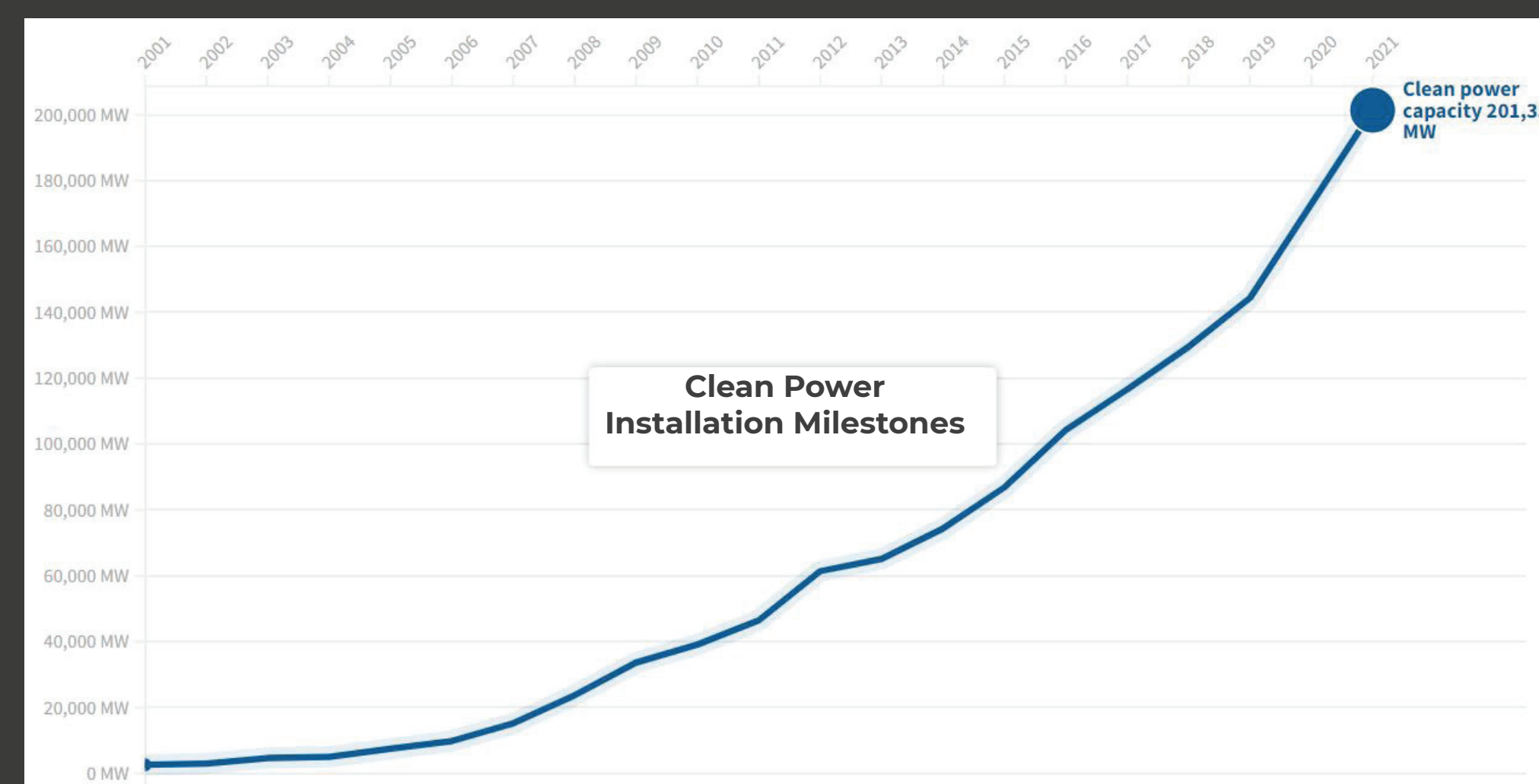


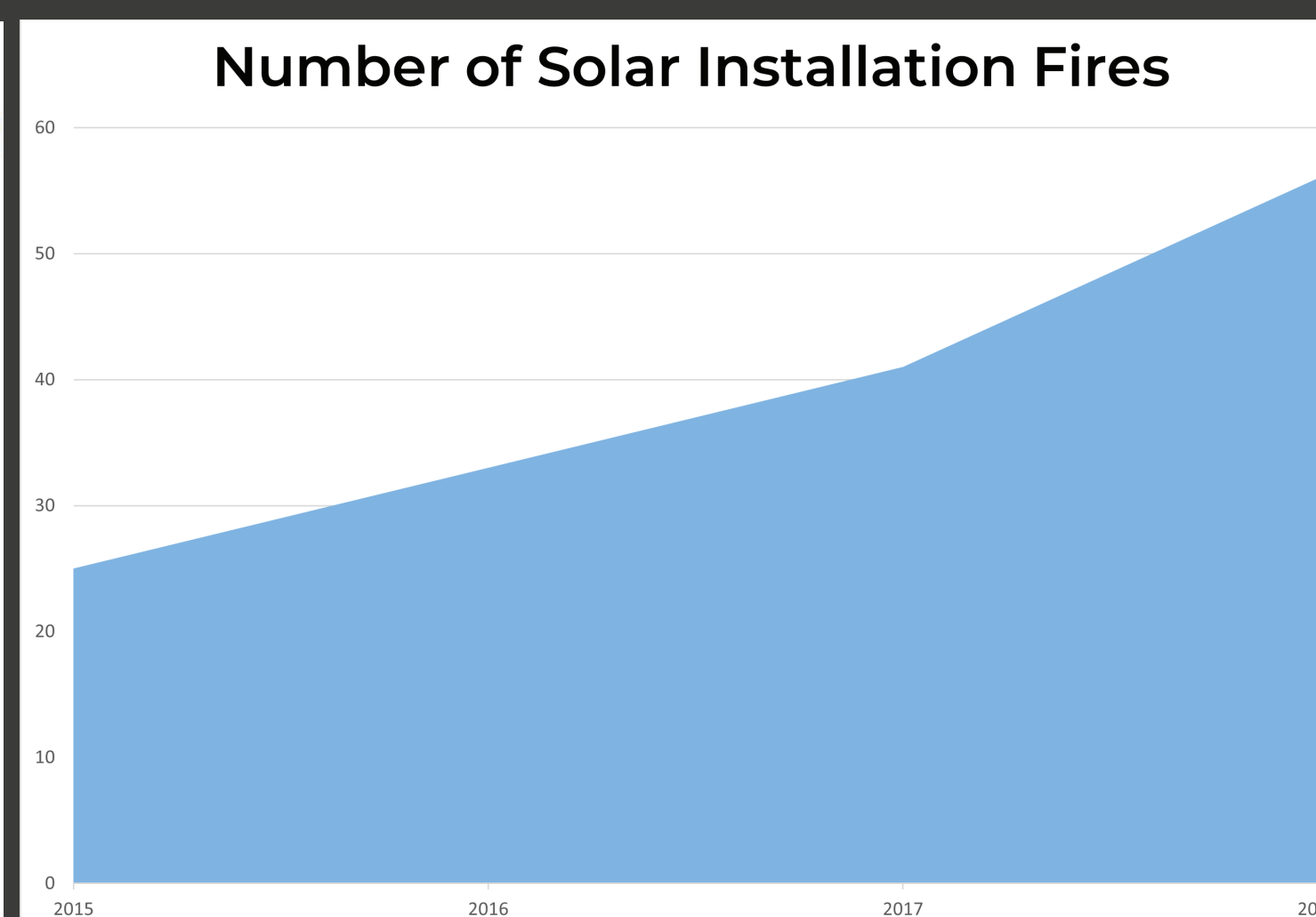
# THE CHANGING LANDSCAPE OF CLEAN ENERGY AND IMPACTS OF FIRE

## Increasing Fire Risk

- Though clean energy fire incident statistics are low, the impacts of a fire are devastating, and the increase of clean energy asset installations will increase fire incidents.
- The demand for clean energy is driving record installations of clean energy generation capacity.
- By 2026, global renewable electricity capacity is forecast to rise more than 60% from 2020 levels to over 4 800 GW – equivalent to the current total global power capacity of fossil fuels and nuclear combined.<sup>1</sup>
- Statistics dictate that an increase in install base has a direct correlation to an increased risk of fires in clean energy assets. This is in addition to existing and aging clean energy infrastructure that could also be at high risk of fire.
- Estimates have put fires in wind turbines from 1 in 2,000 to 1 in 15,000 per year.
- Researched completed by Lawrence Shaw, owner of High Powered Solar based on data collected from the U.S. Fire Administration found that between 2015-2018 there were 155 fires caused by solar installations, with 84 being residential systems and 71 being non-residential.<sup>1</sup> In span of four years, the number of fires doubled.<sup>2</sup>



Clean Power Installation Milestones sourced from American Clean Power 2021 Annual Market Report. <https://cleanpower.org/market-report-2021/>



Solar Installations Fires from 2015-2018. Based on data from U.S. Fire Administration, Lawrence Shaw, pv magazine

