



Resilience, Energy, and Critical Infrastructure Security

Paul Rushton, Staff Officer, Energy Planning Group

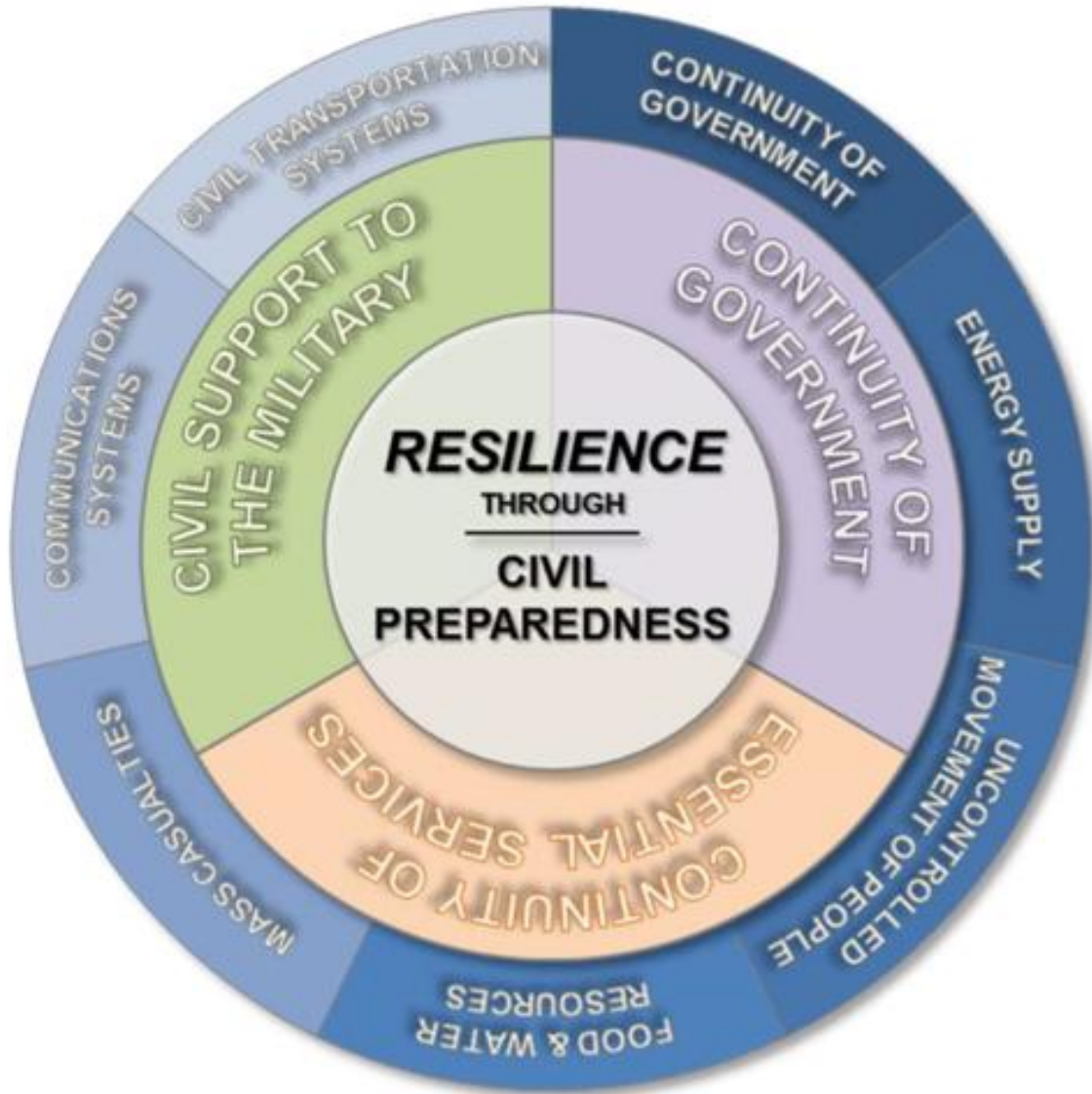
Defence Policy and Planning Division, NATO International Staff

NATO's Role

- Political-military Alliance of 32 European & N. American nations
- Committed to **collective security**
- **Three Core Tasks:**
 - **Deterrence and Defence**
 - **Crisis Prevention and Management**
 - **Cooperative Security**

