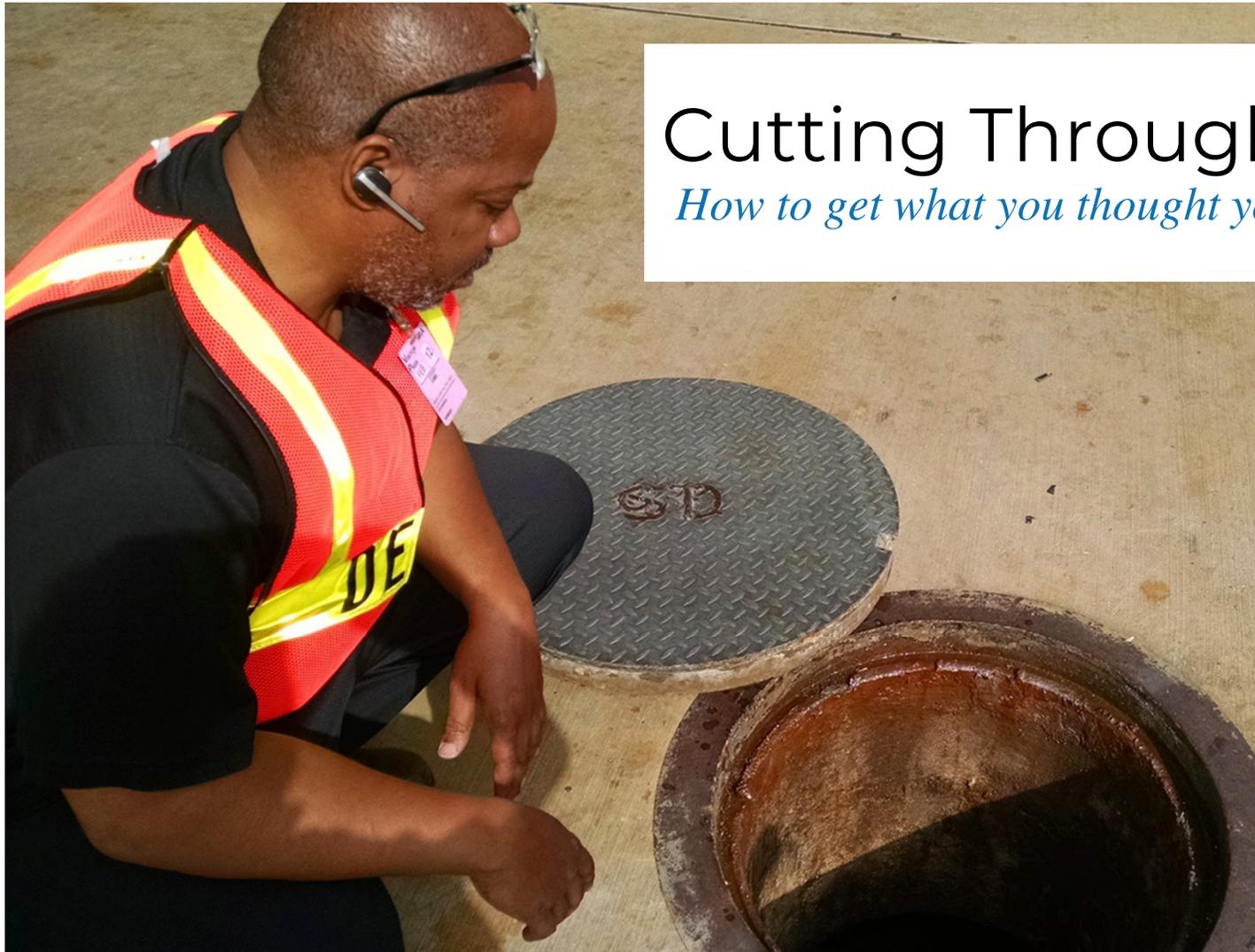




iGT 2030
INTEGRATING GREEN TECHNOLOGIES
IGT2030.COM



Cutting Through The FOGs

How to get what you thought you paid for



LOEWS VANDERBILT NASHVILLE

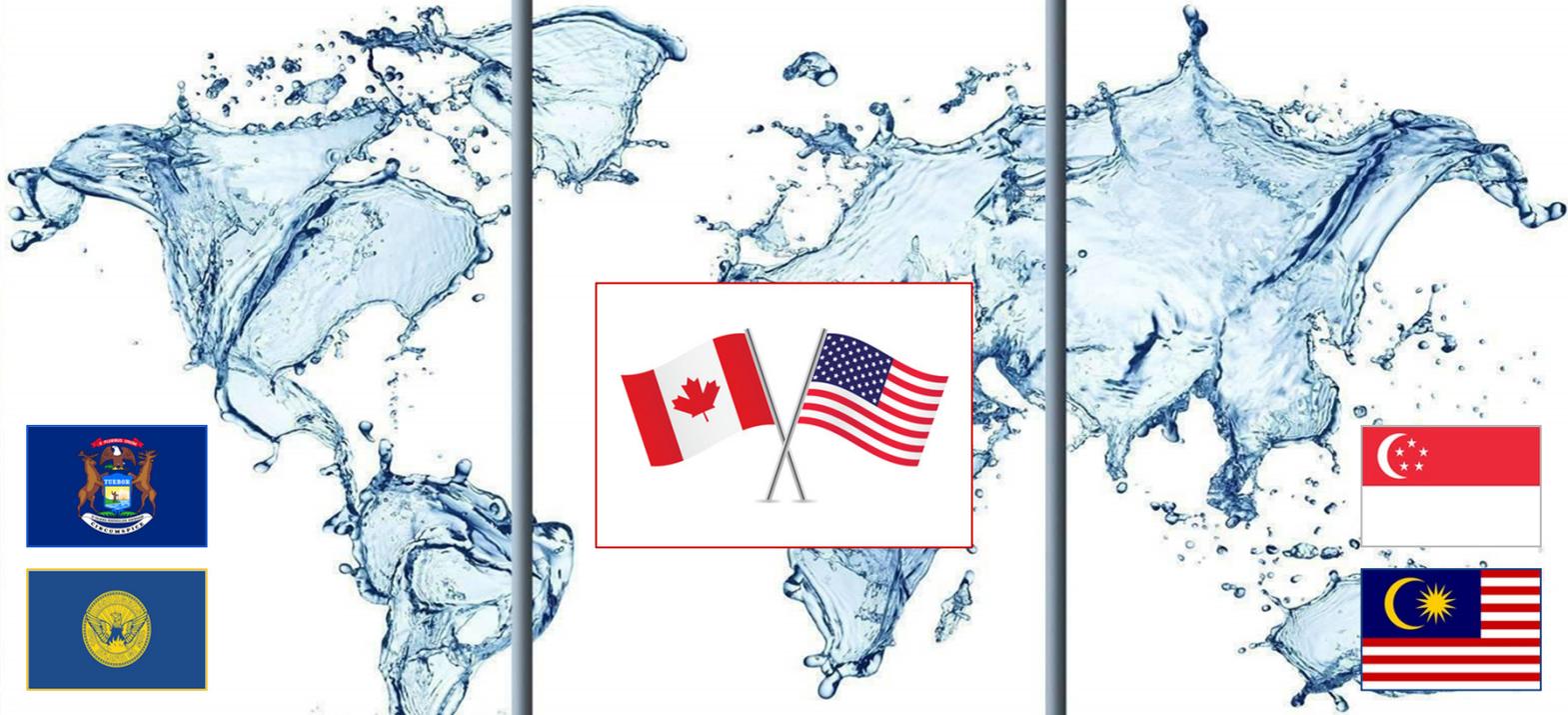
WARNING

Some participants may find the following presentation disturbing. It is designed for technical educational awareness and insights.

All third-party content has been acknowledged. No copyright or trademark infringement is intended.

Viewer discretion is advised.







UNITED STATES OF AMERICA,
the STATE OF FLORIDA DEPT OF
ENVIRONMENTAL PROTECTION
and the STATE OF FLORIDA,
Plaintiffs,
v.
MIAMI-DADE COUNTY,
FLORIDA,
Defendant,
CONSENT DECREE



Sterling



Mike



Carl



Paola



Charles



Nina



Wijitpak



Denaye



Bob

MIAMI-DADE COUNTY

\$1.6B sewer deal

■ A federal judge said he will decide 'quickly' whether to accept a proposed settlement over pollution violations by Miami-Dade County.

BY PATRICIA MAZZEI
pmazzei@MiamiHerald.com

A Miami federal judge said Monday he has some concerns about a legal set-

next 15 years to fix its dilapidated sewer system.

