



NATO Operational Energy Concept

OF - 4 Massimo DACCHILLE (ITA ARMY)
Doctrine & Concept Development Division





NATO's Energy

Today and tomorrow

Petroleum Logistics

The NATO Petroleum Supply Chain has to be able **to respond** to the full spectrum of the Alliance's **operational requirements** and to the deployment distances and dispersions envisaged, taking specifically into account increased cooperation between NATO and Partner nations and their respective military and civil authorities. Financial considerations, economies of scale and the need for enhanced interoperability make it necessary to **continuously seek new and innovative ways** of delivering the fuels capability.

NATO Logistics Handbook 2012





Recent NATO policy reference

THE MADRID SUMMIT DECLARATION OF 2022:

- ❑ “<...>Russia has also intentionally exacerbated a food and **energy crisis**, affecting billions of people around the world, including through its military actions. <...>” (Art. 3)
- ❑ “<...>We are also **strengthening our energy security**. We will ensure **reliable energy supplies** to our military forces.<...>” (Art. 10)

NATO 2022 STRATEGIC CONCEPT:

- ❑ “<...>We will **enhance our energy security** and invest in a **stable and reliable energy supply**, suppliers and sources. <...> We will boost our capacity to prepare for, resist, respond to, and quickly recover from strategic shocks and disruptions, and ensure the continuity of the Alliance’s activities <...>” (Art. 26)
- ❑ “<...>We will invest in our ability to prepare for, deter, and defend against the **coercive use of** political, economic, **energy**, information and other hybrid **tactics** by states and non-state actors.<...>” (Art. 27)
- ❑ „<...>We will contribute to combatting climate change by reducing greenhouse gas emissions, **improving energy efficiency**, investing in the transition to **clean energy sources and leveraging green technologies**, while ensuring military effectiveness and a credible deterrence and defense posture. <...> (Art. 46)