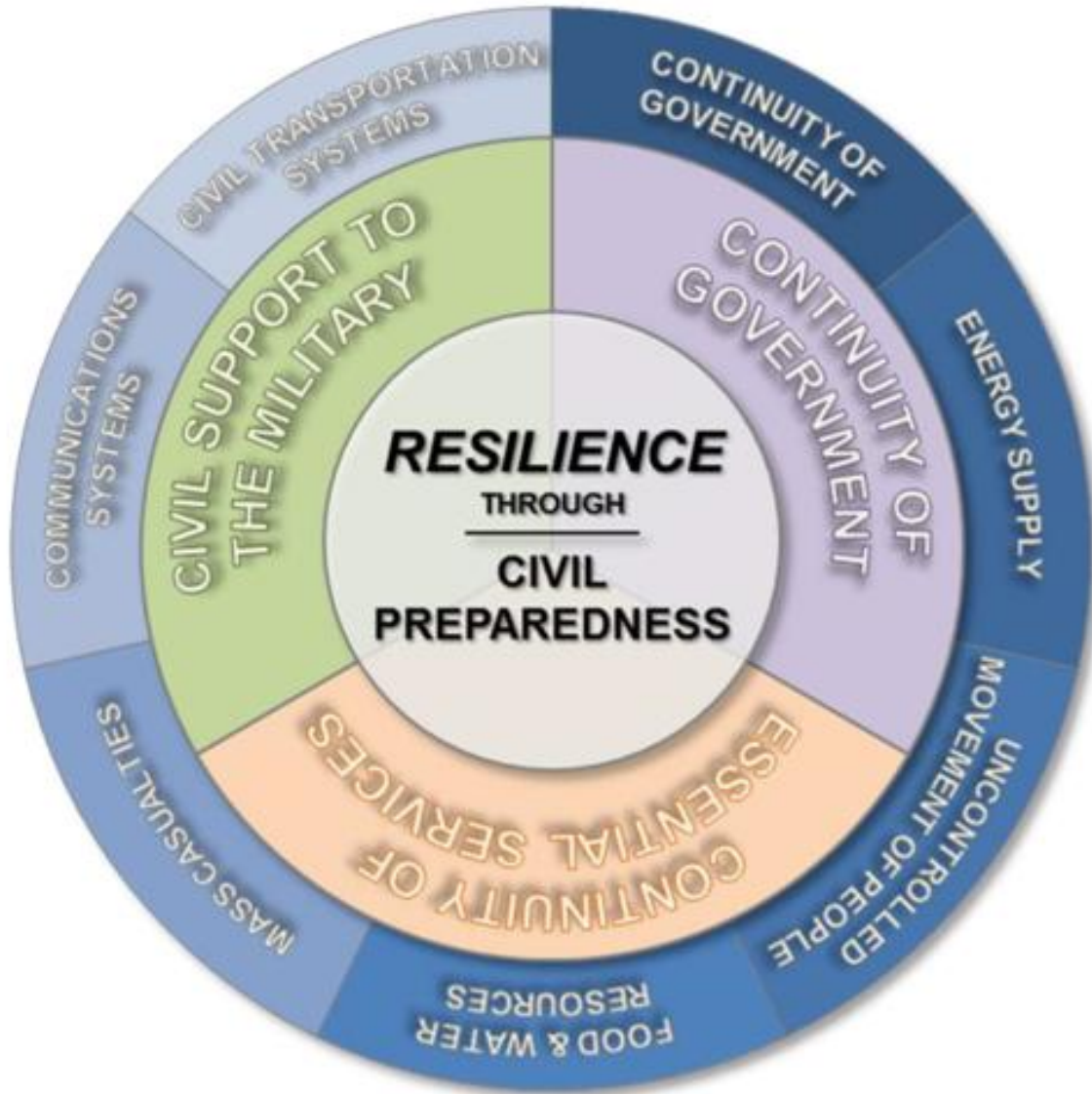


NATO's Approach to Resilience



- **National responsibility and collective commitment**
- Anchored in the Washington Treaty and **reprioritized** after 2014, 2022.
 - Baseline Requirements
 - 1.5% Commitment (Hague Summit)
- Not a prescription: **a collective promise** with flexibility at the national level

