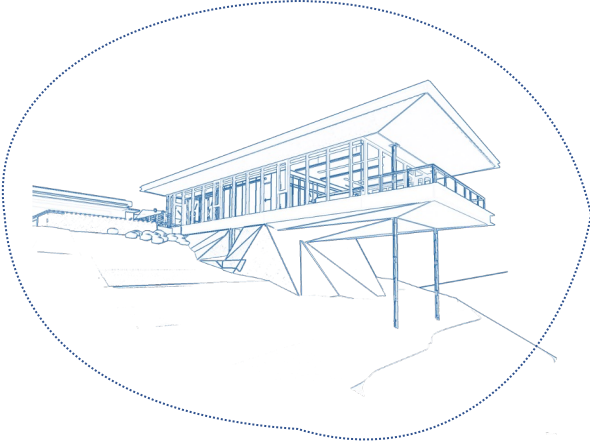
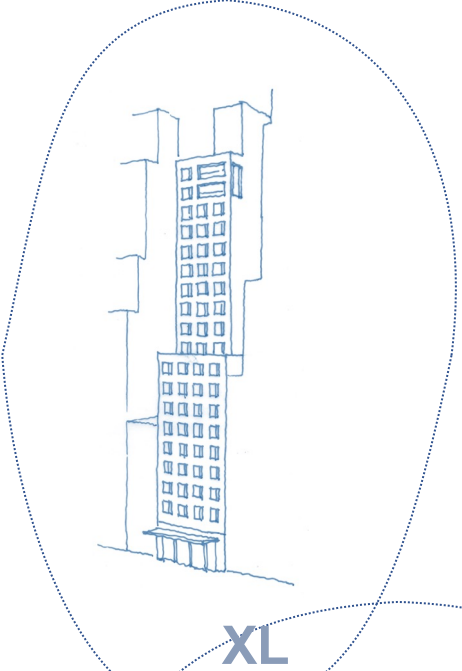
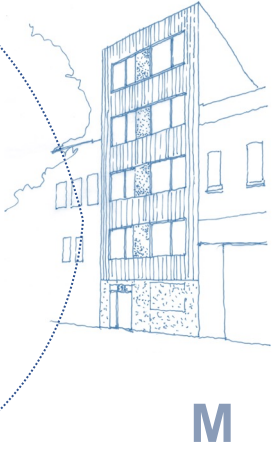
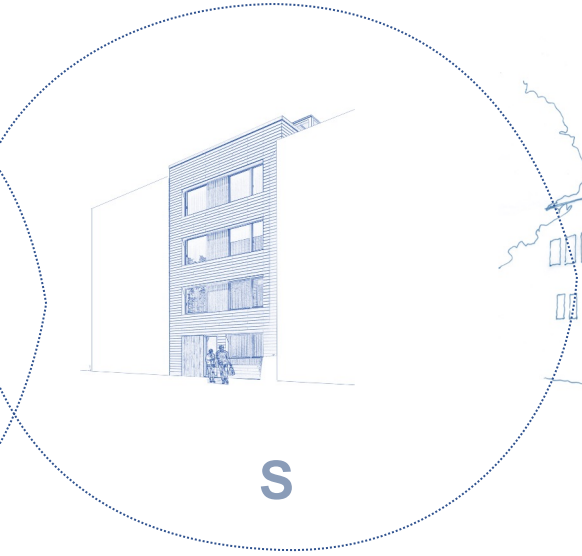
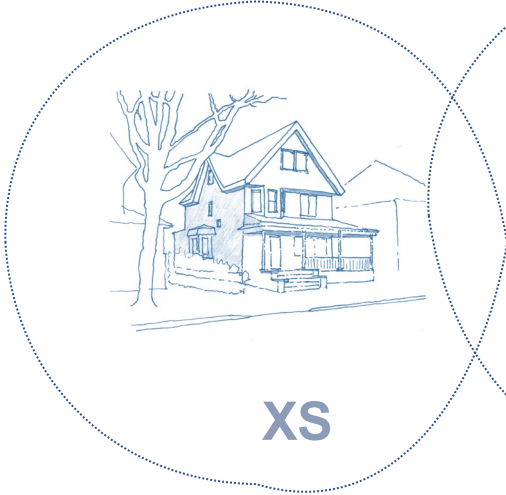
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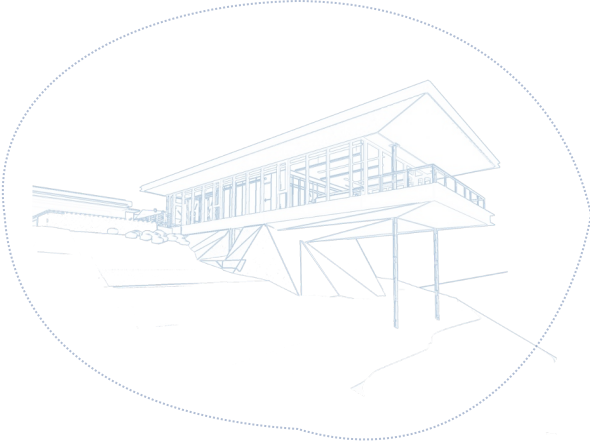