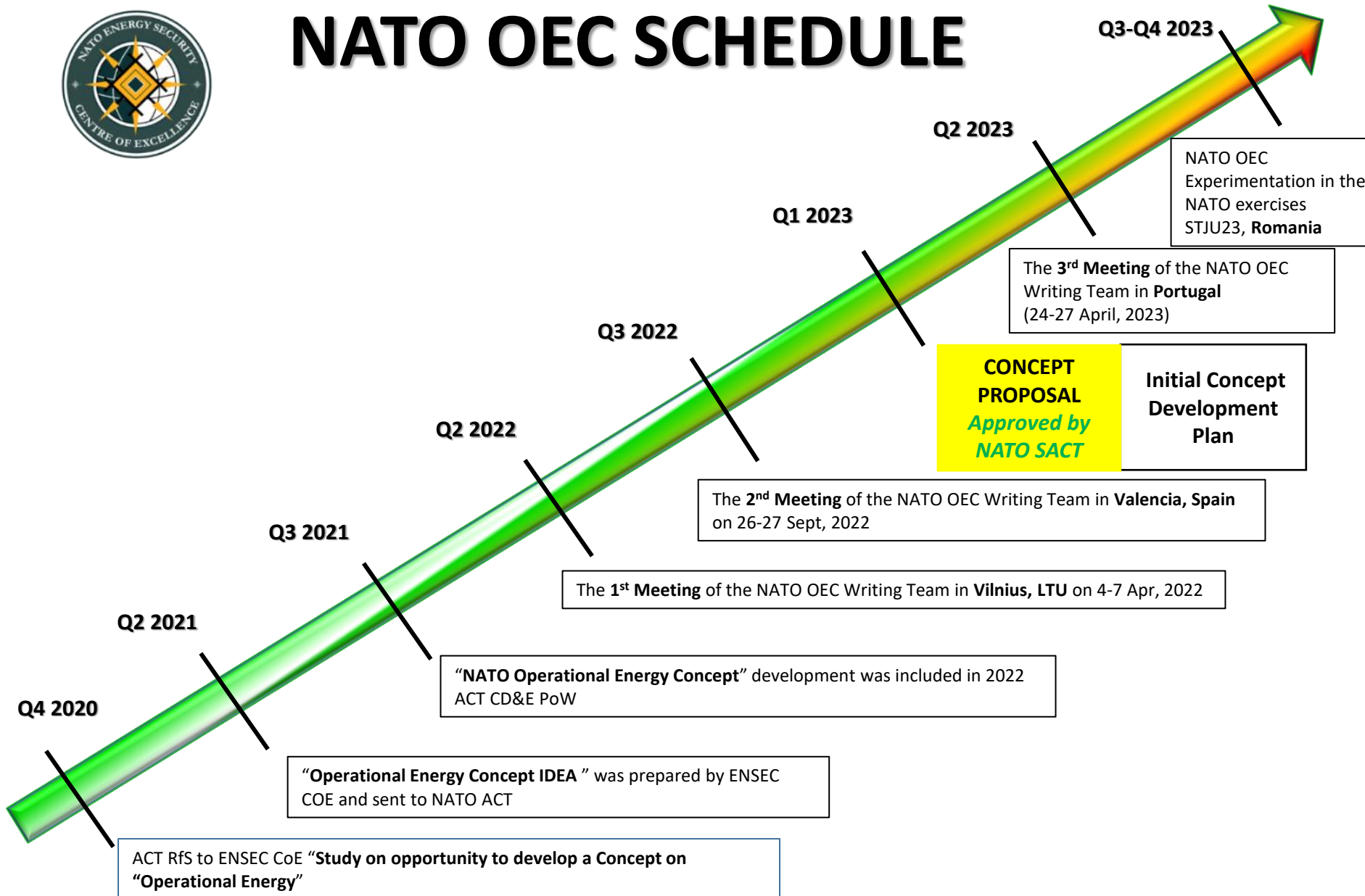
HOW IS THE NATO ENSEC CoE SUPPORTING NATO FACING THIS CHALLENGE

NATO ENSEC CoE
Šilo g. 5A, LT-10322 Vilnius, Lithuania; tel. (+370) 706 71001, fax. (+370) 706 71010, e-mail: info@enseccoe.org





NATO OEC SCHEDULE





NATO Operational Energy Concept WRITING TEAM



- 1st meeting in Vilnius Apr 2022
- 2nd meeting in Valencia Sep 2022
- 3rd meeting (Final OEC Proposal Review) Apr 2023



NATO Operational Energy Concept

NATO OEC development was included in the **HQ SACT 2022 Concept Development and Experimentation (CD&E) Program of Work (POW)** and is linked to the Warfare Development Imperative (WDI) “Layered Resilience” of the NATO Warfighting Capstone Concept (NWCC), also included as a **deliverable in the NATO Energy Security agenda** agreed in Madrid