Chief among them: that the penalties Miami-Dade County would b





SEWER CONSENT DECREES

Miami-Dade FL \$14.5 billion

Chicago IL \$62.0 billion

Atlanta GA \$3.9 billion

Atlanta-Dekalb GA \$2.6 billion

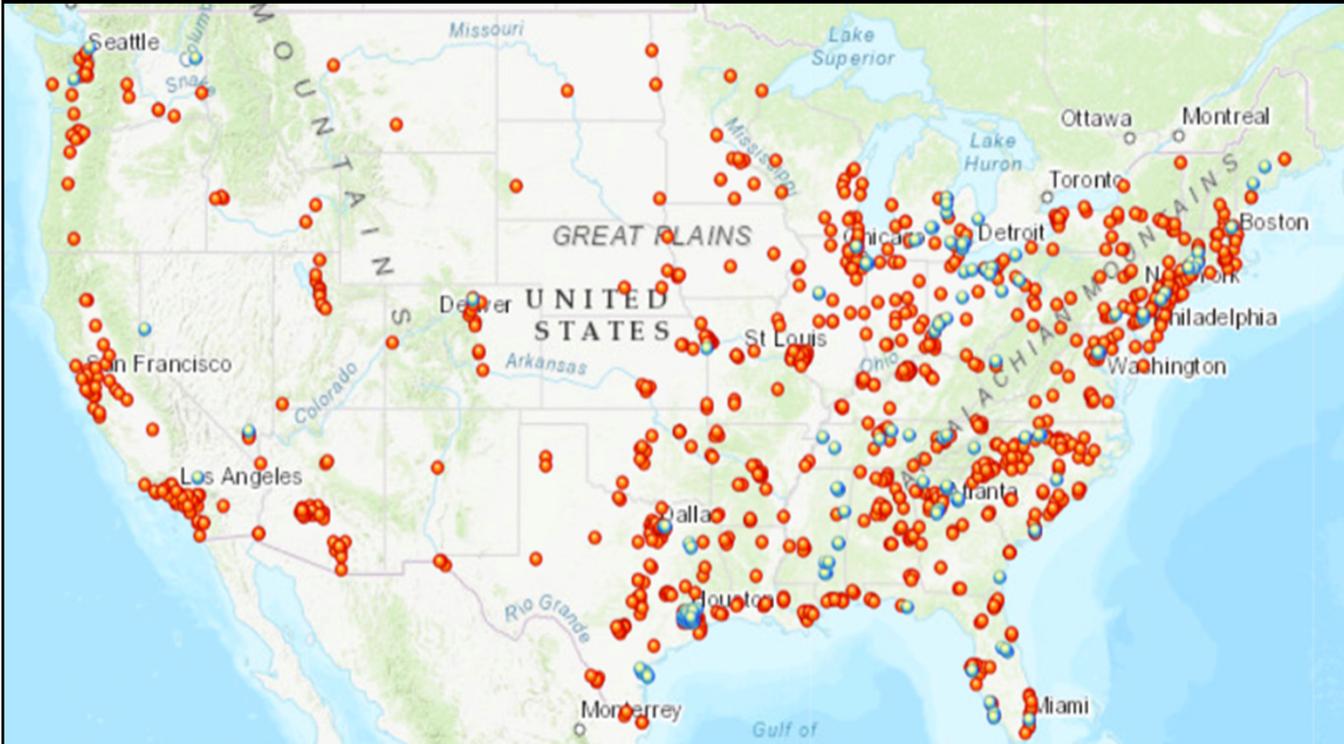
Houston TX \$2.0 billion

Kansas City MO \$2.5 billion

Baltimore MD \$1.6 billion

St Louis MO \$4.7 billion





WATER WORKS
IF ONE UTILITY
RENT IS

**EPA MANDATES REPAIRS
\$\$BILLIONS & BILLIONS**

IF UTILITIES ARE
RENTED, RENT IS 10 TIMES
AMOUNT SHOWN ON DICE.

A graphic with a green background featuring a water tap icon at the top. Below the icon, the text "WATER WORKS" is written in a bold, sans-serif font. Underneath, there is a line of text that is partially cut off: "IF ONE UTILITY RENT IS". A diagonal banner with a torn paper effect is overlaid on the text, containing the bolded text "EPA MANDATES REPAIRS \$\$\$\$BILLIONS & BILLIONS". Below the banner, another line of text is partially cut off: "IF UTILITIES ARE RENTED, RENT IS 10 TIMES AMOUNT SHOWN ON DICE."

	Restaurant	Public	Development	City	Utility	County
Public Health		 Puddles or Sewage?		 La Grasa		
Economy		 Water & Sewer Bill	 Moratorium!			
County, State & Federal Rules/Regs						

MIAMI-DADE COUNTY

No swimming advisory issued for Biscayne Bay, Intracoastal after sewer spill

BY CARLI TEPROFF
cteproff@miamiherald.com

JUNE 20, 2017 9:42 PM



People are being told to stay out of parts of Biscayne Bay and the Intracoastal Waterway after a 63-inch sewer line broke Tuesday.



South Pointe Park on Miami Beach. PATRICK FARRELL - pfarrell@miamiherald.com

MIAMI BEACH

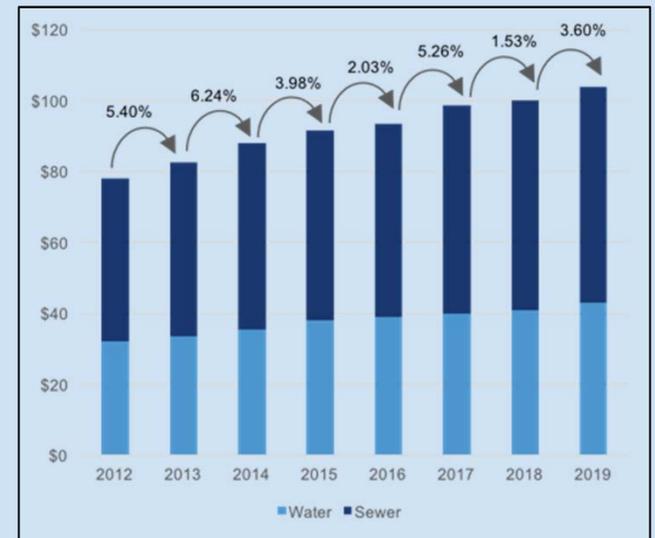
Poop alert: Swimming advisory issued for South Beach



A sewer spill at 840 NW 155th Ln. sent waste into the Biscayne Canal, which then flowed into the Intracoastal. The Florida Department of Health issued an advisory to stay out of the water. **Miami-Dade Water and Sewer**



Data courtesy of Circle of Blue 2015 & Bluefield Research 2019

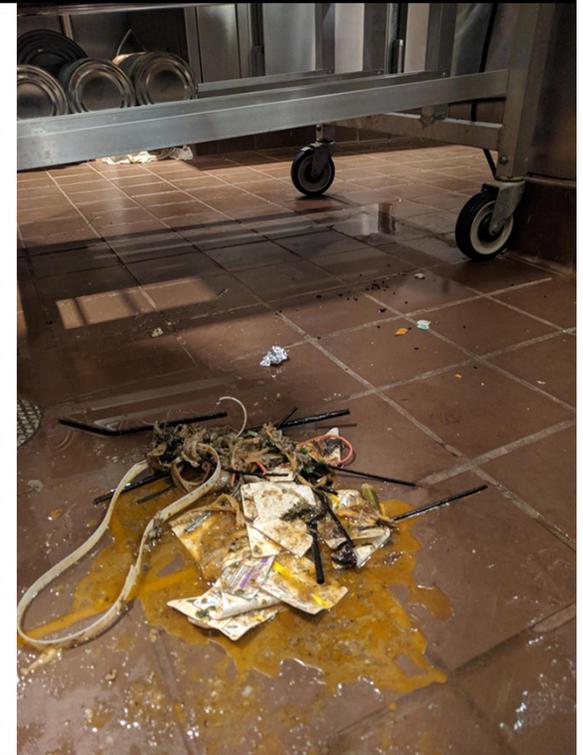
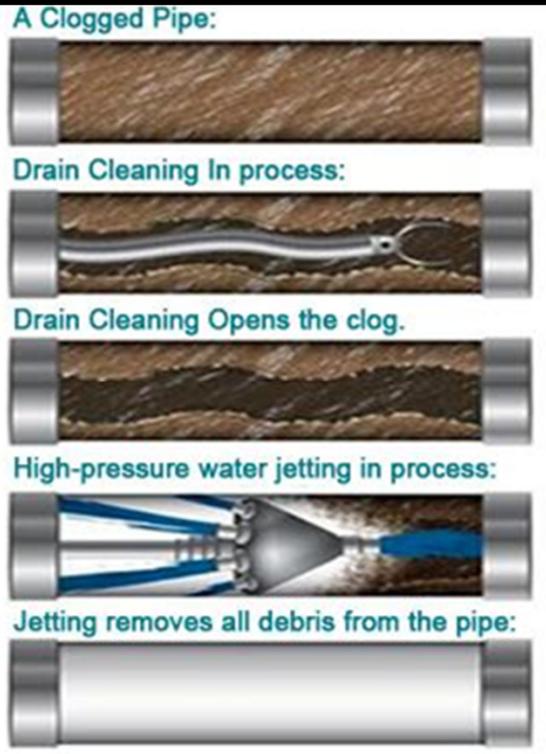