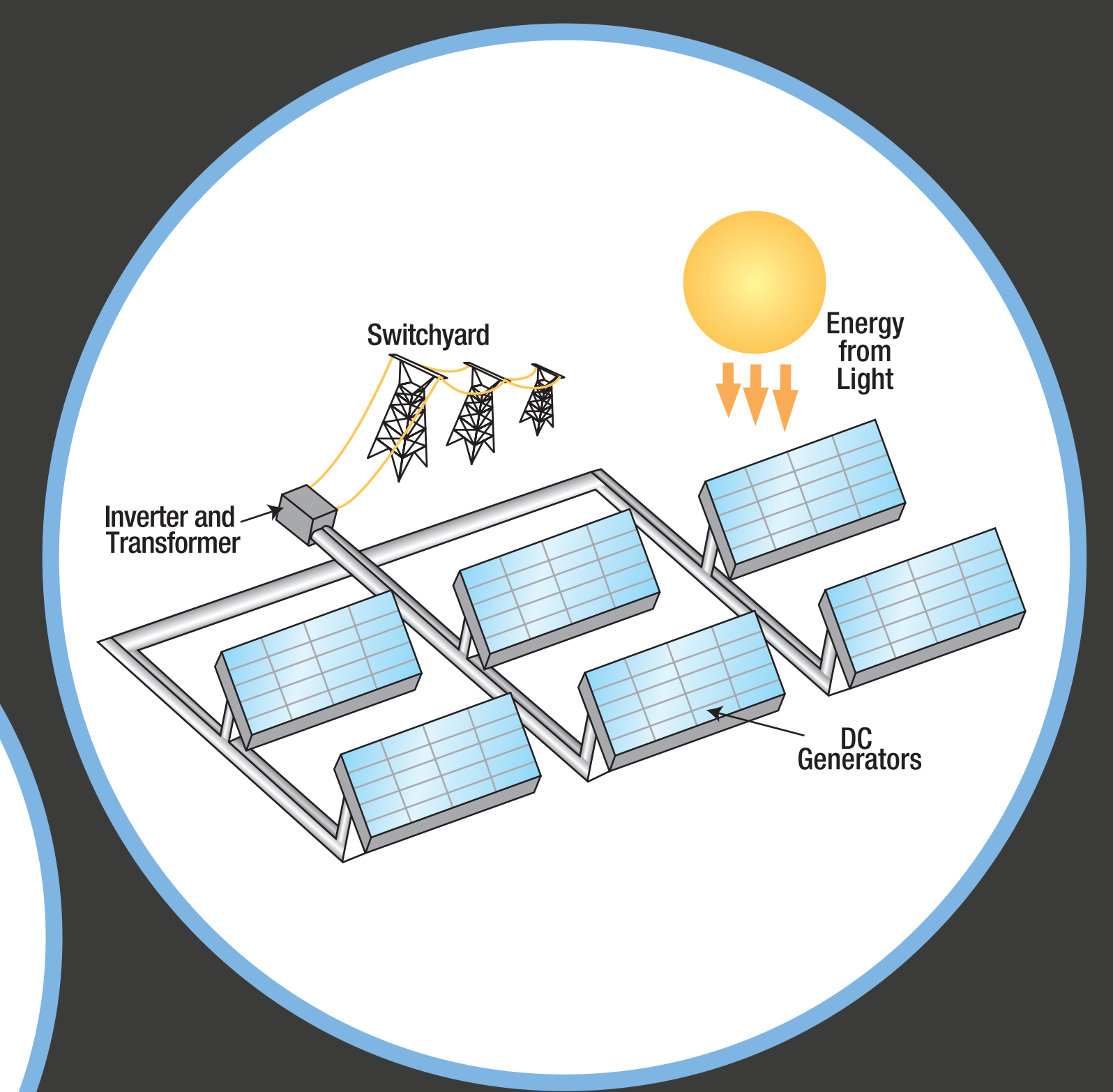
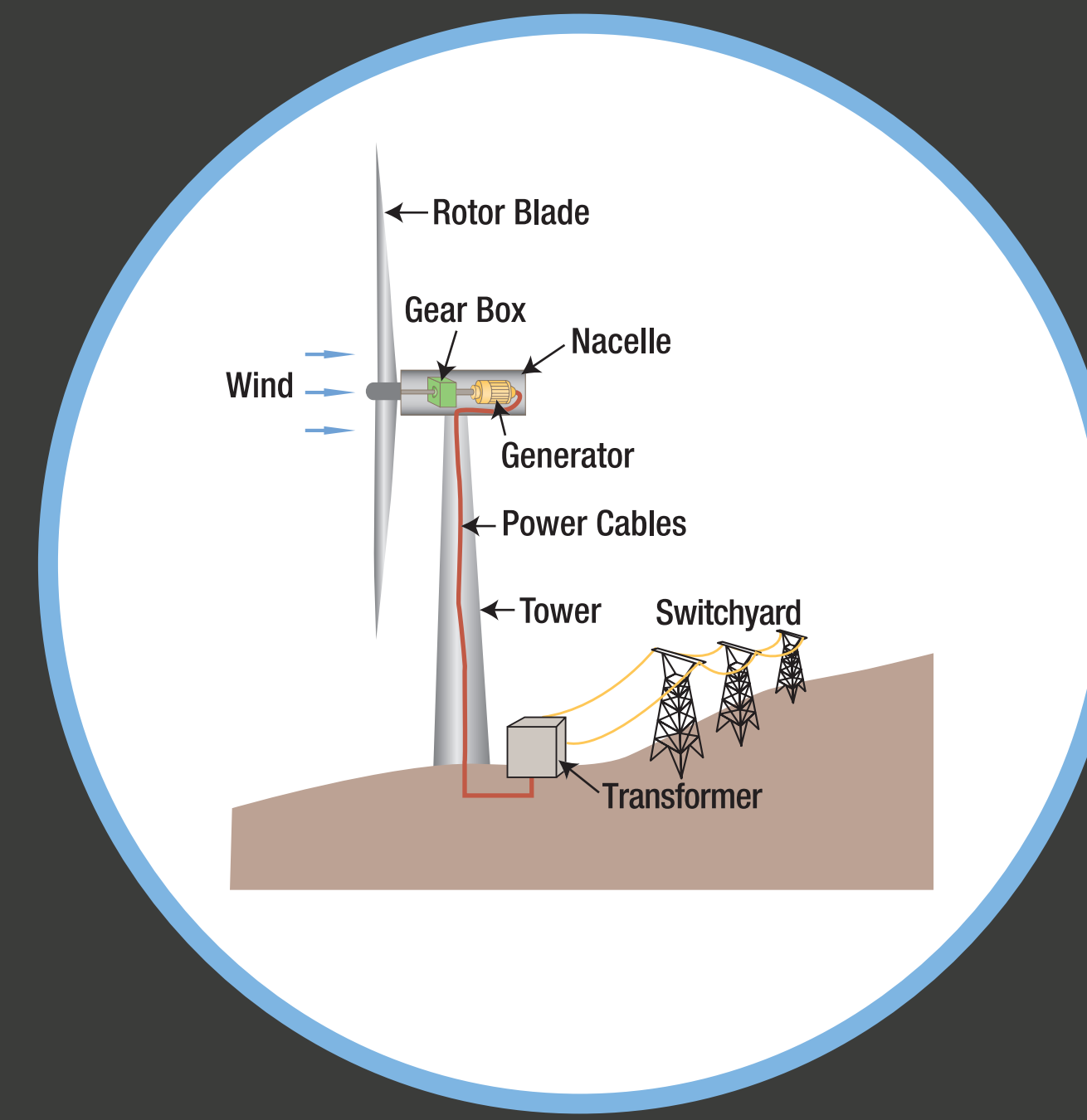
