Portable Generator Solutions

Safeguarding Against Carbon Monoxide,
Fire, and Electric Dangers

NATIONAL ASSOCIATION OF STATE FIRE MARSHALS

National Carbon Monoxide Awareness Association

Richard A. Battle Foundation, Inc.

GenTent Safety Canopies

Charon McNabb

President & Founder
NCOAA

National Carbon Monoxide Awareness Association

National Carbon Monoxide Awareness Association

Our Vision

An end to injury and death due to carbon monoxide poisoning.

Our Mission

To drive a comprehensive conversation on the public health crisis of chronic and acute carbon monoxide poisoning.

Tonya Battle

Founder & President
Richard A. Battle Foundation

Richard A. Battle Foundation, Inc.

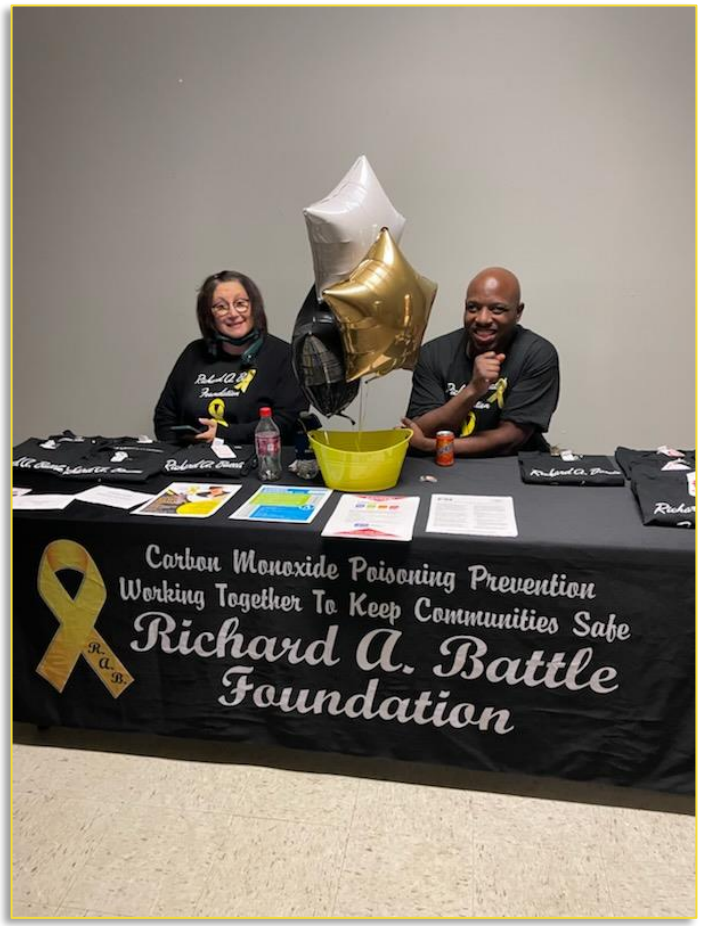
Richard A. Battle Foundation, Inc.

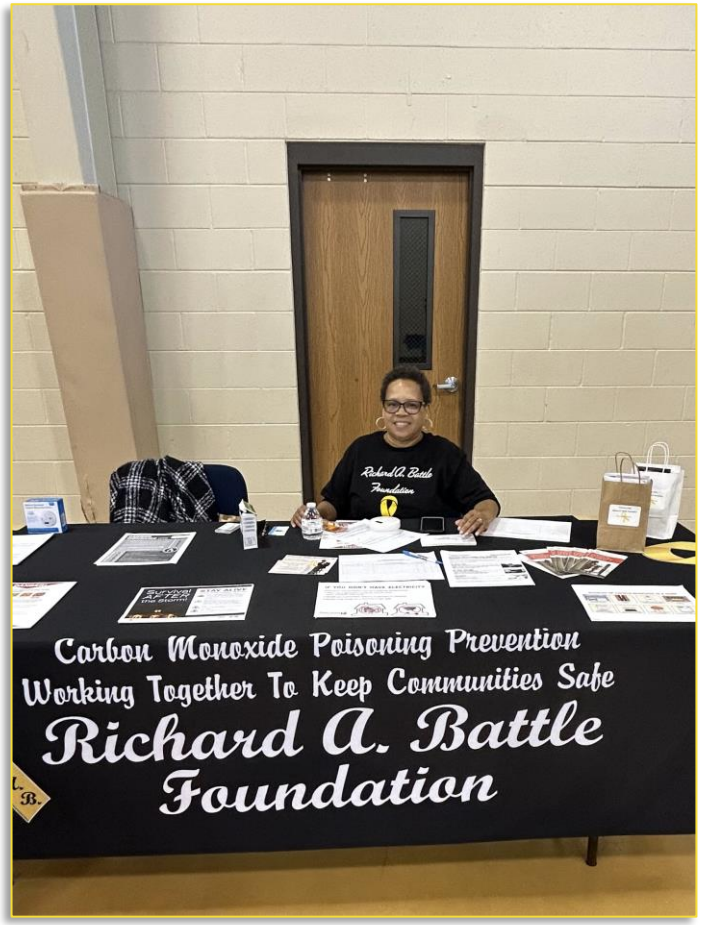
Mission:

The R.A.B Foundation Inc. is a 501(c)(3) nonprofit organization created to promote carbon monoxide (CO) poisoning awareness.

With a goal of educating the community on carbon monoxide (CO) safety and poisoning prevention.

CO Poisoning Prevention Education Keeps Communities Safe





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Sean Toomey

State Fire Marshal of New Hampshire
Secretary Treasurer
NASFM

NATIONAL ASSOCIATION
OF STATE FIRE MARSHALS

NATIONAL ASSOCIATION OF STATE FIRE MARSHALS

Mission

NASFM's Mission Is Two-Fold:

To protect human life, property and the environment from fire.

To improve the efficiency and effectiveness of State Fire Marshals' operations.

Bylaws

NASFM is a 501(c)6 not-for-profit corporation governed by bylaws describing the way the organization is organized, directed and managed

Consumers Unaware of CO Threats in their Homes

36% More than one third of adults in the United States have no CO home detection.

29% Nearly one third of consumers state they do not or are unsure if they need a CO alarm in their home if smoke alarm are present.

Standards & Engagement

"UL 2034, Standard for Single and Multiple Station Carbon Monoxide Alarms, features performance requirements to ensure fixed and portable alarms are functional and reliable in detecting dangerous levels of carbon monoxide. The standard requires alarms to report before CO reaches levels that cause a loss of ability to react."