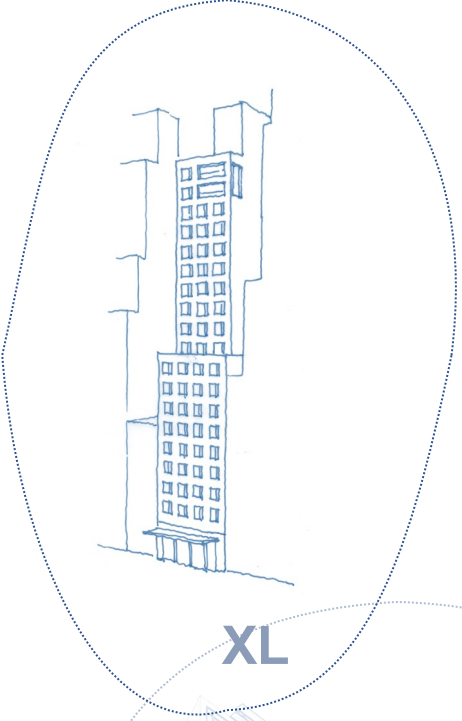
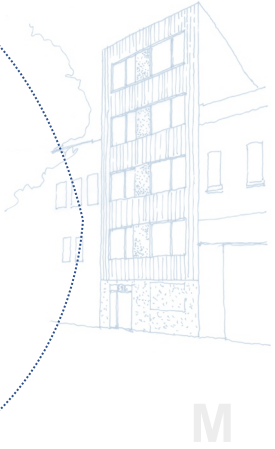
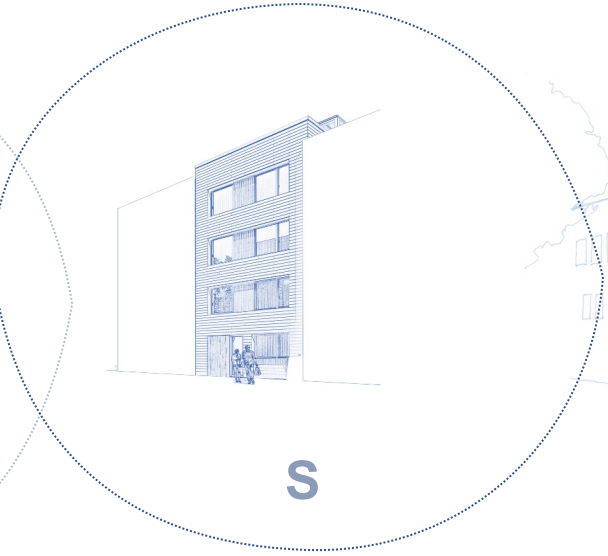
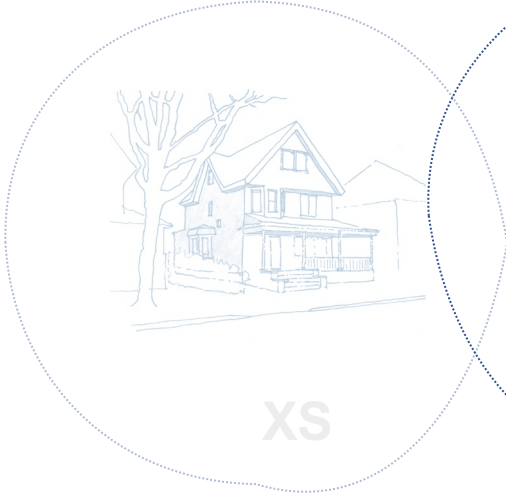
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# Passive Houses Induction Cooking