Rate Increases Are Hidden Taxes

↑ 30% Increase
8-yr period



Public Sewer Maintenance 24/7



Know Which Service You're Getting

Public Sewer Inflow

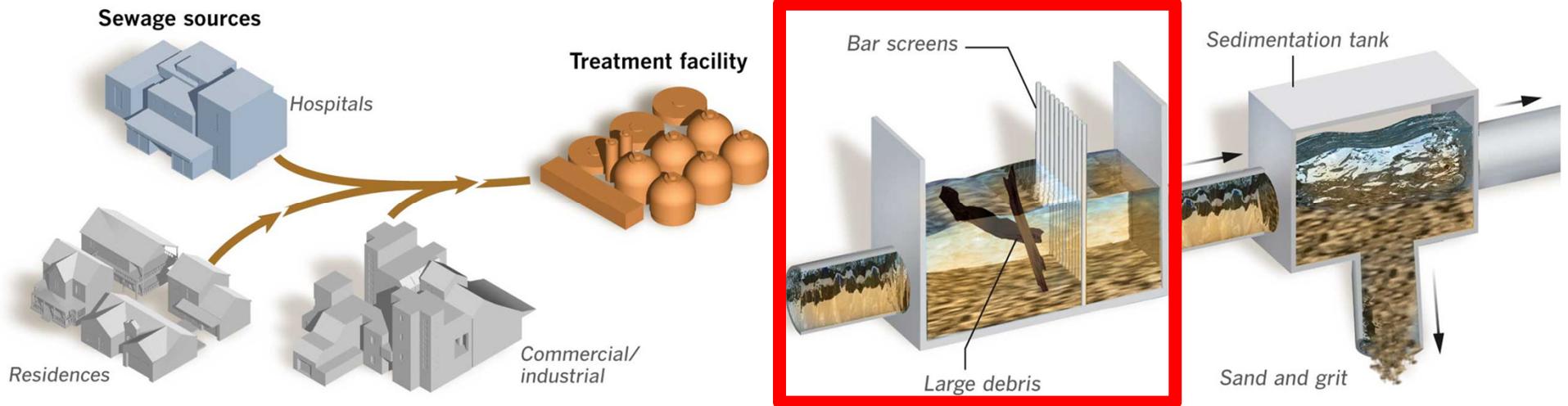
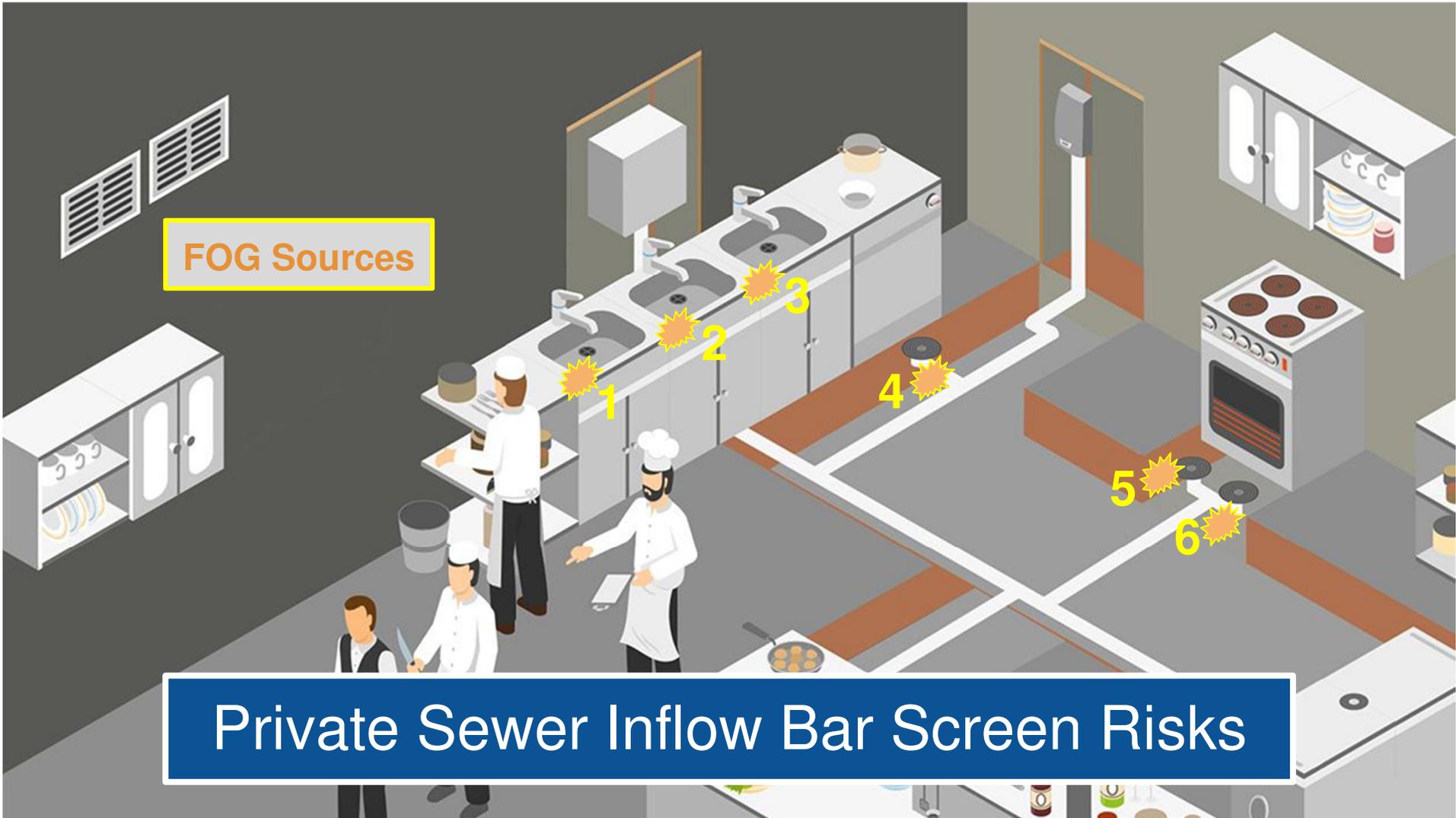