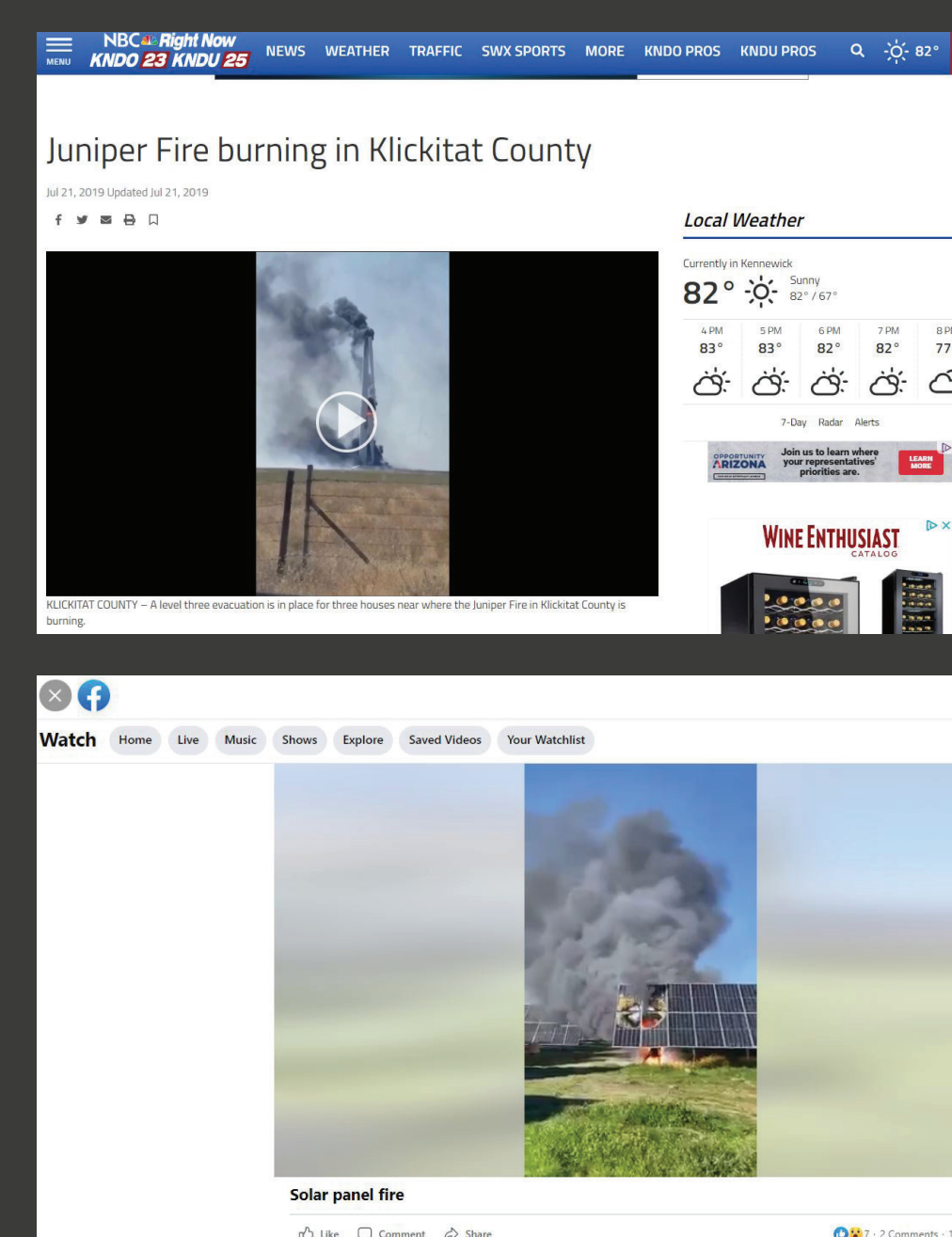
## Contributing Factors Exaggerating Clean Energy Fires