ULSE Insights surveys (December 2023) GenTent Safety Canopies. Link: https://cdn.bfldr.com/D35SAQ1Q/as/gh4t98tv35f5xjbvphp33v/Understanding_the_Silent_Threat

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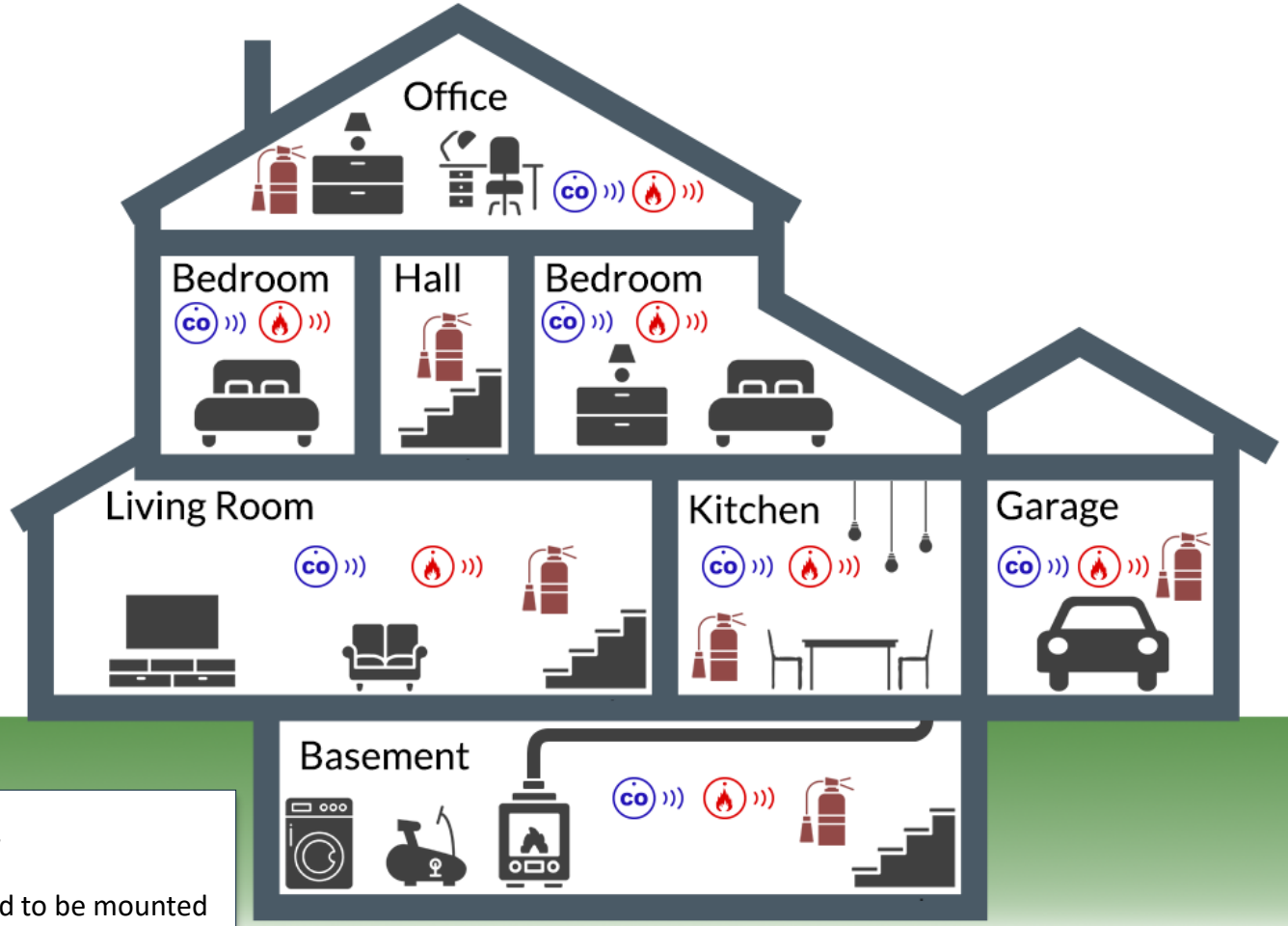
Proper Placement for Smoke and CO Detectors

Smoke & Fire Detector
On every level, and in every bedroom.

Carbon Monoxide Detector
On every level, and in every bedroom.

Fire Extinguisher
On every level, in the kitchen and garage.



Mounting and location requirements for CO detection are covered in NFPA 72, Chapter 17.

A common misconception about CO is that it is heavier than air, so CO detection is required to be mounted on the wall or close to the floor. CO detectors may be mounted on the ceiling or on the wall.

Generator Safety Toolkit. (June 01, 2024) GenTent Safety Canopies. Link: https://www.gentent.com/safety/

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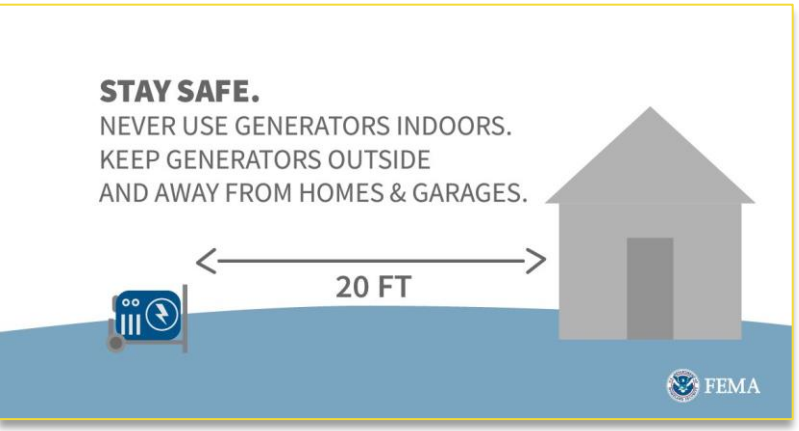
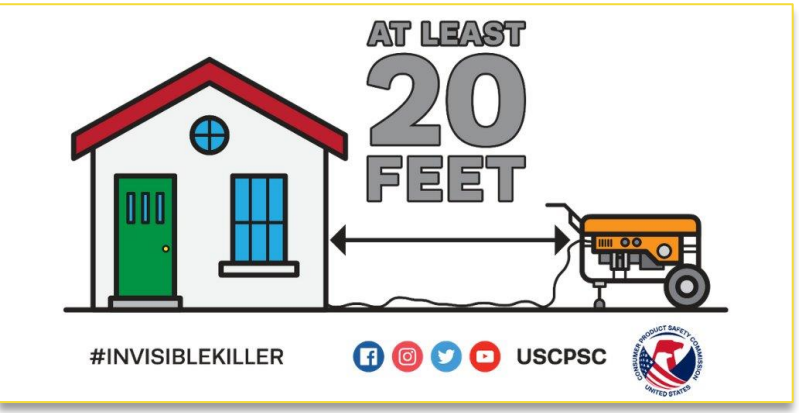
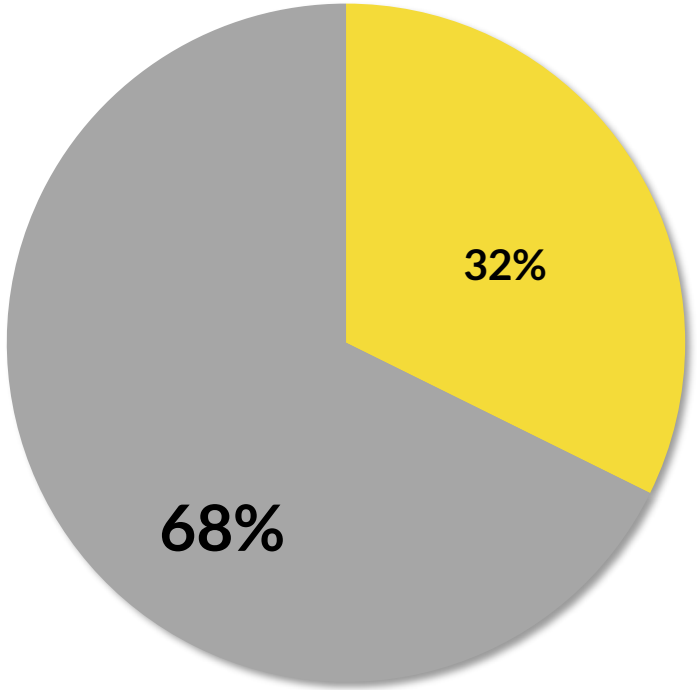
Majority of Consumers Unaware of Recommended Safe Distance