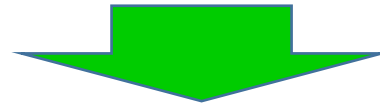




NATO Operational Energy Concept

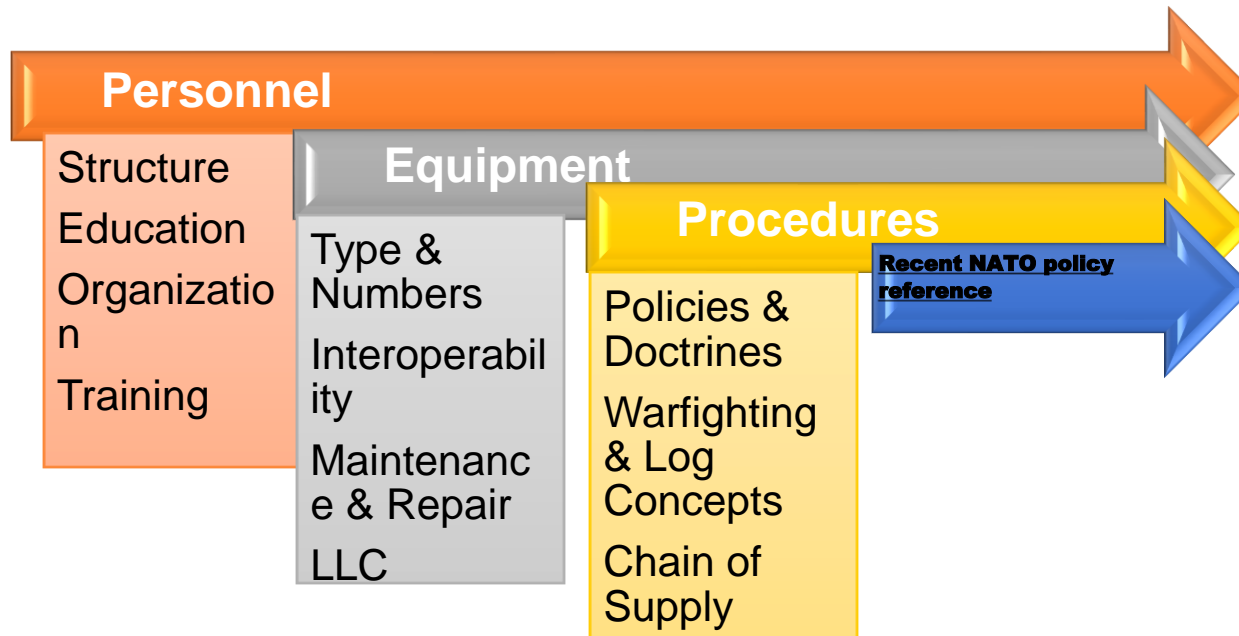


The NATO Warfighting Capstone Concept proposes 5 Warfare Development Imperatives; these are the “musts” the Alliance needs to pursue a Military Instrument of Power fit for the next two decades.





NATO Operational Energy Concept





Problem Statement

NATO is not currently positioned to optimize energy use in order to maximize operational effectiveness for current and future operational requirements





Concept's Objectives

- Improve **interoperability** of NATO capabilities for **existing and new energy sources and technologies** to allow optimized use of joint assets
- Optimize **energy availability and accessibility** for current and future NATO missions and operations in an **efficient and effective** way
- Establish **methods to increase resilience of energy supply/sources** and **infrastructure** to meet current and growing **OE requirements**
- Identify **opportunities** to **reduce energy dependency by increasing self-reliance and diversification of supply**
- Create, foster and increase the **awareness** of the importance of **operational energy availability and demand**, opportunities and challenges across all levels of the Alliance





WORKING DEFINITIONS

- ✓ **Energy Security** - a stable and reliable supply of required energy forms and quantities, enabling NATO's capabilities, operational effectiveness and resilience
- ✓ **Operational Energy** - energy required to train, deploy and sustain Allied forces across NATO's missions and operations
- ✓ **Energy Efficiency** – the optimal use of energy to ensure a credible deterrence and defense posture with proper consideration of human and material cost as well as logistical and environmental footprint





