

# Ghosts in the Grid

## Combating Cyber Threats Against the Power Grid

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# Managing the Power Grid



# Risks Facing the Electric Power Grid

Severe Storms

Geomagnetic Disturbances

Electromagnetic Pulse

Interdependent Infrastructures

Physical Attack

Cyber Attacks

Insider Threat

Supply Chain



# Ghosts in the Grid



Cyber Criminals



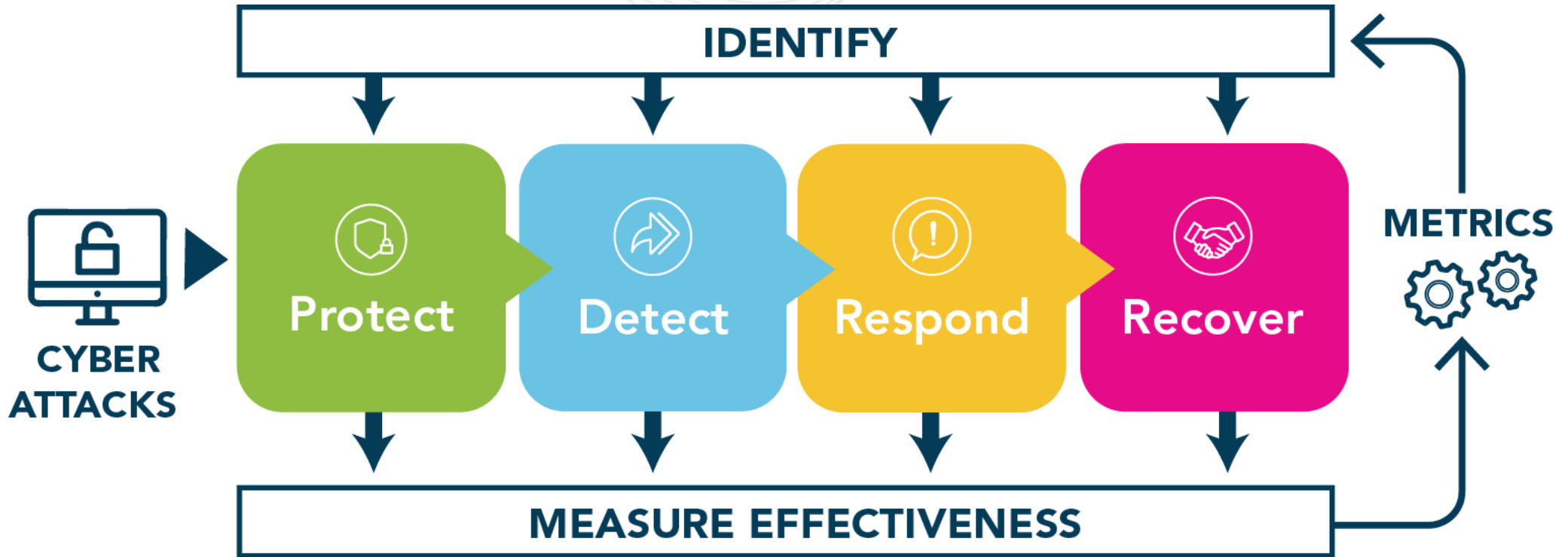
Saboteurs



Cyber Spies



Terrorists



Resilience  
Reliability

Risks / Dependencies:  
Extreme Weather | Physical/Cyber Attacks | Fuel Source/Security

FUTURE

Prepare

Assess Risks

Targeted risk management

Strengthen Infrastructure

Make critical assets less vulnerable

Increase Coordination

Cross-sector & public/private partnerships

Operate

Strengthen Operations

Expand coordination and communications

Enhance Continuity

Planned response exercises

Apply Innovative Approaches

Microgrids & distributed energy resources

Recover

Stabilize the System

Prioritize interdependent infrastructures for system survivability

Regain System-Critical Functions

Balance industry and societal priorities

Make Enhancements Based on Lessons Learned

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# Cyber Resilience