Safety graphics by FEMA and CPSC indicating safe generator use at least 20 feet from homes.



Distance From Home Consumers Believed was Safe to Run Generator Equipped with CO Sensor & Shut-Off †



The concept of CO sensors was explained prior to responses.

- At CPSC Recommended 20 Feet or Beyond
- Less than CPSC Recommended 20 Foot Distance

† *Supplemental Consumer Market Research. (June 20, 2023) GenTent Safety Canopies.* Link: https://www.gentent.com/generatorsafety/

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Consumer Safety Habits Impacted Through Education

[1]

[2]

[1]*KALB.com - Louisiana State Fire Marshall offers safety tips when using a generator.*
Link: https://www.kalb.com/2023/06/26/louisiana-state-fire-marshall-offers-safety-tips-when-using-generator/

[2]*Office of Louisiana State Fire Marshal. Link: https://youtu.be/7HsupqhBVis*

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GenTent Safety Canopies

Mark Carpenter

Owner / Inventor / CEO

GenTent Safety Canopies

GenTent® Safety Canopies

Mission:

- Ensure safe and industry standard outdoor use of portable generators, through use of innovative and commercially viable GenTent products

Company Background:

- Established 2011, New Hampshire
- First GenTent product launch March 2012

Identified Portable Generator Tent Accessory Market:

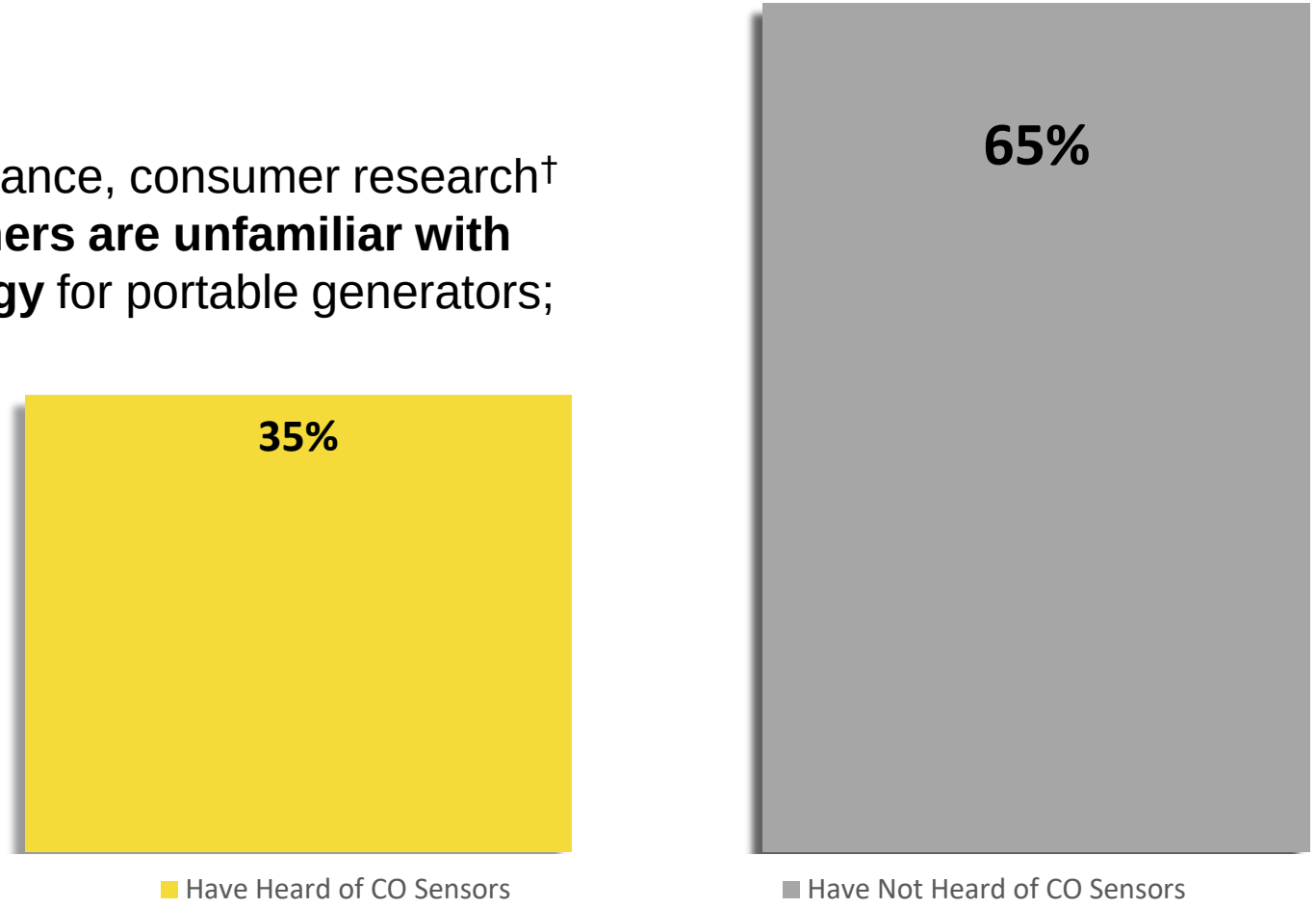
- Emergency backup portable generator safety
- Disaster Relief
- Recreational inverter generator safety
- Commercial and military applications

Product ratings and claims tested by independent test lab, generator manufacturers and PGMA members (including CO):

- US Patented technology for self attaching devices

Consumers Lack Awareness of Generator CO Sensors

Despite voluntary standards compliance, consumer research† illustrates that **majority of consumers are unfamiliar with CO sensors or shut-off technology** for portable generators; or their efficacy.



† *Supplemental Consumer Market Research. (June 20, 2023) GenTent Safety Canopies. Link: https://www.gentent.com/generatorsafety/*

False Sense of Security
May Pose Additional Hazards

CO sensors and automatic shut-off technology can be effective but can also lead to a **false sense of security**.