Image courtesy of LA Times



FOG Sources

Private Sewer Inflow Bar Screen Risks



MINIMUM SYSTEM DESIGN

Negative impact on SSSG

Avoidance not a viable option

Plumbing system unprotected



 No Efficiency Testing

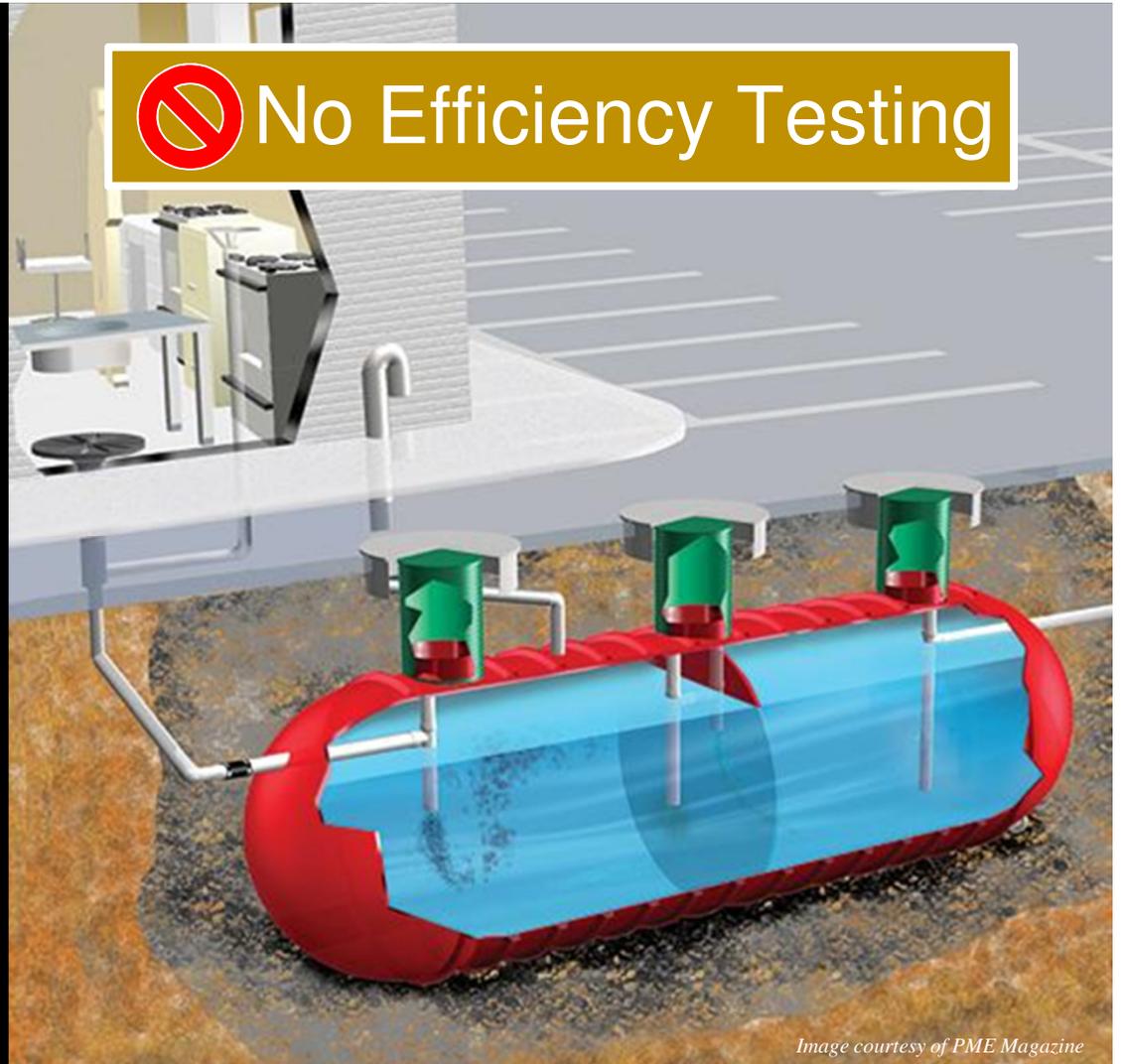


Image courtesy of PME Magazine

Mishandled Food+Trash Destroy Critical Assets





TESTING NOT REAL WORLD

Most cities mandate 100 mg/L

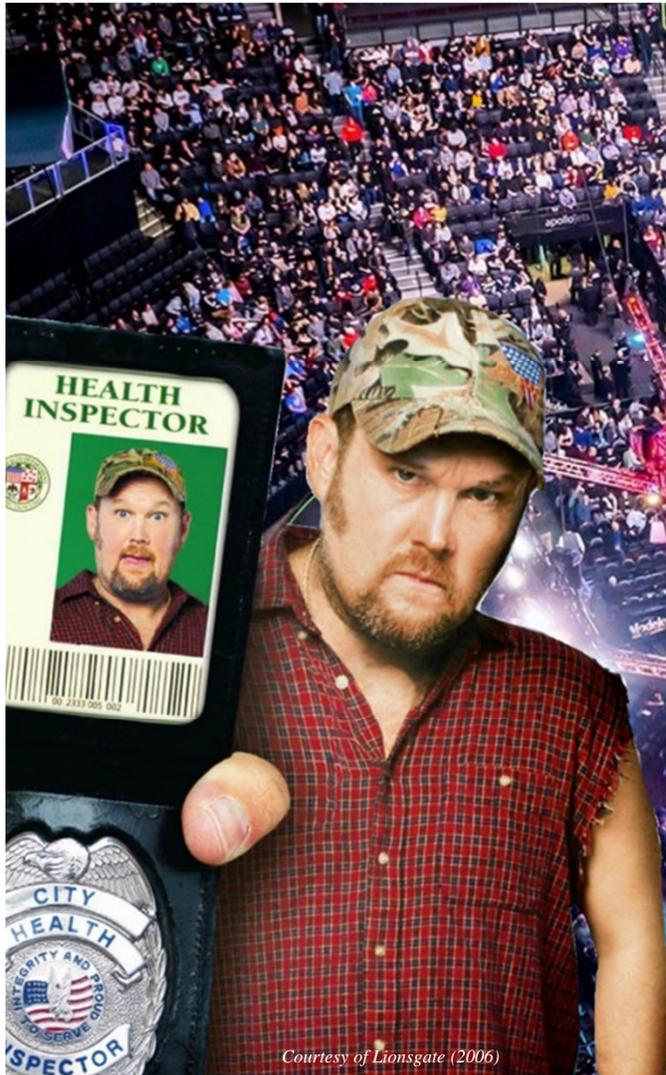
Every 100 mg/L ~ 1% efficiency

Certification happens at 90%

No detergents no food solids

Efficiency Test + Bar Screen Risk





Courtesy of Lionsgate (2006)

TALE *of the* TAPE

Minimize Pollution	Objective	Maximize Profit
Minimum Requirements	FOG Design Permits	Minimum Requirements
None One Size Fits All	Future Proofing	Yes Same Store SG
Detailed Rules	FOG Maint Plan Design	Boiler Plate
One Size Fits All	Type of Cuisine	Dynamic Menus
DFUs mg/L	Native Language	Degrees lbs/oz
8:00am 4:28pm	Work Hours	Open to Close
No Bonus OT Uncommon	Comp Plan	Performance Based Incentives

9%*

Employee Turnover

75%**

Society for Human Resource Mgmt* National Restaurant Association**





Violations Increase Cleaning Frequency





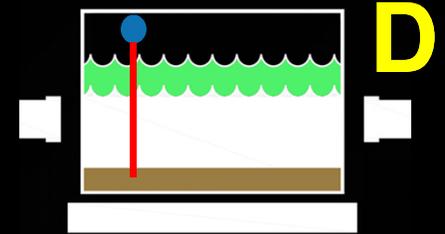
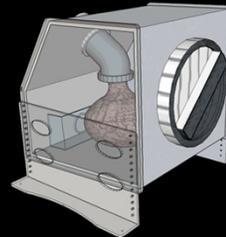
Top 5 Reasons Why Aiming At Permit Minimums Cost So Much!

Why You Don't Get What You Thought You Paid For

5. Ordinances do not consider impact on your OPEX.
4. Obtaining a permit does not win an effective FOGs system.
3. Rules are not written to protect you or your investment.
2. Higher SSSG means more FOGs+Food+Trash to control.
1. You'll only get a service not a flexible platform for SSSG.



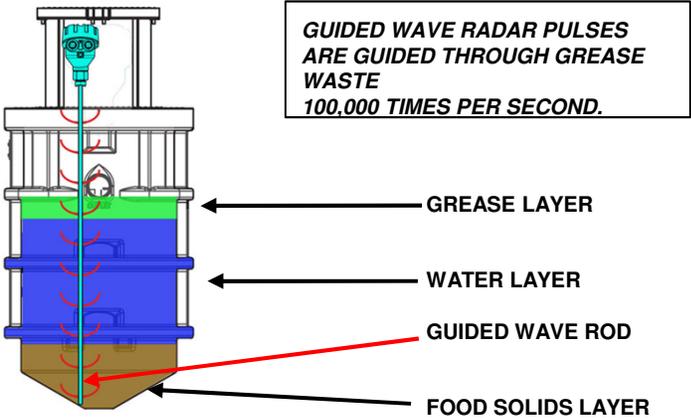
B



Preventive Front-of-Line Technology

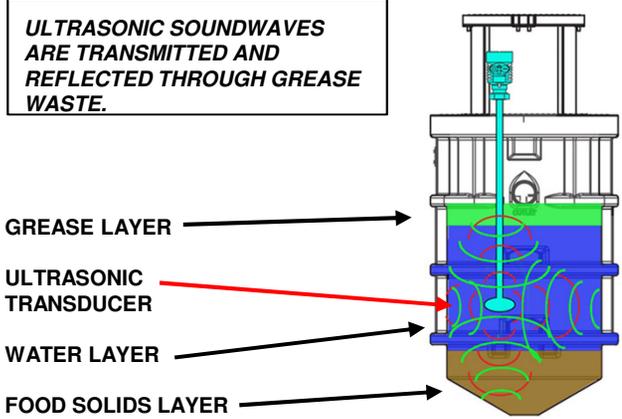
GUIDED WAVE RADAR

INTERCEPTOR MONITORING DEVICE



ULTRASONIC CONTACT

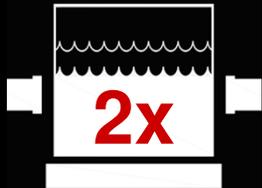
INTERCEPTOR MONITORING DEVICE



THE BUSINESS CASE FOR CONTROLLING FATS OILS AND GREASE: **Violations & Fines**

Integrating Green Technologies

6 CLEAN WATER AND SANITATION



\$2,000



\$100

2,000%

Increase after
20 days



THE BUSINESS CASE FOR CONTROLLING FATS OILS AND GREASE: **Asset Management**

Integrating Green Technologies

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



More Than Fire Code

Roofs are unprotected
Smoke cools becomes FOG
FOG eats roof membranes
Rain runoff is pollution



Canada
Consulate General of Canada
ATLANTA

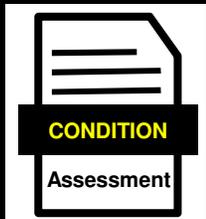
Report on Business
Opportunities
2016

 **Hartsfield-Jackson**
Atlanta International Airport

THE BUSINESS CASE FOR CONTROLLING FATS OILS AND GREASE: 360° Risk Management

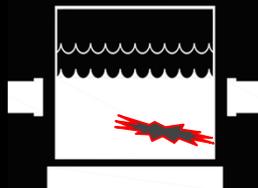
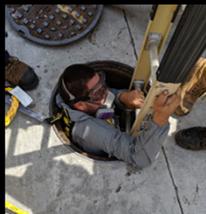
Integrating Green Technologies

