



THE CHANGING ENERGY LANDSCAPE: SAFETY IMPLICATIONS FOR FIRST RESPONDERS

TRISH DAVIES, OAI, INC.

GROWING LIST OF DEVICES USING LI-ION BATTERIES

- **Portable Electronics:** smartphones, tablets, laptops, digital cameras, portable gaming consoles
- **Electric Vehicles (EVs)**
- **Power Tools:** cordless power tools, including cordless drills, saws, and screwdrivers
- **Uninterruptible Power Supplies (UPS):** backup power in case of electrical grid failures
- **Aerospace:** includes satellites, drones, and electric aircraft
- **Medical Devices:** portable oxygen concentrators, defibrillators, and infusion pumps
- **Renewable Energy Storage:** includes residential and commercial solar power systems.
- **Consumer Electronics Accessories:** Includes headphones, speakers, mouse and keyboard sets
- **Electric Bicycles (e-Bikes)**
- **Medical Implants:** includes pacemakers and defibrillators
- **Marine Vehicles:** Includes electric boats and submarines
- **Grid Balancing:** to stabilize electrical grids by store excess energy during periods of low demand

BENEFITS OF LITHIUM-ION BATTERIES

- Lightweight
- Quick and Efficient Recharge
- Reliable performance
- High energy density
- Low self-discharge
- Tolerant of varying temperatures
- Long lifespans
- Reduced emissions for EVs