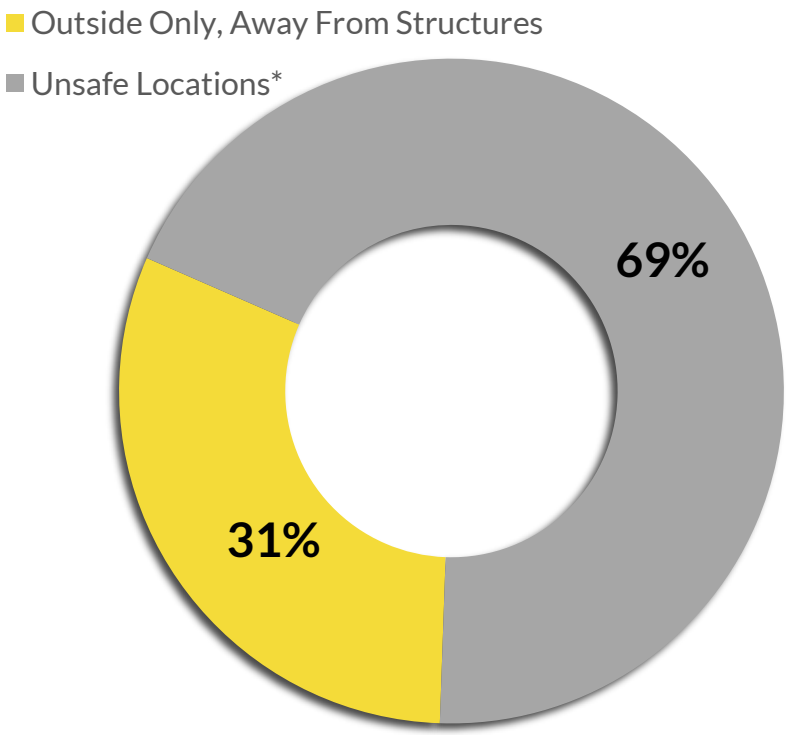
Safety interventions can increase risk-taking behavior. This phenomenon, known as "**automation bias**" or "**complacency syndrome**".[1]

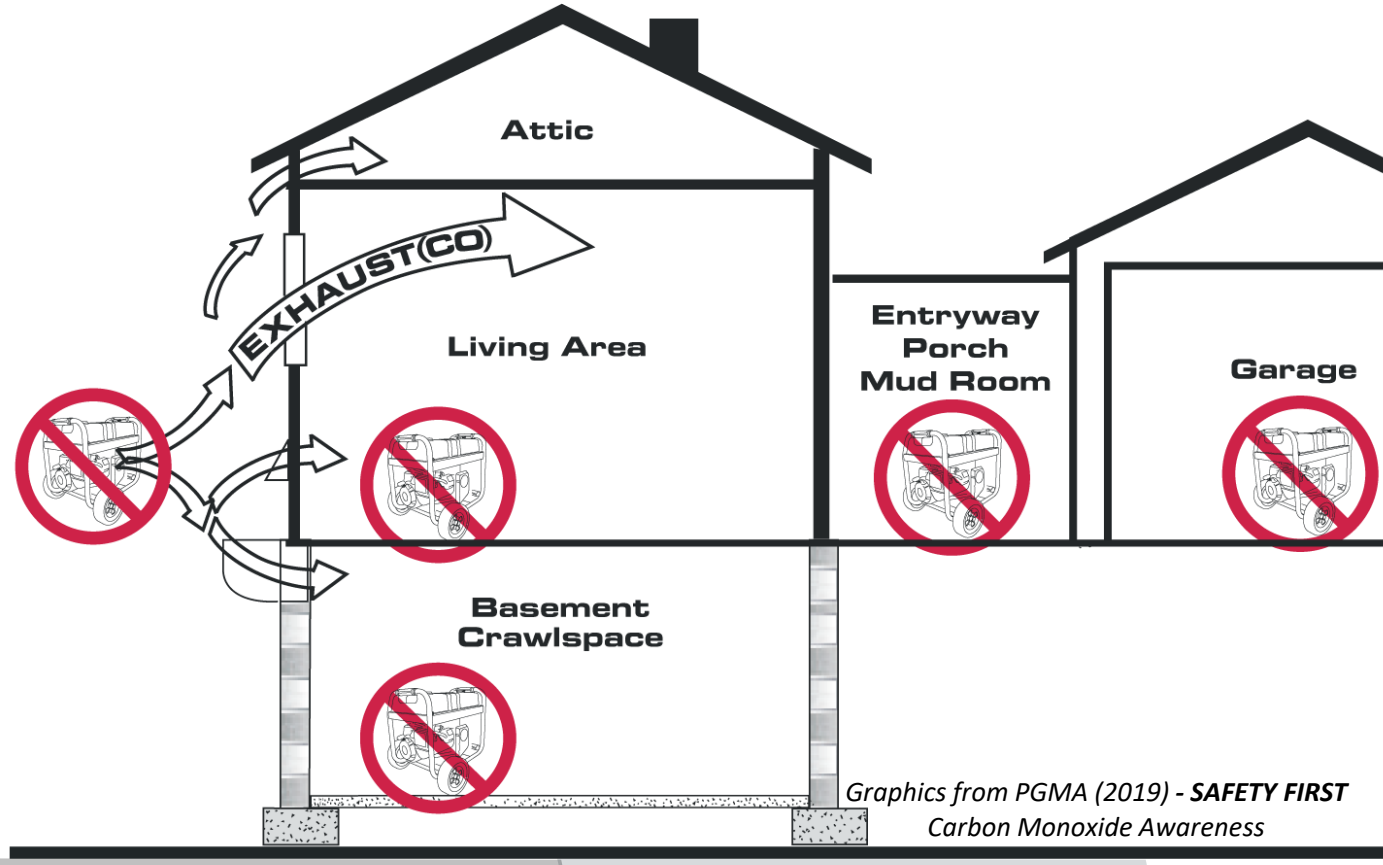
1 - Basu, S., & Pal, S. K. (2018). Alarm fatigue in healthcare: A conceptual analysis. Journal of advanced research, 9, 1-8.
Link: https://pubmed.ncbi.nlm.nih.gov/24153215/. Accessed 5 May. 2023

Majority of Consumers Lack Awareness of Dangers

Locations Consumers Felt Safe Running a Generator Equipped **with CO Sensor & Shut-Off Technology**†

The concept of CO sensors was explained prior to responses.