The Resilience Commitments



- Every Ally must:
 - Maintain **continuity of government**
 - Ensure **essential services** to civilian population
 - Provide **civilian support** to military operations
- **In peacetime, crisis and conflict.**
- **Critical enabler** for deterrence and defence – military perspective is essential



**Assured Continuity of Government and
Critical Government Services**



Resilient Energy Supplies



**Ability to deal effectively with
uncontrolled Movement of People**



Resilient Food and Water Resources



Ability to deal with Mass Casualties



Resilient Civil Communication Systems



Resilient Civil Transportation Systems

Seven Baseline Requirements

- Essential services and functions...
- Without which neither civil resilience nor military effectiveness is possible.
- Reflect essential role of civilian economy in enabling military security.
- Newly updated!

Enabling for civil-military coordination

Today's Necessities

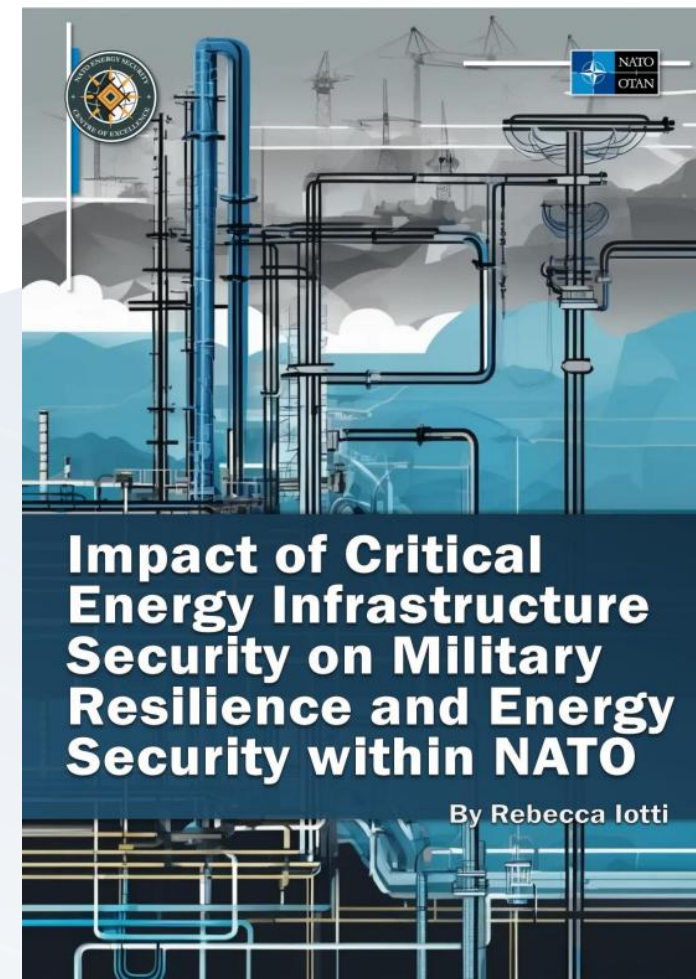


- Up-to-date, widely shared risk awareness of **all threats**
- **Comprehensive protection**
- **Restoration and continuity planning**
- **Civil-military cooperation**
 - Enablement + logistics
 - Protection of civil infrastructure
- Private sector, infrastructure operators as **essential partners**

Baseline Requirement 2: Resilient Energy Supply

Allies must be able to:

- Ensure (priority) access to reliable energy supply for civilian and military end users
- Mitigate the full spectrum of threats to infrastructure and supply
- Restore service after disruption
- Address supply chain dependencies
- Cooperate quickly & effectively with energy system operators, suppliers
- Assess & incorporate new technologies while mitigating vulnerabilities



A New Universe of Threats and Risks

- Kinetic/armed attack
- Cyberattack
- Sabotage
- Supply chain disruptions
- Harmful economic activities
- Extreme weather, natural disasters
- Hybrid tactics and hostile information activities



Lessons from Ukraine



- Energy is **permanently contested** from multiple directions:
 - Kinetic
 - Cyber
 - UAS / drones
- Ability to restore services is an essential strategic asset
- An over-dependent energy system is a vulnerable one
- Dispersed energy generation, storage are key (incl. LPG)