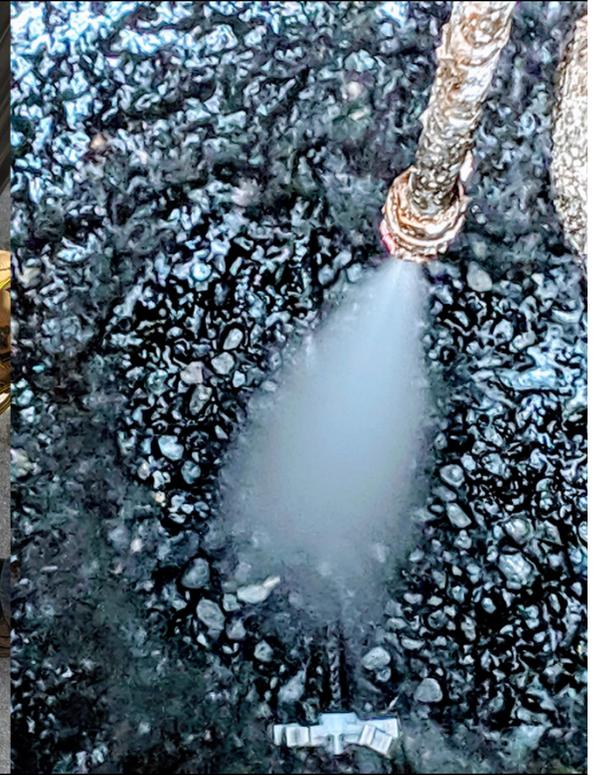
8 DECENT WORK AND ECONOMIC GROWTH



SUSTAINABLE GROWTH + RISKS

Look before you lease or build
More focus on maintenance costs
Identify waste disposal conditions
Clarify water works recycling + landfills





FOGs Condition Assessment



\$13.5 Billion
Package Waste
Carbon Emissions
Food Waste N/A*

Industry: Restaurants
Country: United States of America

MSCI
ESG RATINGS

BB

CCC	B	BB	BBB	A	AA	AAA
-----	---	-----------	-----	---	----	-----

ESG LAGGARD AVERAGE ESG LEADER

\$750 Billion*
BlackRock
Goldman Sachs*
CitiBank

MSCI ESG Rating example only



\$27 Billion

PURCHASE PRICE

Real Assets

\$5.7 B

Intangibles

\$7.9 B



Liabilities

(\$3.4 B)

Total Value

\$10.2 B

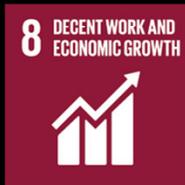
\$27 Billion

GOODWILL

\$16.8 B

PURCHASE PRICE

SUSTAINABLE DEVELOPMENT GOALS



12 of 17



Court Backlog 2022-2023



PRELIMINARY PLAN REVIEW

Unapprovable system was approved by a regulator

Install would have led to court action closure





BRONSON



FOG GREASE TRAP BACKUP

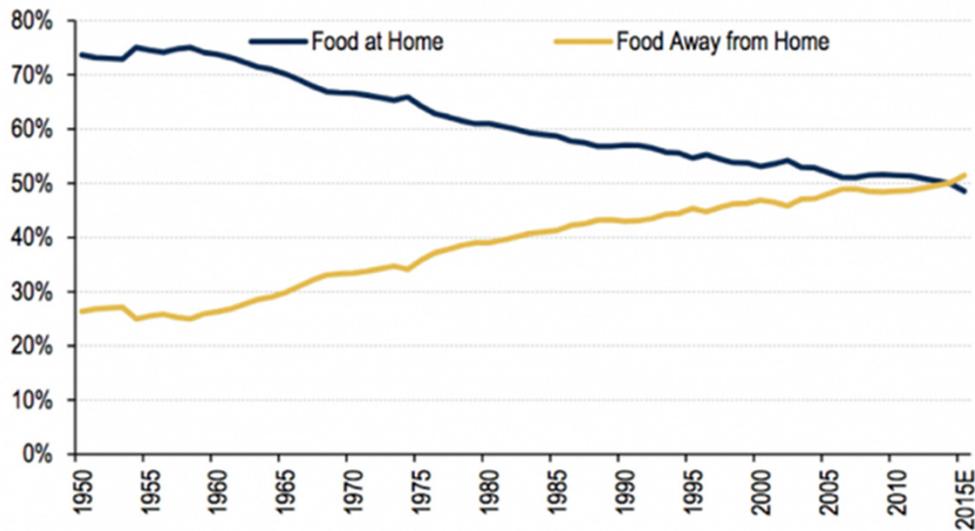
Major health hazard cost high
Enforcement pressure up
Customers flee and tell