Graphics from PGMA (2019) - ***SAFETY FIRST*** *Carbon Monoxide Awareness*

† *Supplemental Consumer Market Research. (June 20, 2023) GenTent Safety Canopies.*
Link: https://www.gentent.com/generatorsafety/

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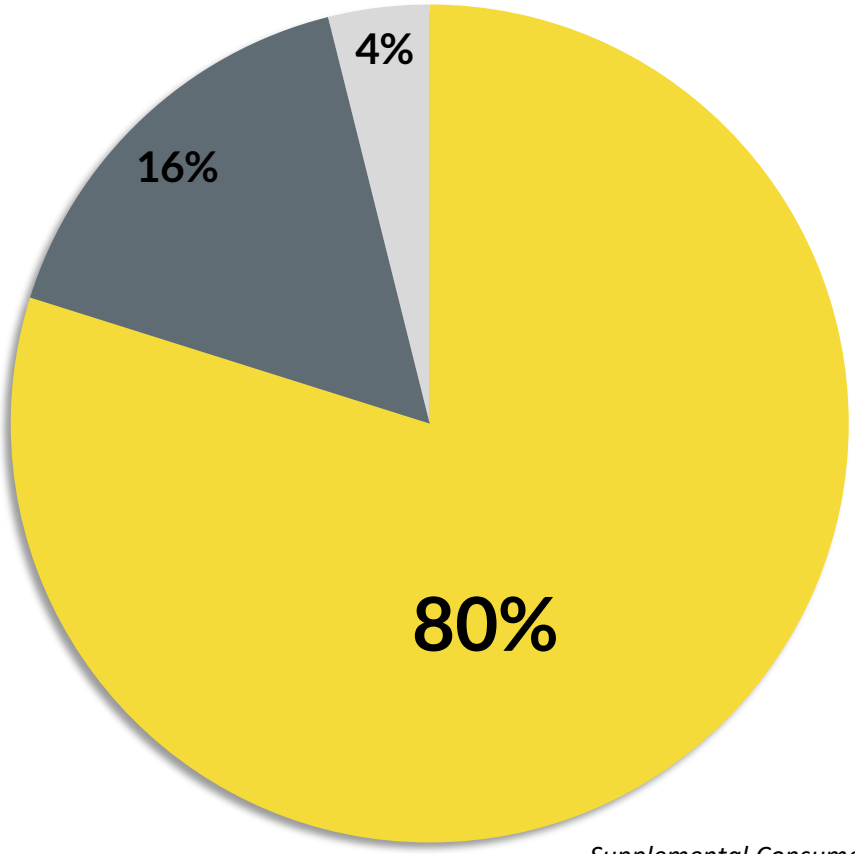
Consumers Rely on Generators for Storm Response and Emergency Power

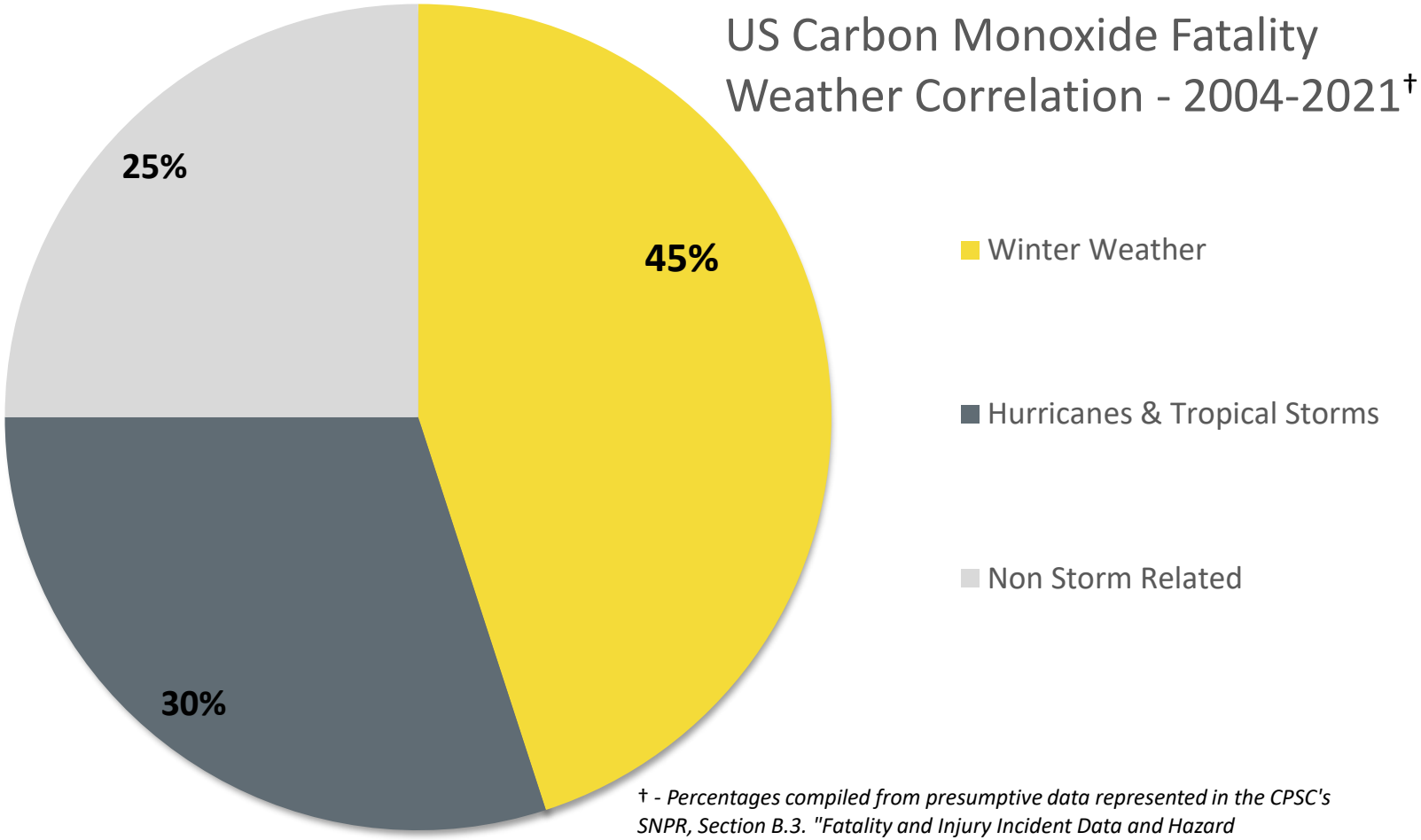


Supplemental Consumer Market Research. (June 20, 2023) GenTent Safety Canopies. Link: https://www.gentent.com/generatorsafety/

Most CO Fatalities Correlate to Weather Events

"Almost half of the incidents occurred among the coldest months of the year in the United States (November through February). Many of the fatalities over these months can be directly related to the use of generators during power outages caused by winter weather conditions, such as ice or snowstorms."

"Nearly one-third of the incidents occurred in the months of March, April, September, and October, which are typical months with transitional weather between summer and winter weather. These can be directly related to the use of generators during power outages caused by hurricanes and tropical storms.."



Vice, D., Little, B. (2023.) "Hazard Patterns of Fatal Incidents. *"Supplemental Notice of Proposed Rulemaking (SNPR): Safety Standard for Portable Generators, pp 110.*

† - *Percentages compiled from presumptive data represented in the CPSC's SNPR, Section B.3. "Fatality and Injury Incident Data and Hazard Characteristics"; "3. Hazard Patterns of Fatal Incidents"*

Consumer Confusion CAUSES Unsafe Use

"Should I use my generator where it's dry or where it's away from my house? Could it get stolen outside?"

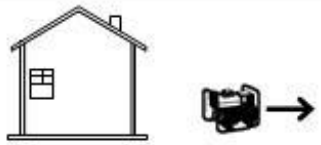
Do **NOT** run your generator **indoors**.