# Passive Houses Induction Cooking





# NYSERDA BOE Winners



Flow Chelsea



Street Smart



# FLOW CHELSEA

**SIZE:** 65,000 SF

**HEIGHT:** 24 Story with setback to maintain neighbor's light and air access

**OCCUPANCY:** Residential 55 Rental Units with Ground Floor Commercial

**CONSTRUCTION:** Concrete structure, AAC block envelope with Mineral Wool rainscreen

**BUILT:** 2019

**ARCHITECTS:** ZH ARCHITECTS





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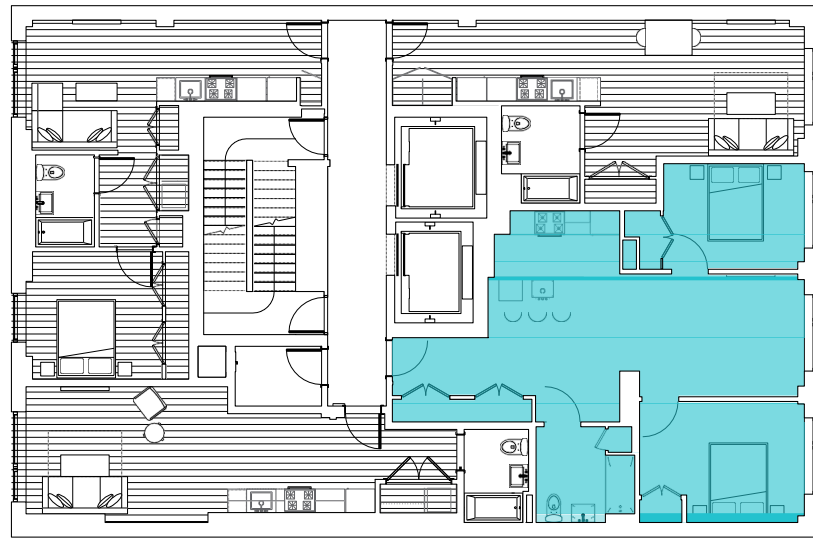
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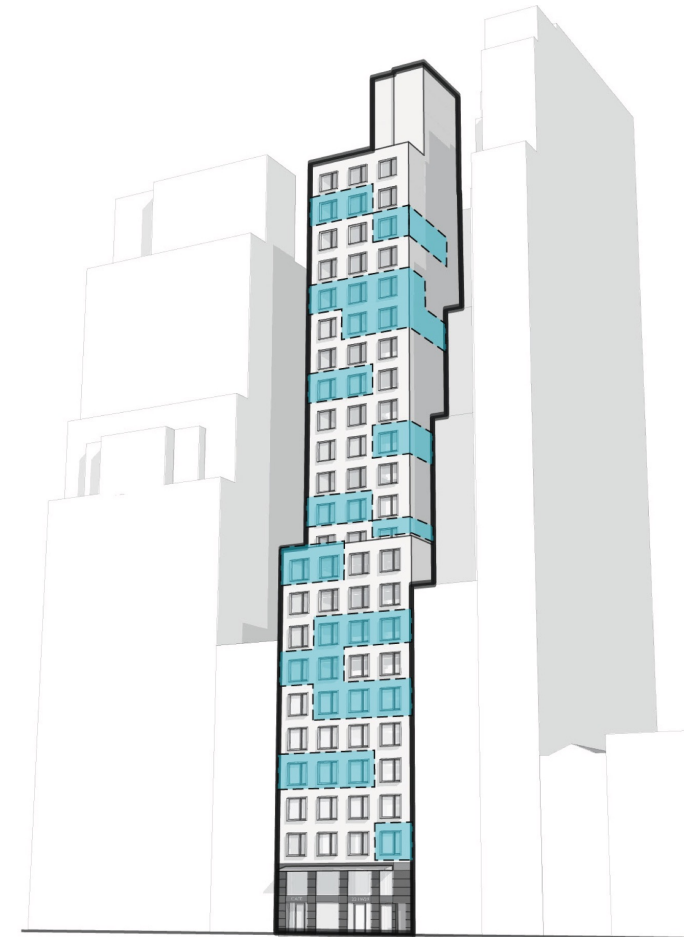
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● INCLUSIONAR Y / 421A      ○ MARKET RATE



