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Hybrid-War and Critical Energy Infrastructure: the Ukrianian Conflict Case-Study

Study

- “Ukraine is a **polygon** to investigate contemporary threats to infrastructure”
- Study is on **military/terrorist** threat on **energy infrastructure** in context of hybrid warfare.
- Based on Ukrainian experience, to work out **„toolbox“** for NATO member and partner countries to build resilience in energy sector.



Study

- Considers **broad Energy Security (EnSec) and Security of Supply (SoS) aspect** in contemporary military conflict only as **background information**.
- **Cyber attacks** on energy infrastructure as part of military action – considered only as **background information**
- Other threats, such as aging infrastructure, natural and industrial accidents, geo- and electromagnetic threats are considered only as **background information**

Study

- This study will not help to solve current conflict in Ukraine.
- **It's to be prepared for the next one!**
- As by-product, we want to draw attention and raise awareness in NATO countries, which could benefit Ukraine during current crisis.

Study

Preparation Phase

Phase I – Theoretical study (2015)

Phase II – Practical „Manual“ (2016)

Implementation Phase





Preparation Phase



Preparation Phase

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- Establishing the research initiative
- Constructing the ProjectPlan
- Contacting potential partners, target group etc.



Phase I

Theoretical Study



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Phase I – Theoretical study

- Energy attacks in war-s (1900 -)
- Monitoring Ukrainian events, also other contemporary conflicts
- Working out Russian conduct in hybrid warfare as such
- **Working out energy aspect in Contemporary (Russian) war doctrine**



Historical Attacks on CEI

- Relevant attacks during conventional wars 1914 - present
- Covering plans and also incidents (terrorist attacks etc.)

KGB activities in NATO countries: An immensely detailed plan to destroy "oil refineries and oil and gas pipelines across Canada from British Columbia to Montreal"

- Open source collection & books



Monitoring

Monitoring all relevant events and developments in Ukraine, but also in other conflicts

- Relevant political, energy and CEI events are databased in separate columns for ease of access and reference.
- Empirical data points then form basis for preliminary analysis and inference.
- Open source collection.

From this collection, some patterns have already become apparent, viz. coal related infrastructure being targeted.



Asymmetric warfare and Russian contemporary war doctrine

- Analysis of the asymmetric warfare as different from traditional war
- The origins and development of Russian non-linear warfare
- The Russian contemporary war doctrine - Matrjoshka voina or Gerassimov Doctrine



Energy aspects in contemporary military conflict

- Main product of the Theoretical Phase
 - Why
 - Potential Targets
 - How – tactics, strategy
 - What are the consequences



Phase II

Practical Toolbox



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Phase II - Practical „Toolbox“

- “Countrybook”
- How would Russia use energy aspects in potential contemporary conflict with a NATO member or partner country.
- “Best practices”
- Work out **conceptual package** or „toolbox“ for these countries to resist these threats, to build resilience.



Countrybook

- In order to have the analysis as serious as possible and the toolbox to be as useful as possible, all will be built on real infrastructure topology, technical numbers etc.
- Therefore extensive material accumulation will be used to base research on that
- **„Statement on Security of Energy Supply of Ukraine“ 2012**



How would Russia use Energy attacks

- Based on the final product of the phase one and „countrybook“ material, a evaluation of target country or region energy infrastructure security level will be given
- What are the „critical node’s“, „bottel necks“, etc, in target area, that make up the vulnerabilities
- Where and how would the energy infrastructure be attacked, with what tools with what consequences.



Best Practices

- Most countries have CIP and EnSec experiences and initiatives
- International organisations have developed manuals etc.
- Gather these „best practices“ and „experiences“ from initiatives around the world



Work out „package“ for these countries to resist these threats, to build resilience.

- For NATO member and partner countries.
- Based on „**best practices**“ gathered from around the world.
- **A set of measures to improve the CEIP level** of a specific region or country.
- All countries considered to be under threat.



Work out „toolbox“ for these countries to resist these threats, to build resilience.

- **Energy experts**
 - what is the war like, what the preparation must be for.
- **Military and Interior Security personnell**
 - threats to CEI and consequences
- **Legislative body**
 - relations between energy sector and interior and exterior security



Work out „toolbox“ for these countries to resist these threats, to build resilience.

- The measures must be reasonable
 - Investment vs. Competitiveness of economy
- It must prioritise most cost-effective solutions
- The solutions must be in compliance with other initiatives (energy market, renewable initiative, Security of Supply)

Deliverable





Potential partners

- **Think Tanks:**
 - EnSec, CIP, Hybrid warfare, Ukrainian conflict.
- **Transmission System Operators and Interior (CIP) Security Authorities.**
- **Universities with EnSec and CIP curricula!**
- **Intelligence (analysis) services**
- **Military authorities (universities) considering CIP, EnSec and hybrid warfare**
- **Public-Private Partnership and inter-governmental cooperation**



Your support:

- Is the study relevant, feasible, logical?
- Suggestions to improve the concept of the project.
- Would you participate - how could you contribute?
 - How can we facilitate your support?
- Potential project partners?



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... Thank you!

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