⚠ DANGER

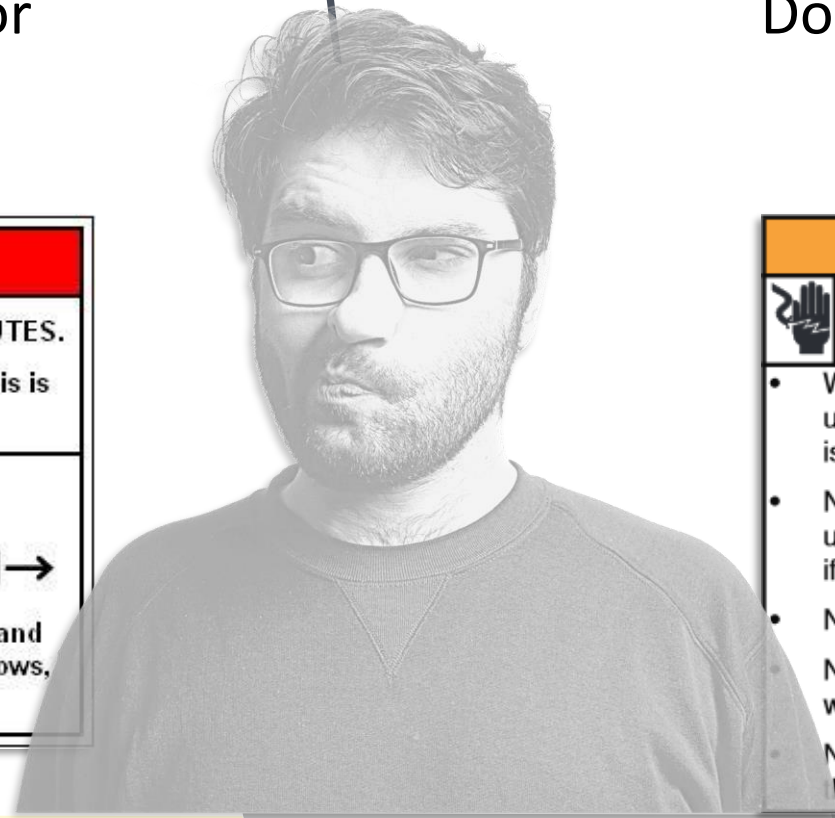
ing a generator indoors CAN KILL YOU IN MINUTES.

Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.



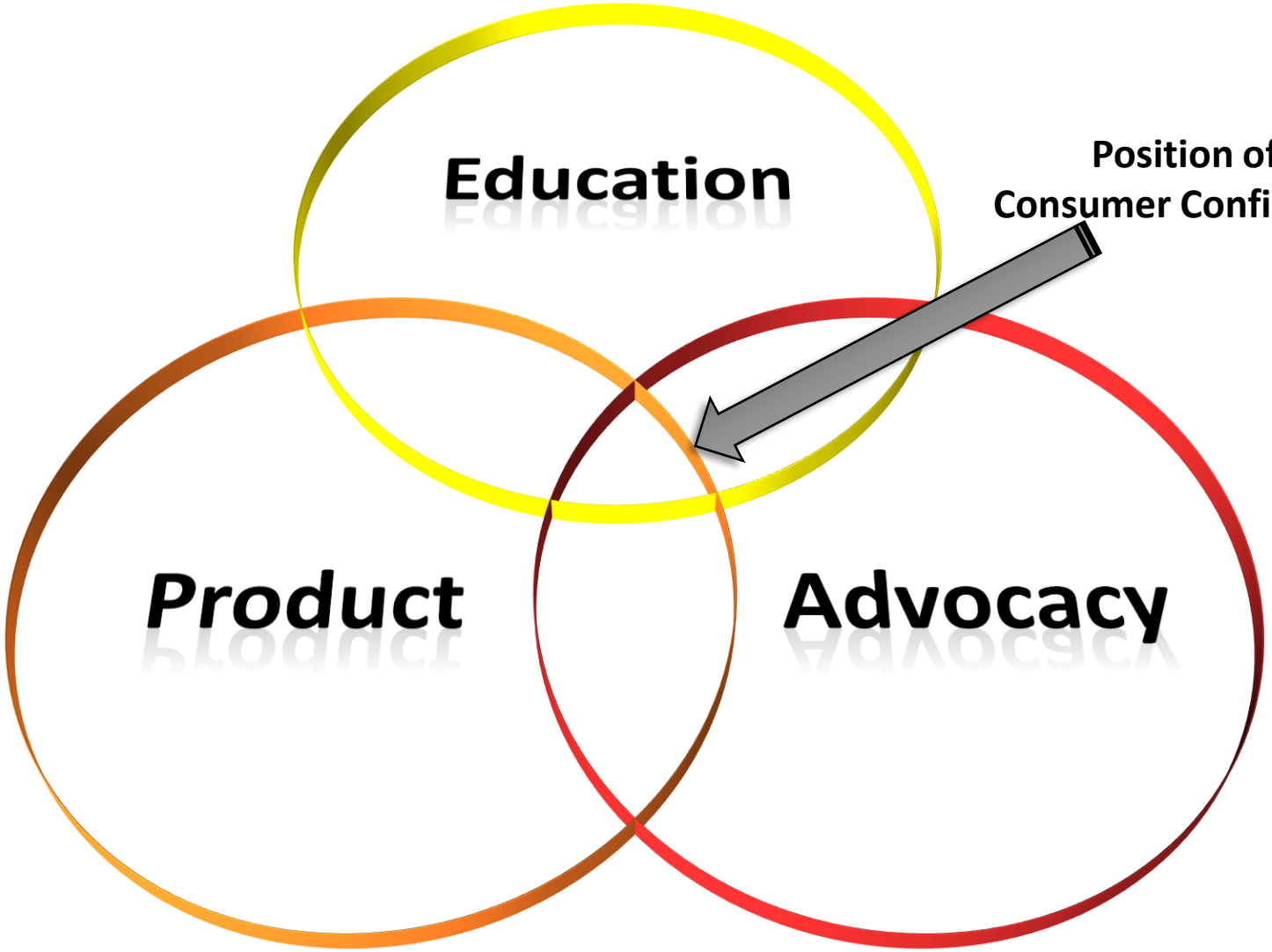
Do **NOT** run your generator in **rain**, **snow**, or on a **wet surface**.

⚠WARNING

Generator produces powerful voltage that ca death or great physical harm.