Current Stage and Challenges

- NEW NATO ENERGY ORGANIZATION/STRUCTURE**
- NEW OPERATIONAL PROCEDURES**
- VERIFYING EXPERIMENT**



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New Energy Technologies

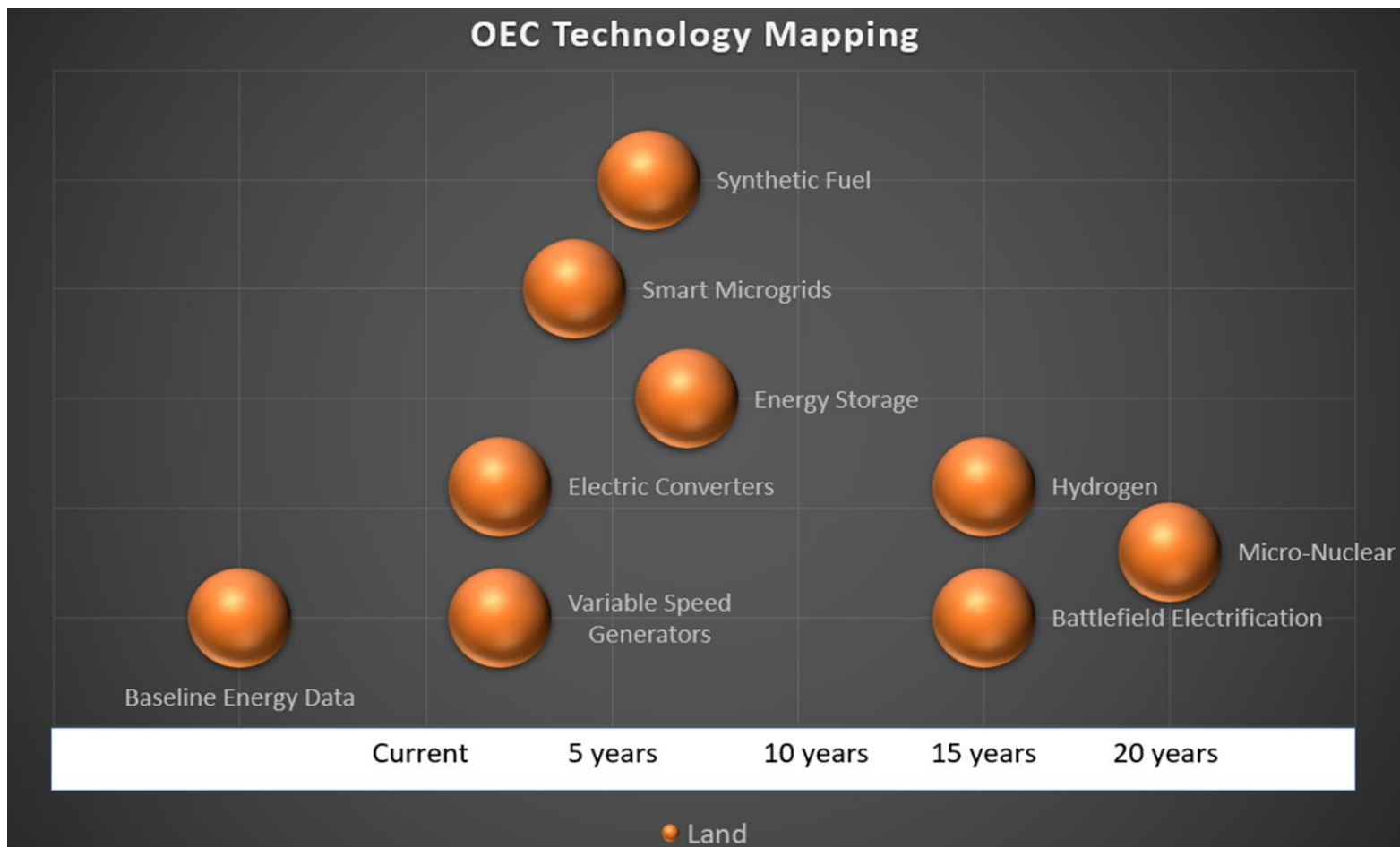
- ❑ Several new technologies are under development or even ready for implementation
- ❑ Not all technologies are applicable to all situations
- ❑ This sample set has been divided by function within the energy system, the military domain and time frames of technology maturity