- Climate change, drought, and wildfires.
- New unvetted technologies and aging infrastructure.
- Placement near communities or in remote locations.
- No universally mandated fire mitigation methods or requirements.



## Implications of Clean Energy Asset Fires

- Social media posts and news reporting on clean energy assets devastated by fire and the destruction to surroundings.
- Reports of fires in clean energy assets fuels the anti-clean energy movement and the spread of misinformation.
- Total cost of a wind turbine fire estimated at \$8-9M (includes fire investigations, decommissioning and removal of turbine, rebuild and recommissioning, and lost revenues).
- PV Solar fire estimated at \$250K+ (fire investigation, replacement of inverters and damaged infrastructure, and lost revenue from downtime).
- Risk of fire spreading to neighboring communities or causing a wildfire.
- Fires can damage the reputation of the clean energy industry.



Graphics provided by Tennessee Valley Authority

## Actions to Reduce Fire Risks in Clean Energy Assets

- Complete a fire risk assessment and act on any findings.
- Understand and comply with local and national fire regulations and recommendations (NFPA 850, CFPA, VdS 3523, and DNV - Turbine certification).
- Develop a fire safety and response plan and engage with local fire services.
- Implement fire detection and suppression systems.



## Mitigating Fire Risks in Clean Energy Assets

- Community advocates are driving increase of requests to protect assets from fire.
- By protecting your assets with fire detection and suppression, you minimize risk of fire spreading and causing wildfires as well as damage to the assets.
- Quickly have assets back up and running after replacing the affected components (minimize downtime and lost revenues).
- Decrease the likelihood of increase in insurance premiums.
- Regulatory bodies and regulations continue to evolve around fire risk in clean energy space.

## Connect With Our Team



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## Sources

<sup>1</sup> (2021 December) IEA, <https://www.iea.org/news/renewable-electricity-growth-is-accelerating-faster-than-ever-worldwide-supporting-the-emergence-of-the-new-global-energy-economy>

<sup>2</sup> (2020 April) Sylvia, Tim, pv magazine, Solar system fires are on the rise in the U.S., <https://www.pv-magazine.com/2020/04/23/solar-system-fires-are-on-the-rise-in-the-u-s/>

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