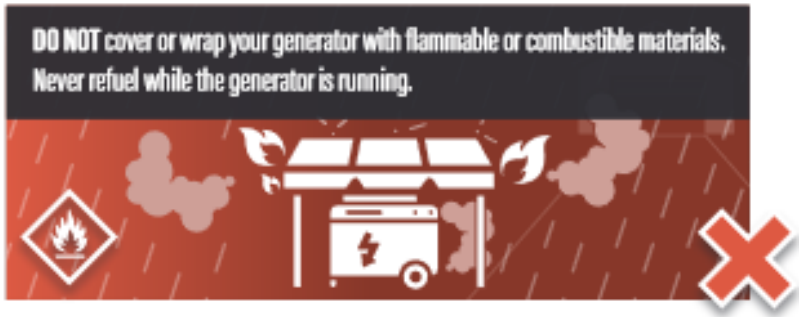
- When using generator for back-up power, noti utility company. Use approved transfer equipmen isolate generator from electric utility.
- NEVER connect to a building's electrical system unless a transfer switch has been installed by a qual-ified electrician.
- NEVER touch bare wires or receptacles.
- NEVER use generator with electrical cords that are worn, frayed, bare, or otherwise damaged.
- NEVER operate generator in rain or snow, or when he generator is set on wet surface.

Empower Generator Users with Solutions



Enabling Consumer Safety Starts with Education

Position beyond the “Don’ts” – Emphasize the “Do’s”



Generator Safety Toolkit. (June 01, 2024) GenTent Safety Canopies. Link: https://www.gentent.com/safety/

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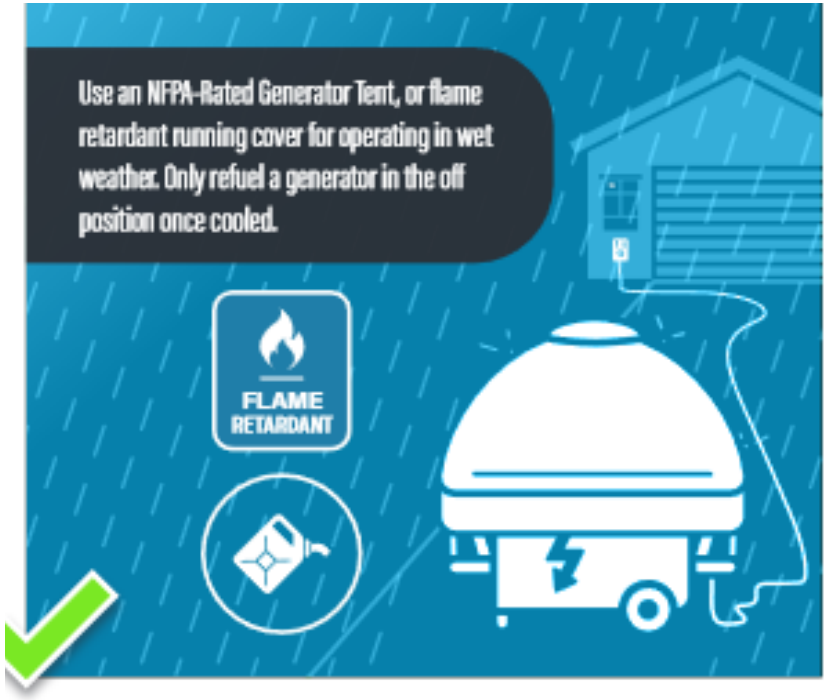

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Defined Safe Product Solutions Enable Consumer Safe Behaviors

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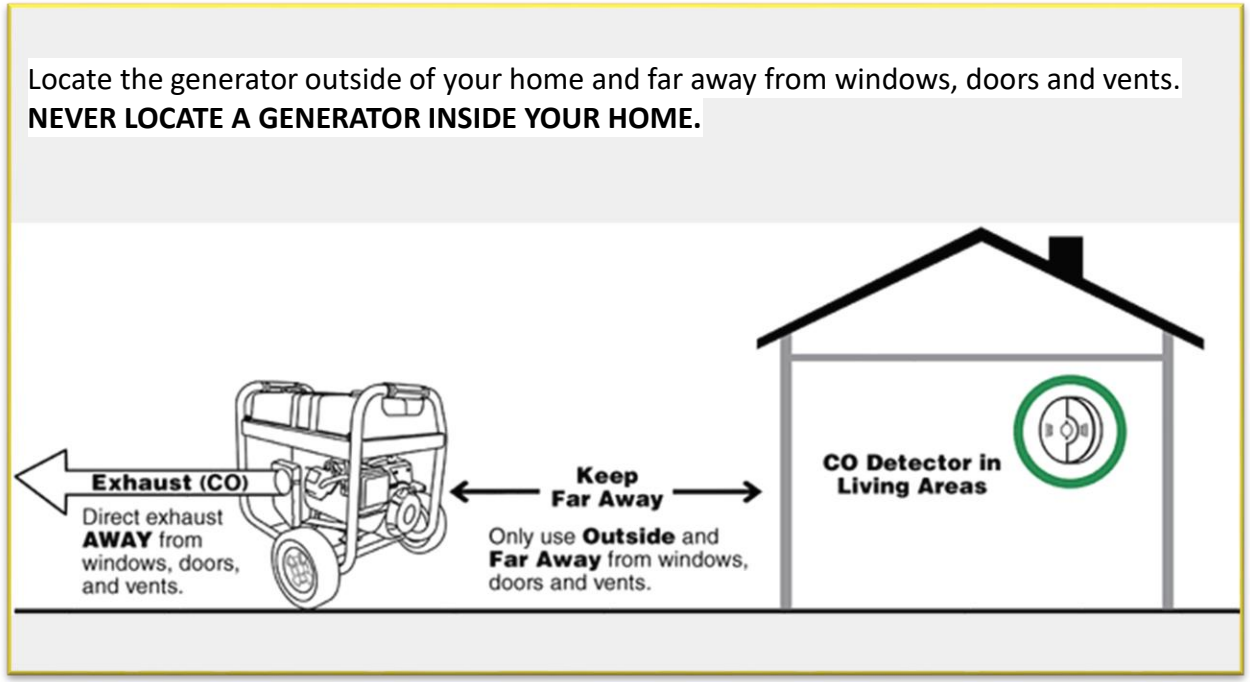
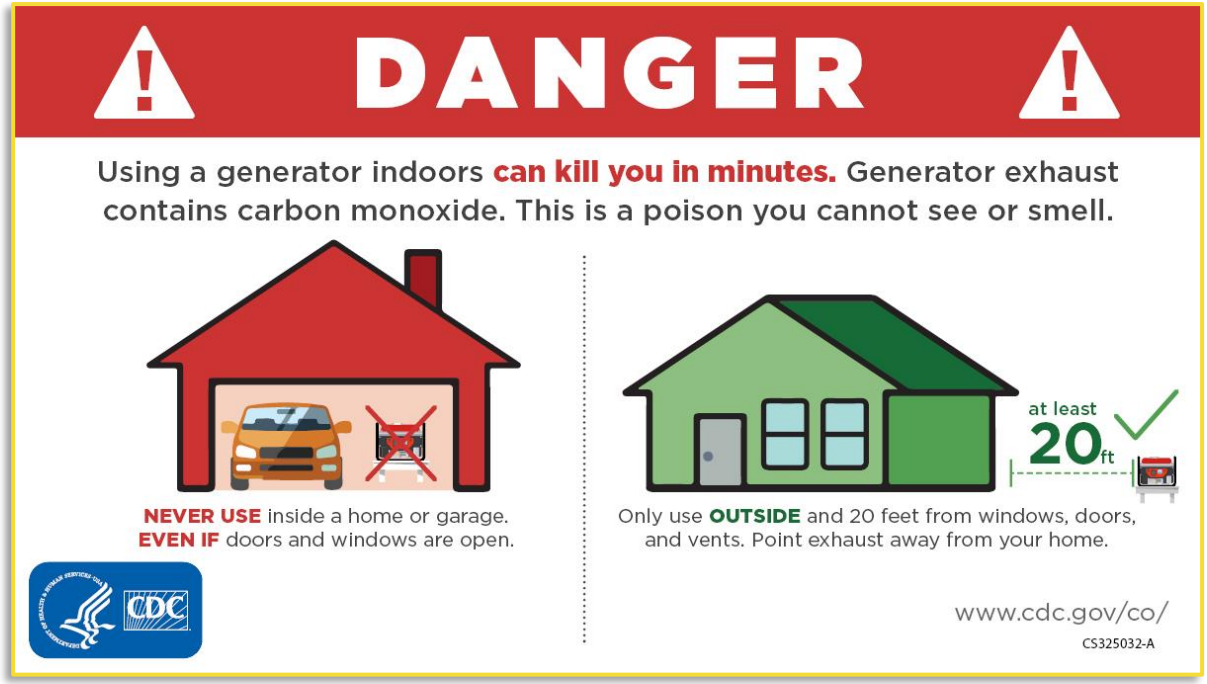
Messaging with Intent