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# STREET SMART

**SIZE:** 4,300 SF

**HEIGHT:** 4 Story

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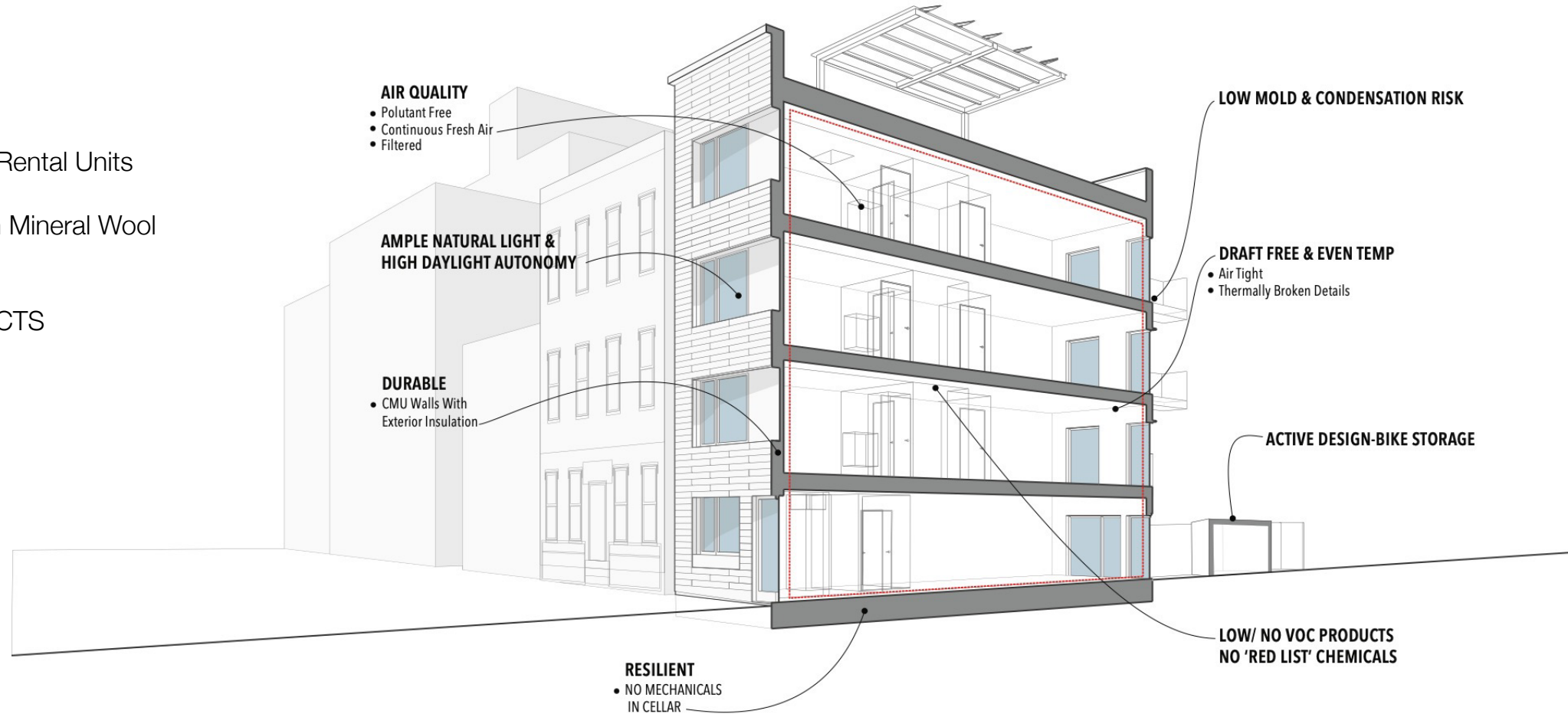
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# Induction Making the Pitch



Street Smart



Flow Chelsea




# Induction Making the Pitch

- **Myths / Unknowns-** Education and provide resources

### Induction Cooking

#### Should You Break Up With Your Gas Stove?



The gas industry has a new marketing campaign to get you to love your gas stove. But it's about a lot more than how you cook.