RESTAURANT SHOULD HAVE CLOSED BUT DIDN'T



Expensive Liability No Sales

Chart 93: Spending on food away from home surpassing spending on food at home

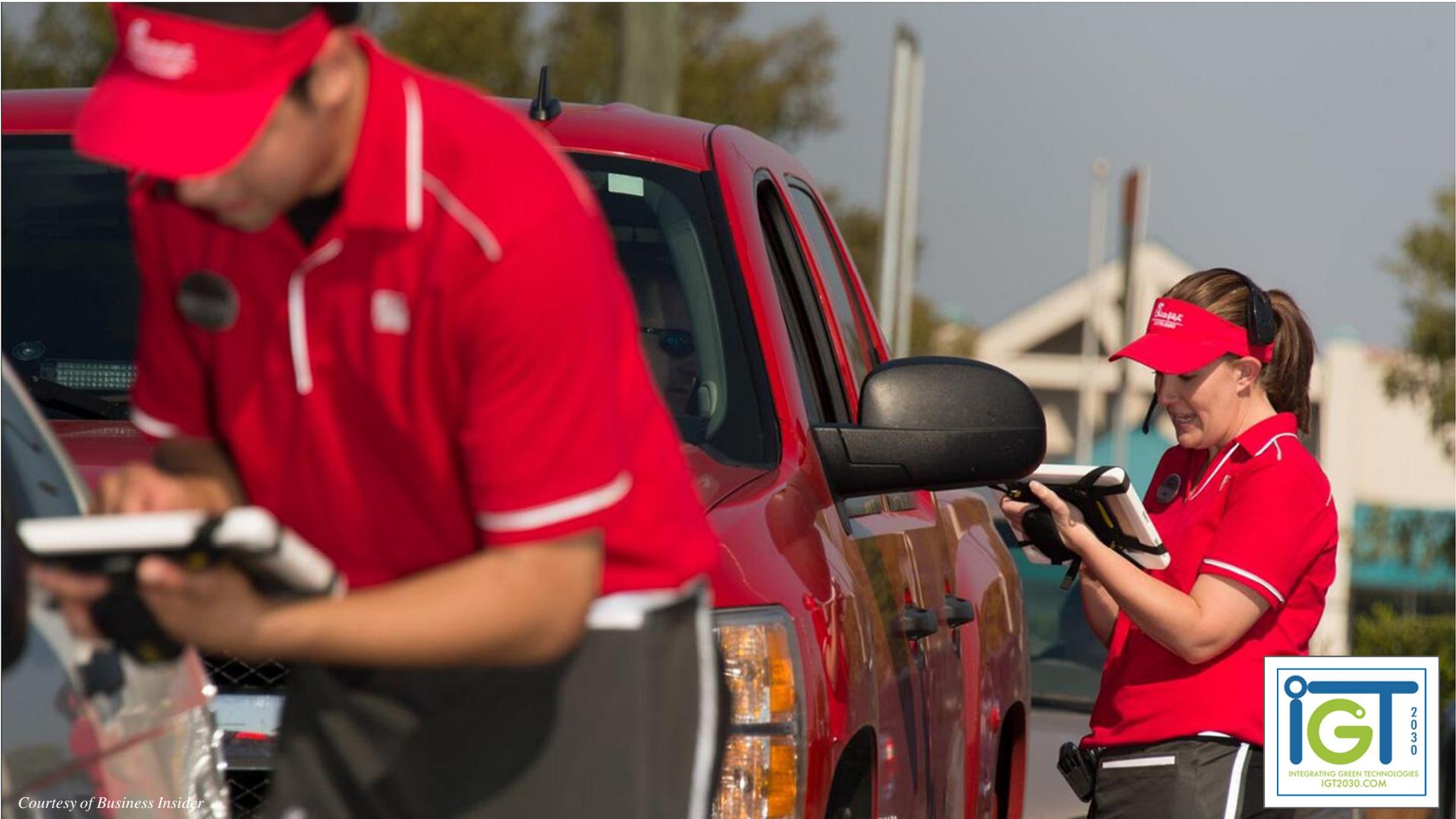


HIGH CUSTOMER EXPECTATIONS

Food spend higher than at home
High quality + ideal prices expected

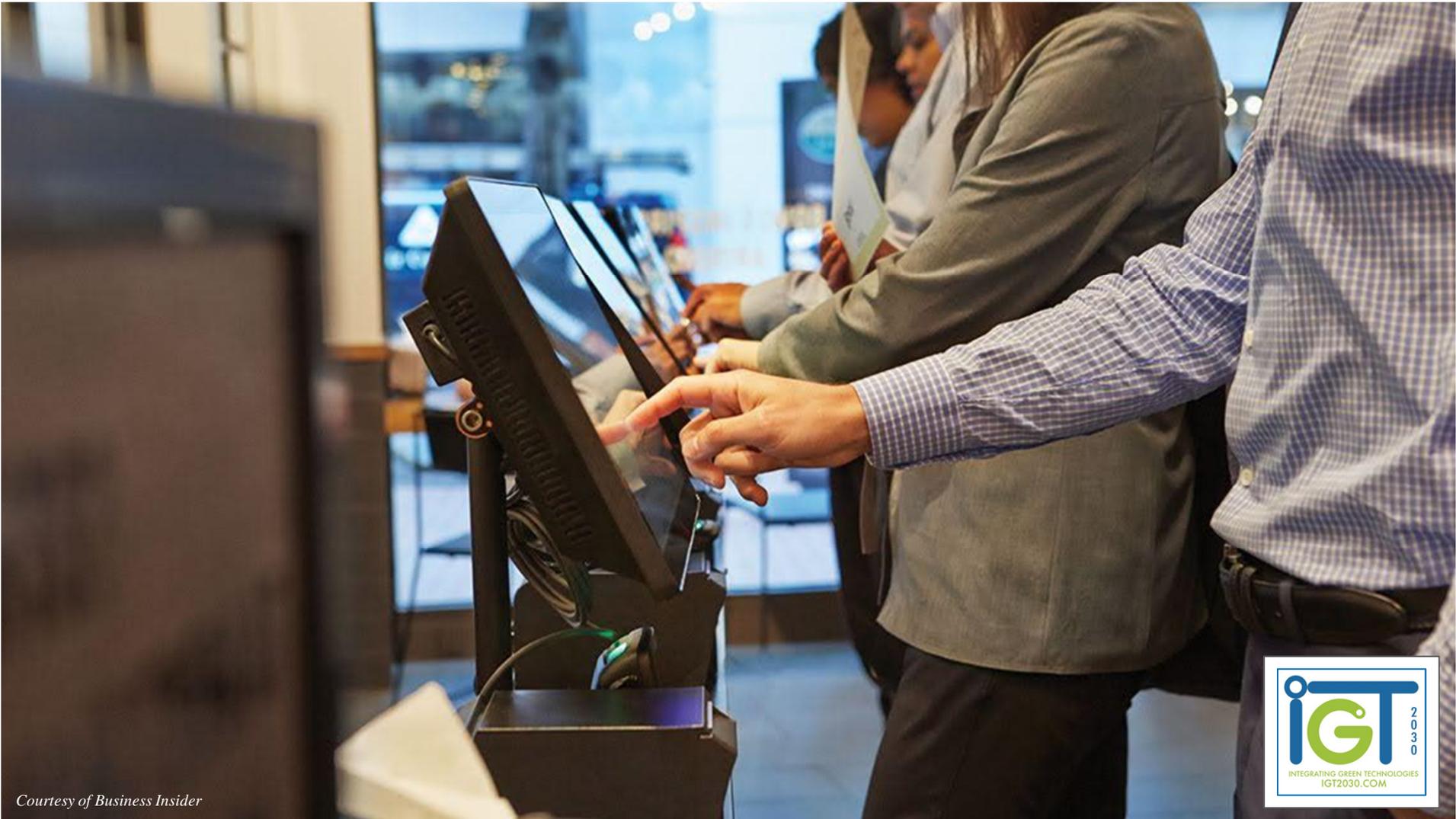
INCREASING OVERHEAD COSTS

Average staff retention 2 month
Rising operating costs



Courtesy of Business Insider





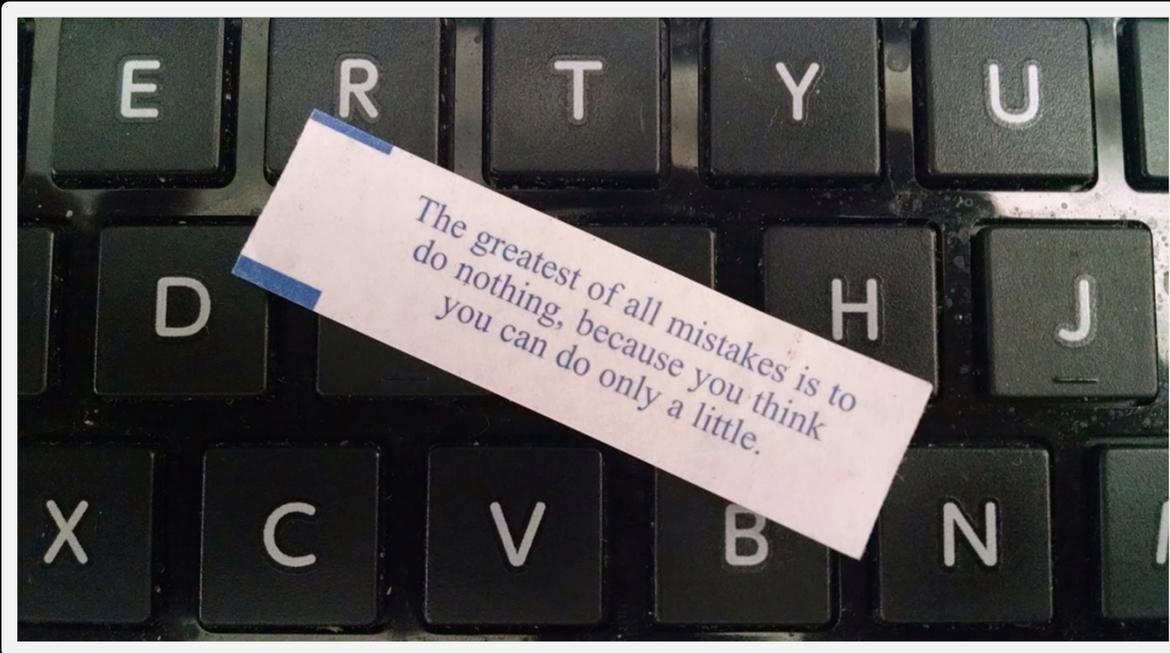
Courtesy of Business Insider





Courtesy of Business Insider









Courtesy of Business Insider Australia



GHOST + VIRTUAL KITCHENS

Labor costs reduced 15 - 50%

Transactions 75 - 100% of typical restaurants

Courtesy of CNBC





Image courtesy of Dodge.com

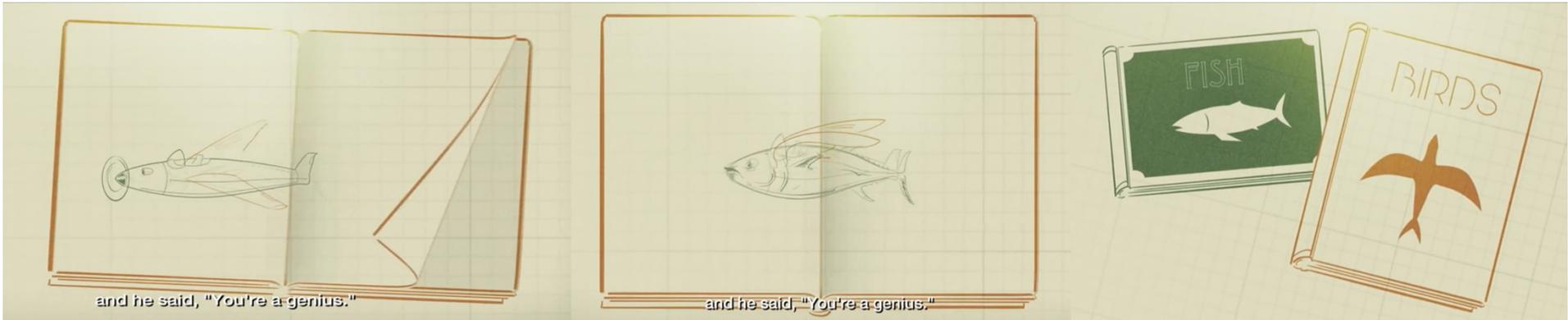


Images courtesy of Netflix



The "Hedy Lamarr" Strategy

The logo for PBSO News Hour, featuring the letters "PBSO" in a white box above "NEWS HOUR" in red text.



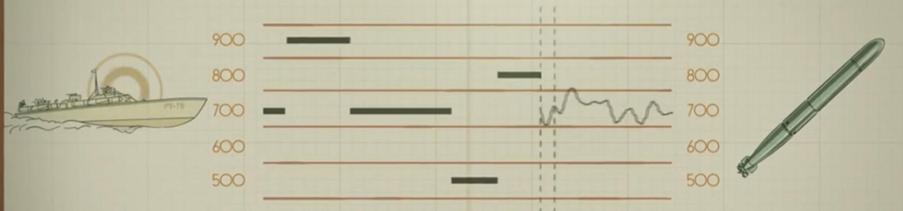
and he said, "You're a genius."

and he said, "You're a genius."