Providing standardized language for operating generators, eliminating ambiguity, can service unaware consumers by eliminating doubt or misinterpretation.





[1] *How to Safely Operate a Backup Generator. (June 01, 2019) FirstEnergy Corp.*
Link: https://www.firstenergycorp.com/help/outages/what_to_do_if_youlosepower/using_backup_generators.html

[2] *Carbon Monoxide Safety. (June 01, 2022) CDC*
Link: https://www.cdc.gov/CO/

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Cognitive Association: Tents = Outdoors

Consumers intuitively understand that generator tents are designed for outdoor use due to inferred cognitive association with recreational or camping tents.

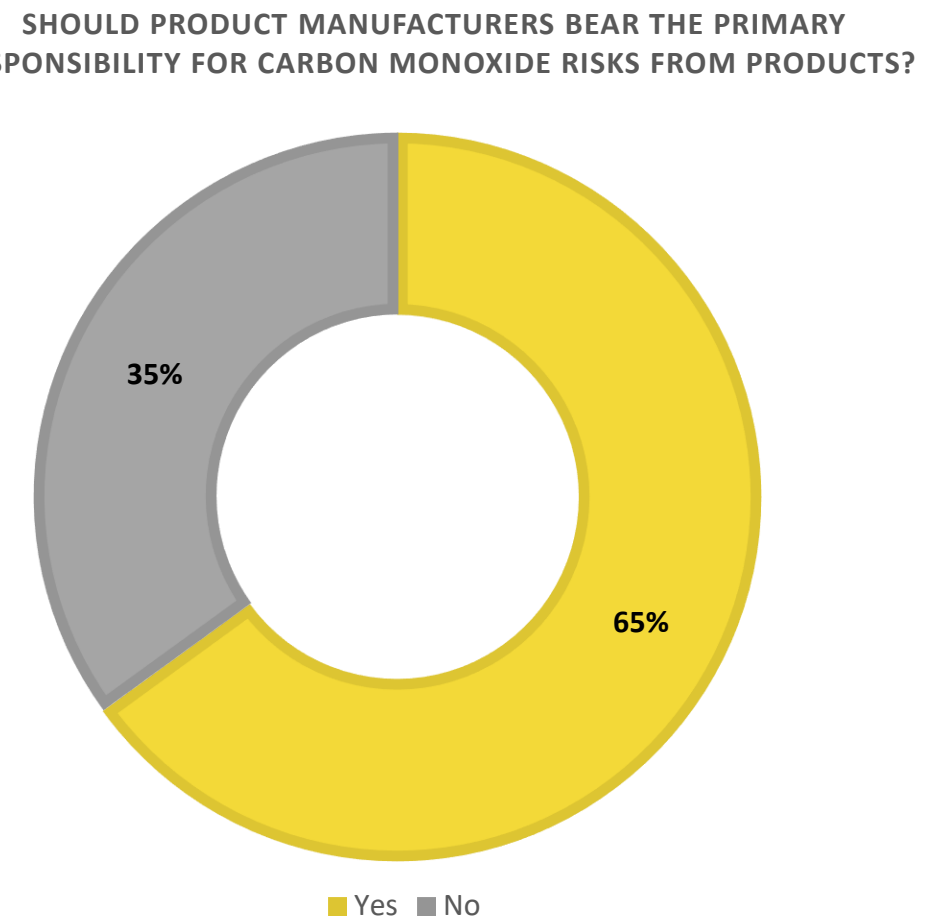
"Even a warning that provides accurate advice and is capable of being followed by consumers will be of no use if consumers do not actually choose to follow that advice."

Smith, T. (2002.) "Consumer Motivation," Memorandum to Janet L. Buyer. CPSC. pp 5.

It is the Responsibility of Industry and Agencies to Advocate for the Unsuspecting Consumer

UL Standards & Engagement

Majority of Consumers do not think that they should be the first line of defense, instead indicating that product manufacturers should bear the responsibility of reducing the risk of CO exposure.



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Collaboration for a Safer Future

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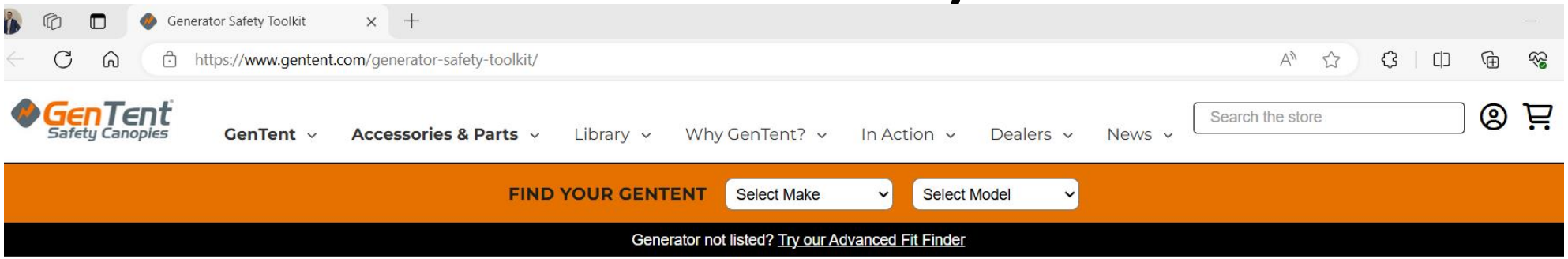
Generator Safety Toolkit



- [NCOAA link]

Portable Generator Safety Tips
A3 Flyer - PDF

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- [GenTent link]

Generator Safety Toolkit. (June 01, 2024) GenTent Safety Canopies. Link: https://www.gentent.com/safety/

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Thank You

We welcome back our panel for questions.

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