[More](#) [Tweet!](#)

Appliances / Kitchen Appliances / Ranges / Pros And Cons Of Induction Cooktops And Ranges

## Pros and Cons of Induction Cooktops and Ranges

They're sleek. They're precise. And they can boil water in about half the time of a conventional stove. But are they right for *your* kitchen?

By Paul Hope  
Published December 3, 2019 | Updated June 22, 2022

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Photo: Getty Images



**11**  
Electric Induction Ranges Rated

[Access Ratings](#)

EXPLORE  
[Appliances](#) [Kitchen Appliances](#)  
[Ranges](#)

Induction cooktops are a special type of electric cooktop that gets its power and precision from induction technology. This means it generates energy from an electromagnetic field below the glass cooktop surface, which then transfers current directly to magnetic cookware, causing it to heat up.



### The New York Times

## The Case for Induction Cooking

As the perils of cooking with gas become more apparent, there's ever more reason for cooks to turn to these flameless, easy-to-clean ranges.

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# Induction Making the Pitch


- **Myths / Unknowns-** Education and provide resources
- **Health & Wellness** – eliminate harmful chemicals, reduced burn risk

**Vox** MIDTERM ELECTIONS EVEN BETTER RECODE THE GOODS FUTURE PERFECT THE HIGHLIGHT MORE

## Gas stoves can generate unsafe levels of indoor air pollution

An accumulating body of research suggests gas stoves are a health risk.  
By David Roberts | @dvroberts | Updated May 11, 2020, 4:52pm EDT

f t



Workers deliver a new stove to a home in South Lawrence, Massachusetts, on December 3, 2018. | Jessica Rinaldi/The Boston Globe via Getty Images

**MOST READ**



Two Republican judges just let Texas seize control of Twitter and Facebook

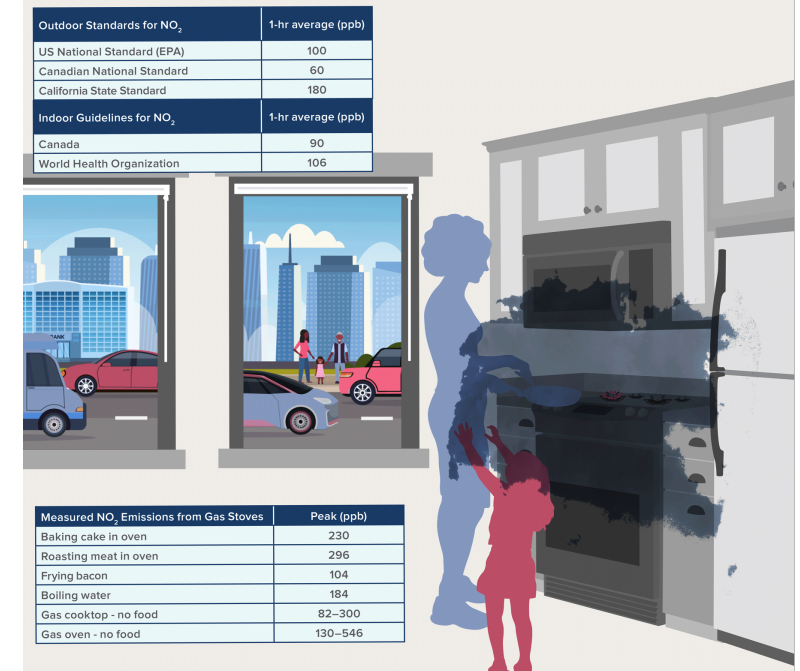


Here's what we know about the state of the world

In 2001, a **major study of human activity patterns** found that people in the US spend roughly 90 percent of their time indoors. It is safe to say that, in the age of Covid-19, that number is even higher. (Here in the Roberts household, it feels like we've hit 105 percent.)

We also do most of our breathing inside. So it's a little odd that we don't think more about indoor air quality. Outdoor air is the subject of titanic legal and regulatory battles going back decades. The six **common air pollutants** covered by the Clean Air Act — ground-level ozone, particulate matter, carbon monoxide, lead, sulfur dioxide (SO<sub>2</sub>), and nitrogen dioxide (NO<sub>2</sub>) — have fallen an average of 74 percent since the Act was passed in 1970.