Single Signal Radar



Multi-Signal Radar



Spread Spectrum Technology



Images courtesy of Netflix

DO MORE

WITH LESS





INNOVATIVE DESIGN THINKING

Crowdsource problems + perspectives

Get to the root causes more quickly

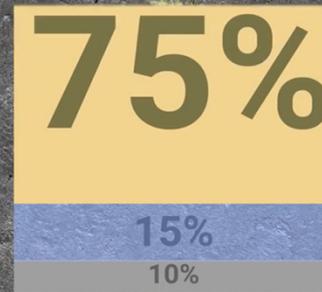
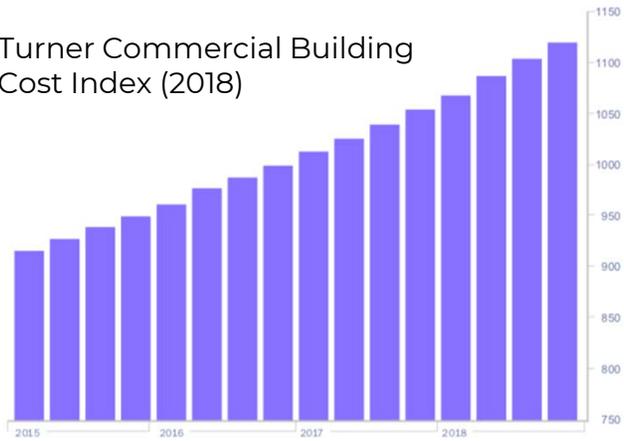
Expand on the ideas of others

Cause the best ideas to win

EPA Sewer Consent Decree Miami FOG Control 2015



Turner Commercial Building Cost Index (2018)



27%

Why The World Is Running Out Of Sand



Courtesy of Tech Insider

#1
U.S. ONLINE
HOSPITALITY
PROGRAM

#1
CHINA
MARRIOTT TIANJIN
CHINA PROGRAM

Ranked
among the
TOP
HOSPITALITY
SCHOOLS
in the
WORLD
QS World University Rankings 2019

#1
HOSPITALITY
SCHOOL
SOUTHEAST
U.S.

#1
BEST
VALUE
IN THE U.S.



8 years 3,000+ Students



FIU
Chaplin School of
Hospitality & Tourism
Management



LEED Silver Intent



INNOVATIVE DESIGN CREDIT

Mixed-Use + Hospitality + Retail

Residential FOG System

Spa 2 Pools + Party Room - 8th FL

Sky Bar + Restaurant - 10th FL

Rooftop Lounge - 25th FL





34%
DIVERTED FROM
LANDFILL



Remaining Years
of Capacity 2021+

8

14

11

22

17

15

Annual Loss Rate

-5.0%

-2.5%

-4.0%

-1.5%

-1.9%

-2.6%

US Region

Northeast

Southeast

Midwest

Western

Pacific

USA

*Data collected by Waste Business Journal 2018
China graphic courtesy of Polymatter*



SAN FRANCISCO DIVERTS 80% OF WASTE FROM LANDFILLS





NEW YORK:
 **21%**
OF WASTE





CHICAGO:
 10%
OF WASTE





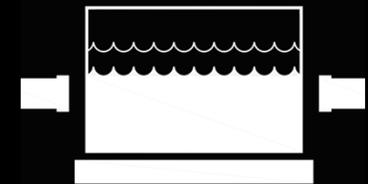
2017 US EPA DATA SET

30 - 40% Food Wasted

22% of all incineration

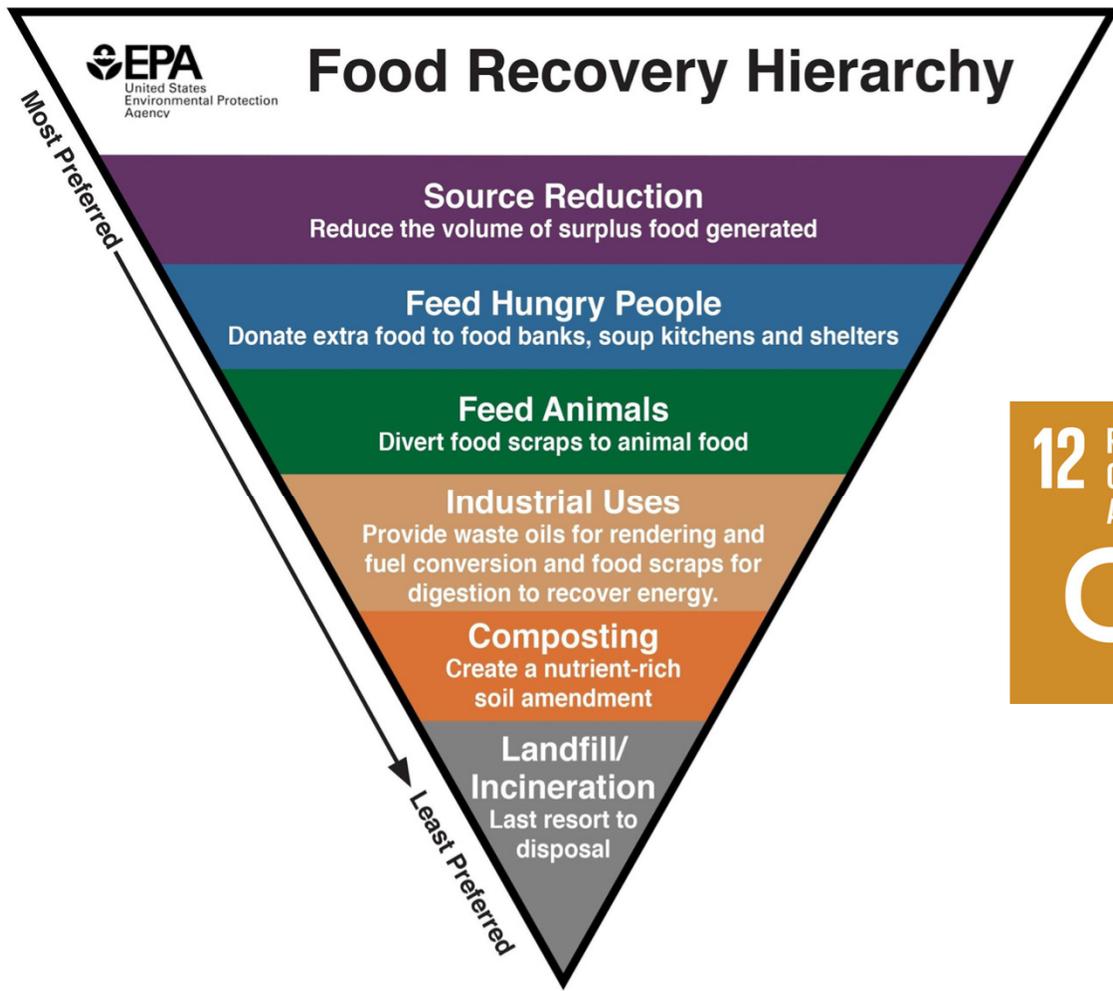
High performance BTUs

#1



METHANE GAS

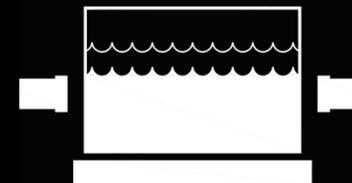
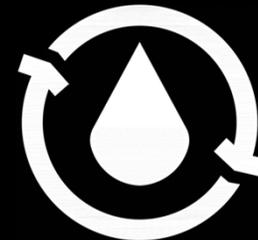




#1



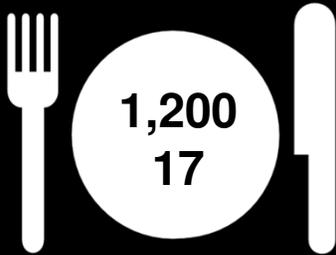
12 RESPONSIBLE CONSUMPTION AND PRODUCTION