EXPLODING DEVICES

2016 Samsung case of
devices exploding due to
battery fires

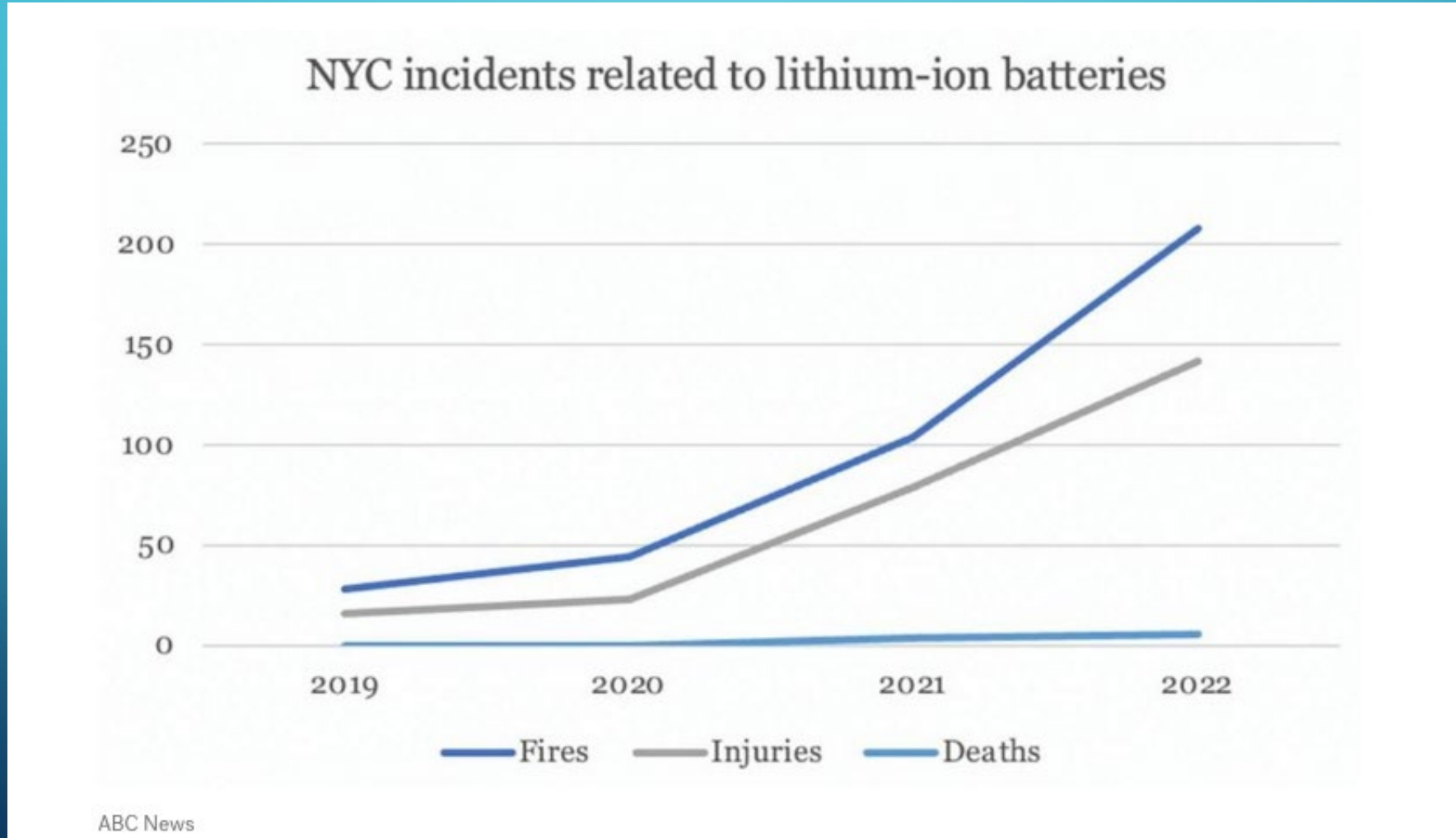




E-BIKE SHOP

2023 fire in one NYC
shop spread to
numerous apartments
throughout the block.

LITHIUM-ION RELATED FIRES IN NY CITY



INCREASES IN ELECTRIC AND HYBRID VEHICLES

Last year, Americans registered more than 3 million electric and plug-in hybrid vehicles

While still a fraction of the more than 200 million gasoline vehicles registered every year, EVs are increasingly commonplace on the road.

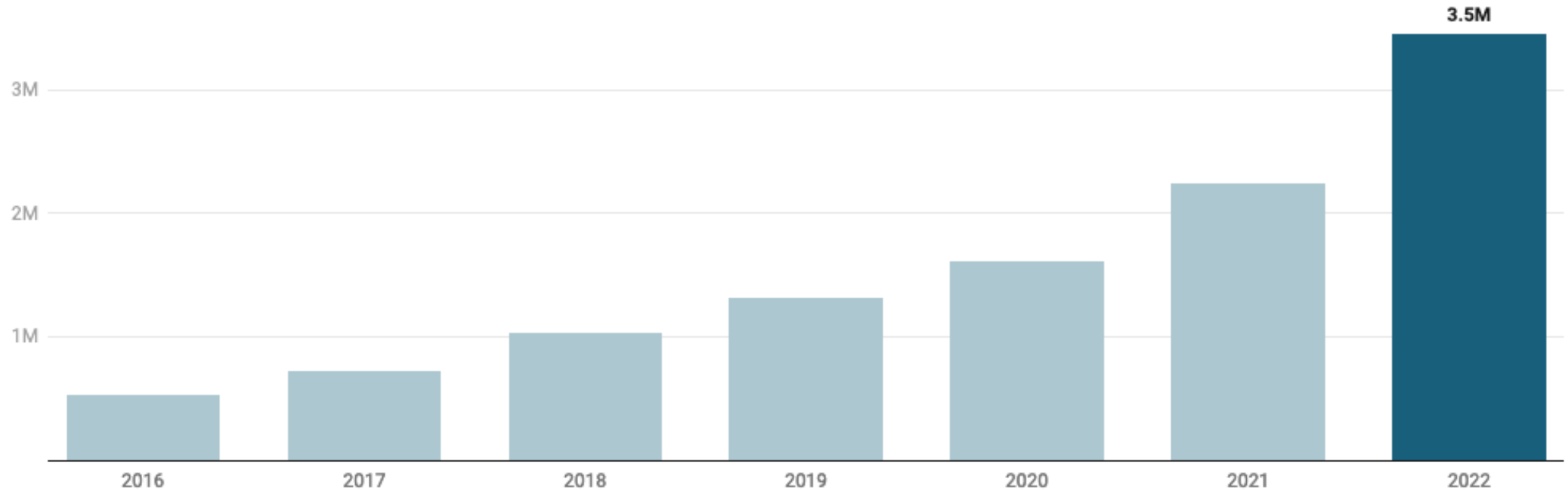


Chart: Scott Pham, CBS News • Source: [Alternative Fuels Data Center](#), US Department of Energy

ISSUES TO CONSIDER

- Unpredictable Combustion
- Explosion Hazard
- Lack of Preparedness

UNPREDICTABLE COMBUSTION: TRICK CANDLES



Source: NBC News

ISSUE: EXPLOSION HAZARD



Source: CBS News

SAFETY WITHIN CHANGING ENERGY LANDSCAPE

- Close the Gaps
- Share Knowledge
- Set the Standard
- Leverage Tech
- Prepare for More to Come