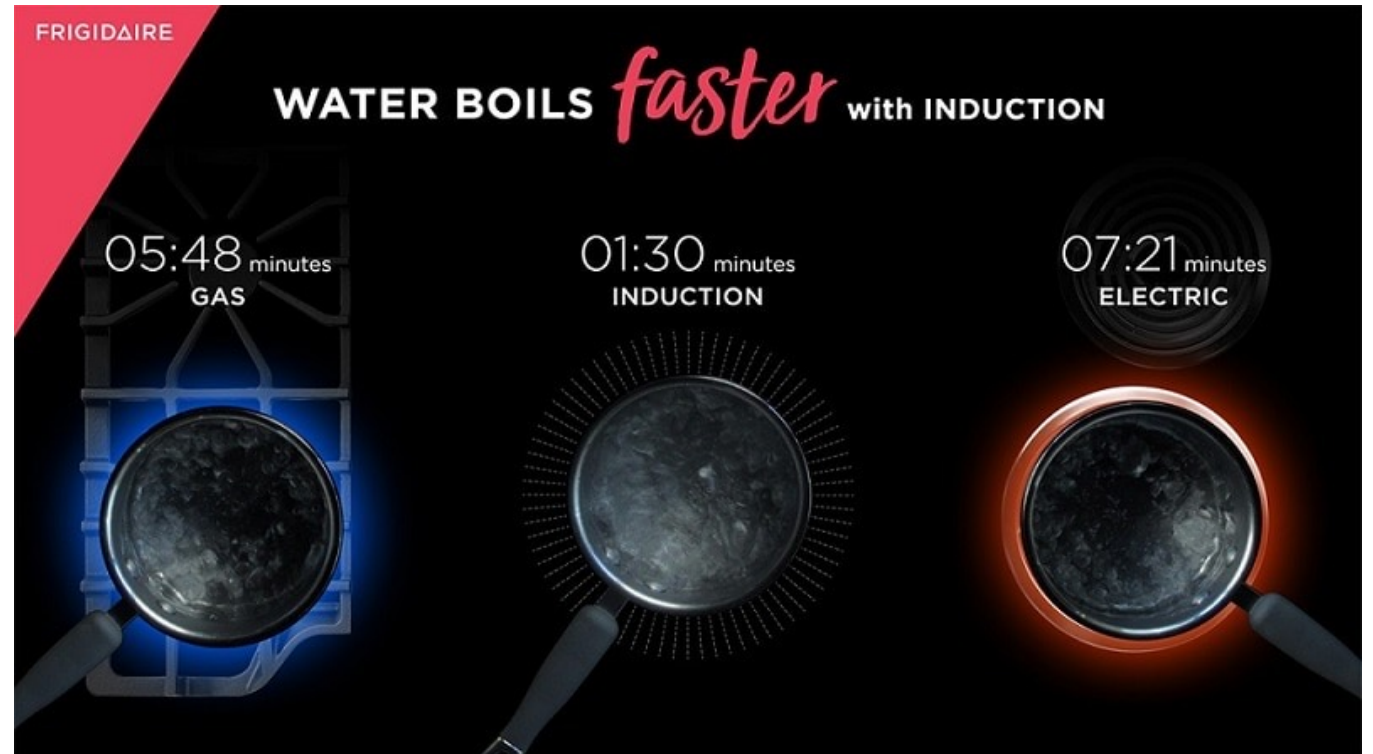
## Gas Stoves Can Emit Elevated Indoor Nitrogen Dioxide (NO<sub>2</sub>) Levels Often Exceeding Indoor Guidelines and Outdoor Standards



Source: <https://rmi.org/insight/gas-stoves-pollution-health>

# Induction Making the Pitch

- **Myths / Unknowns-** Education and provide resources
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- **Aesthetics** – sleeker and more flexible, easier to clean



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- **Future Proofing** – sustainability and potential gas bans





# Induction Results & Feedback

- Tenants have been very happy with induction appliances, particularly with speed of cooking
- A tenant guide was provided at move in explain Passive House features and appliances that was very helpful (for those who read it)
- Some tenants had to replace some of their cookware, but no complaints or negative feedback on this