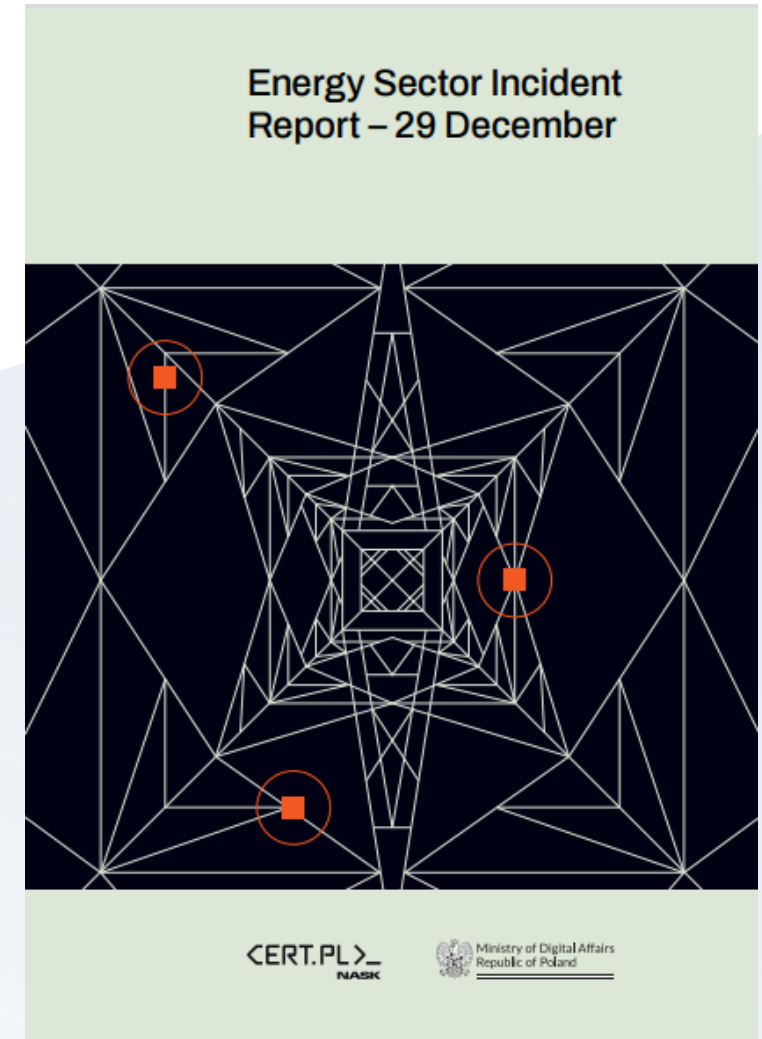
Cascading Risks

- Disruption to one area of critical services...
 - ... causes chain reaction failures in others
- Resilient Energy enables communications, transport, food, health and more...
- Recent examples:
 - 2025 Iberian Blackout
 - Hormuz Closure (incl. LPG)



Cyber Protection and Critical Energy Infrastructure

- Constant targeting of energy operators...
- Punctuated by larger-scale attacks.
 - E.g. Poland 2025
- Threat evolving faster than ever (e.g. AI)
- Cyber and kinetic attacks undertaken together.
- Resilience demands:
 - Shared civ-mil understanding of cyber threat.
 - **Rapid** threat response (preventive & reactive)
 - Relentless innovation (e.g. AI)
 - International, systematic approach (national, NATO, EU)



Counter-UAS

- Fast-evolving (in both technology and practice)
- Kinetic attacks v. infrastructure (as in Ukraine)
- Incursions into protected airspace (hybrid tactic)
- Flexibility is key, but we all benefit from:
 - Shared awareness
 - Fast, deployable, low-cost air defence systems
 - Rapid innovation (e.g. air defence drones, EW)
 - Passive protection
 - Dispersed energy systems
- All of which demands ever closer civil-military cooperation – no purely civilian solution.



Moving forward

Less about each threat type...

- ... than about an flexible, shared approach that evolves with the security environment.
- ... and builds resilience into every part of the energy system.

We must:

- Build a shared awareness of all risks and threats – and mitigate appropriately.
- Work with energy suppliers and operators as active partners for defence and resilience.
- Convey unique nature of military needs.
- Have a diversified, responsive energy system that adapts to rapid change.



NORTH ATLANTIC TREATY ORGANIZATION
ORGANISATION DU TRAITÉ DE L'ATLANTIQUE NORD



Thank you for your attention!

rushton.paul@hq.nato.int