THE BUSINESS CASE FOR REDUCING FOOD LOSS AND WASTE: **Restaurants**

A Report on Behalf of Champions 12.3

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



14:1 COST BENEFIT

114

RESTAURANTS

76%

YEAR - 1

12

COUNTRIES

89%

YEAR - 2

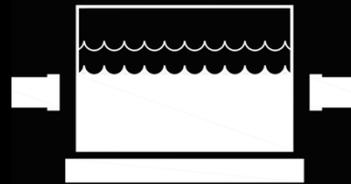
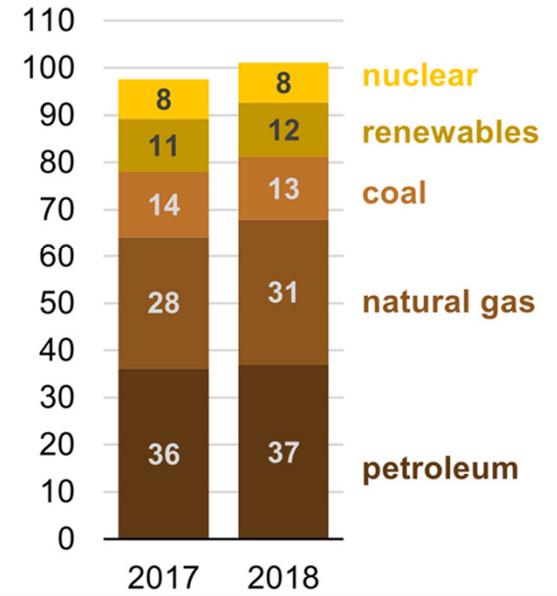
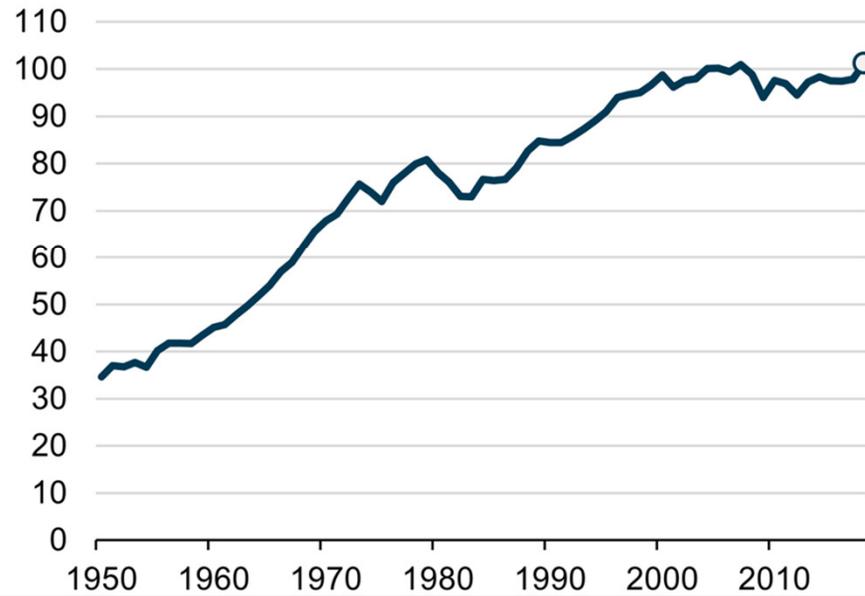


\$.4m - 17.3m

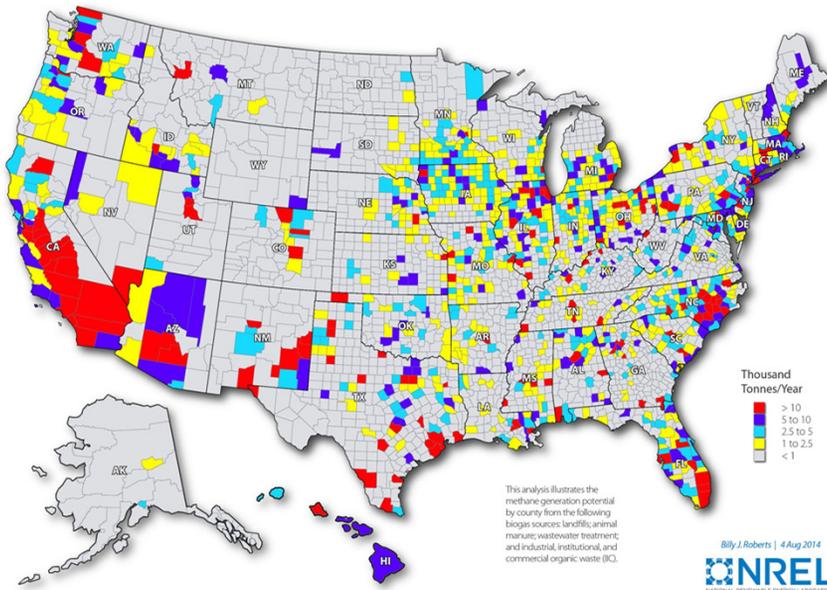
FOOD SALES

U.S. total energy consumption (1950-2018)

quadrillion British thermal units



Methane Generation Potential from Biogas Sources

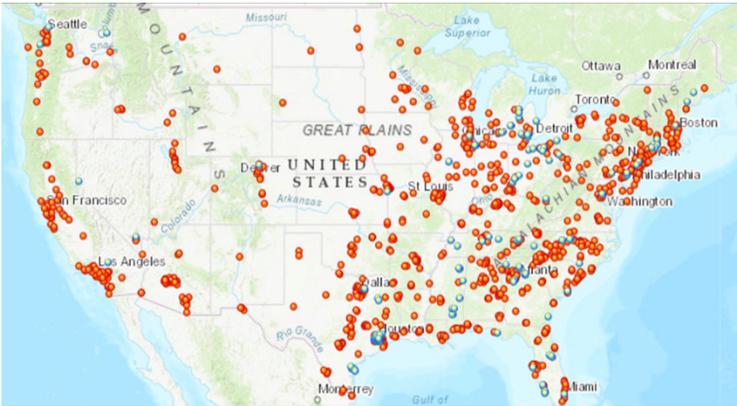


Reedy Creek Improvement District, Orlando FL

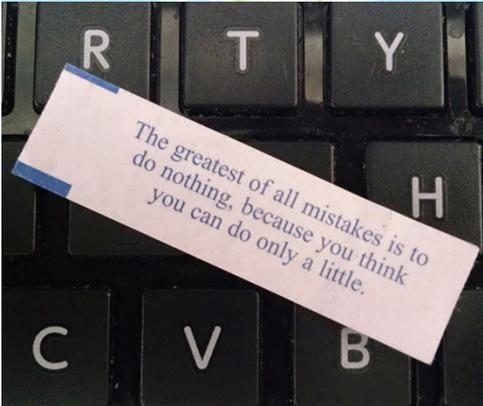


130,000 Tons FOG+Food Waste Annually

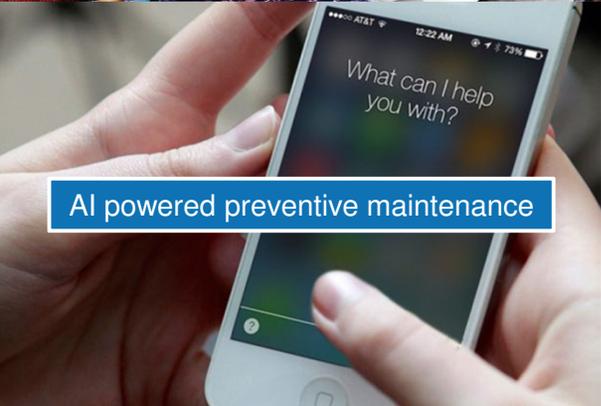




WATER WORKS
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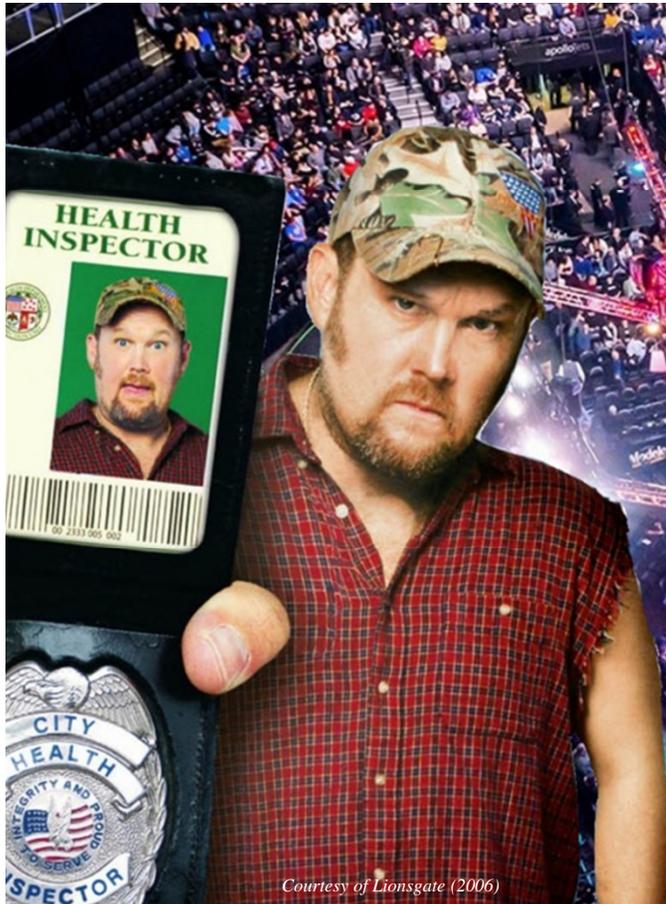


The greatest of all mistakes is to do nothing, because you think you can do only a little.



Cutting Through The FOGs

How to get what you thought you paid for



Courtesy of Lionsgate (2006)

TALE *of the* TAPE

Mishandling FOG Control Systems Costs Operators Way Too Much

Following Boiler Plate Government Rules Is A No Win Scenario

Anything Less Than A 360° View Is A Major Disadvantage

Deliver Scalable Preventive Maintenance Via Internal AI Social Platform Costs Drop When FOG Scoring Is Part Of Annual Store Reviews



igt2030.com