# Induction New Possibilities

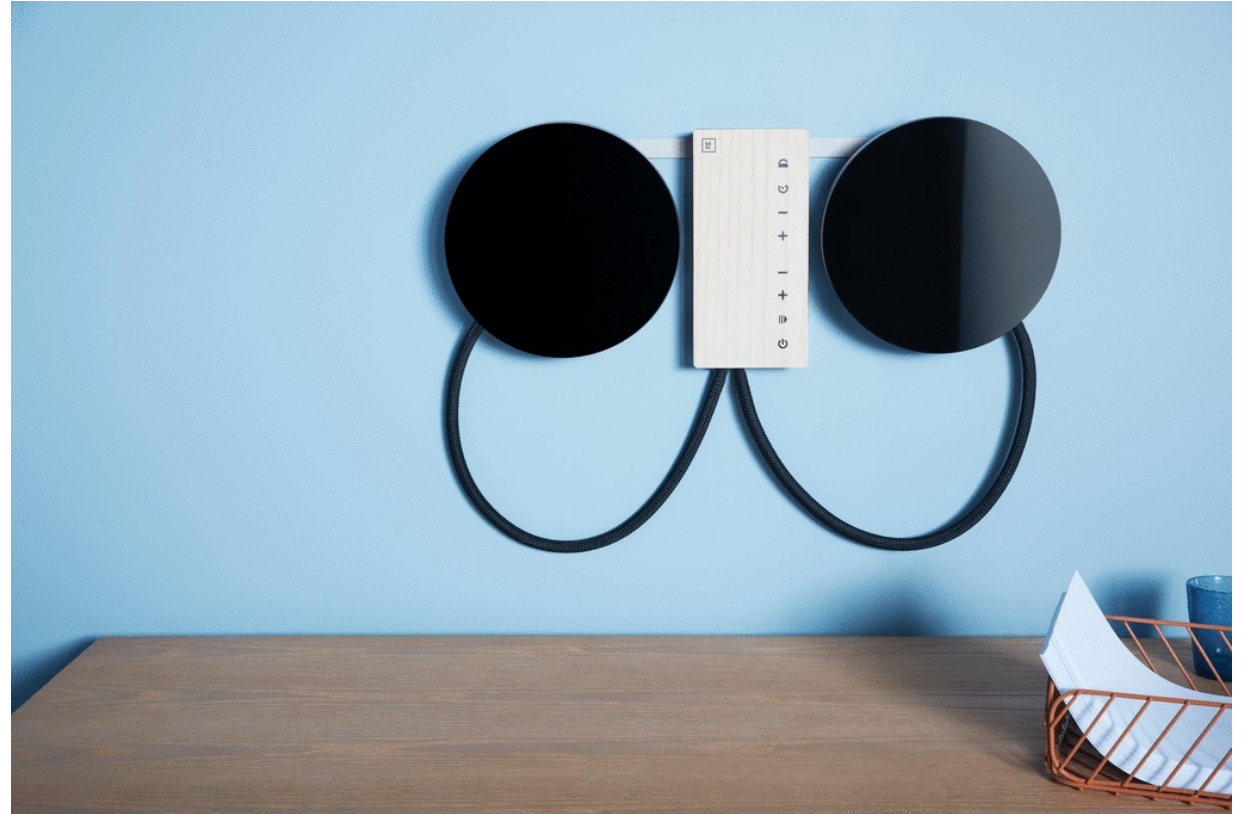
- New products like Induction elements below continuous stone counter – expanded layout and design options





# Induction New Possibilities

- Induction element below continuous stone counter – expanded layout and design options
- Portable induction, space saving & flexible. Adaptable for small spaces and remote locations



THANK YOU!

zh

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# discuss.

## *Moderator*

- **Jamal Lewis, Director of Policy Partnerships & Equitable Electrification, Rewiring America**

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thank you.

**tech primer**


### Induction Cooking

User-friendly cooktops and ranges that reduce emissions and improve air quality

**tech overview**  
applicable building types: all buildings  
implementation: anytime

**fast facts**

- improves air quality
- reduces GHG emissions
- keeps the kitchen cooler
- faster, more responsive cooking performance
- sleek appliance that is easy to clean



**costs & benefits\***

GHG Savings  
Tenant Experience Improvements  
Utility Savings  
Capital Costs  
Maintenance Requirements Costs

\* ratings are based on system and use, see back cover for details.

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*Scan to access the Induction Cooking Tech Primer, developed with support from NYSERDA.*