	Land	Air	Maritime	Space
Source				
Distribution				
Management				
DE effectors				





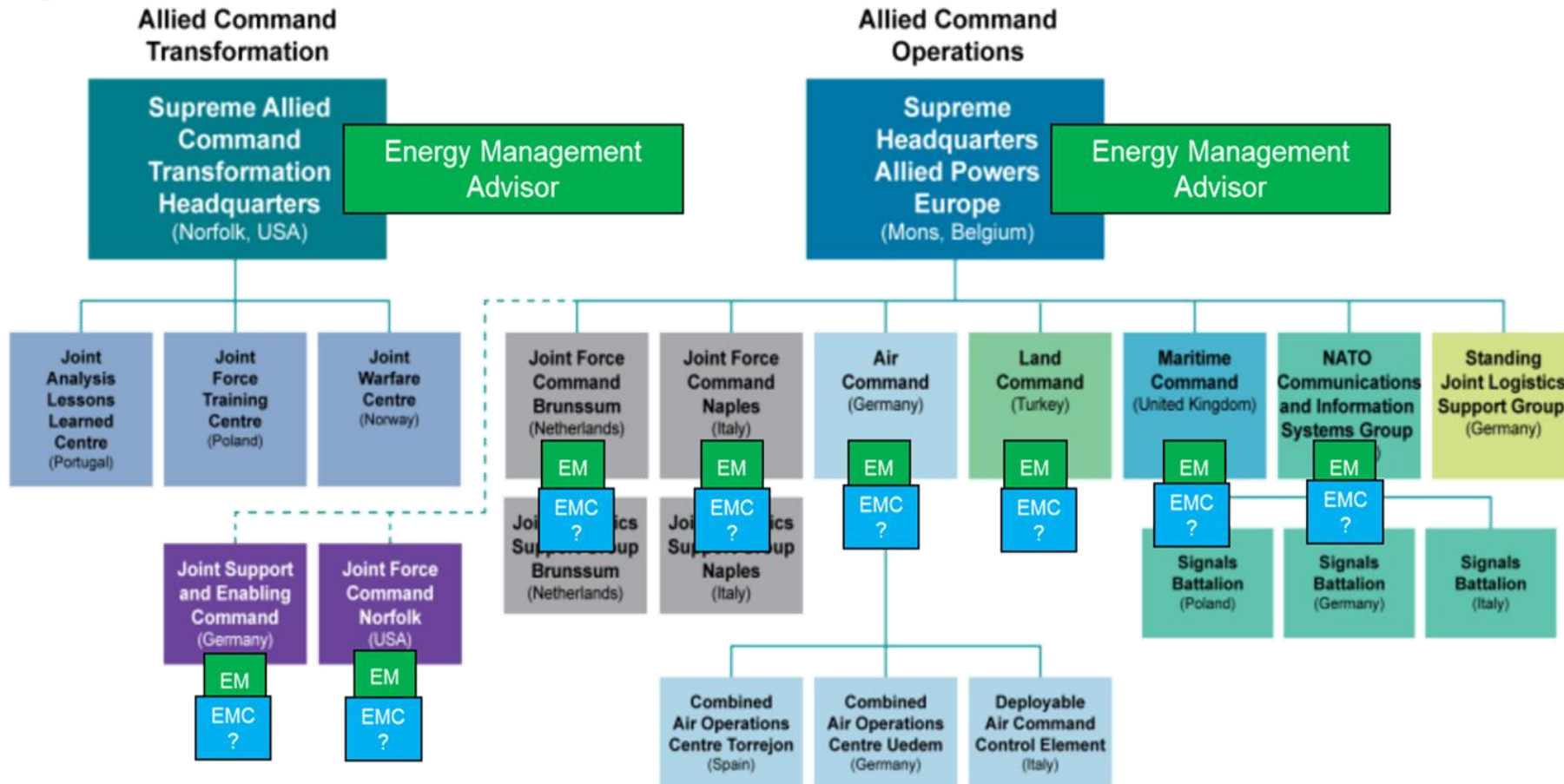
Land Domain





Energy Management capability

NATO Command Structure



NATO Structure



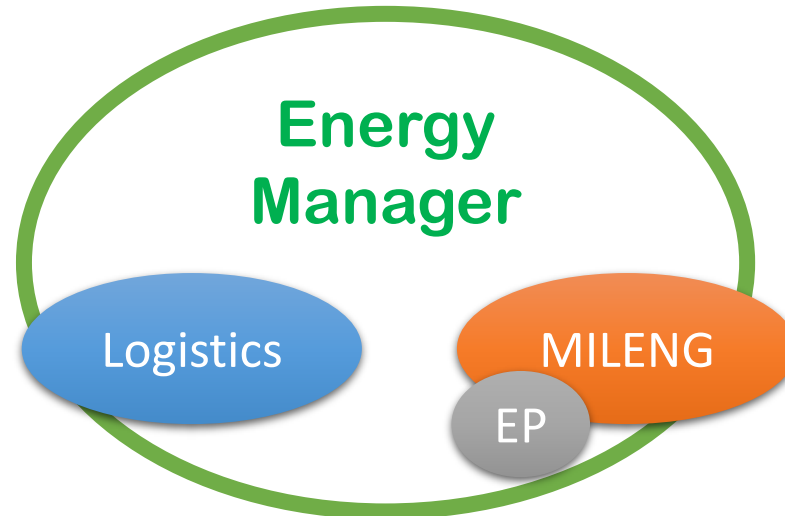
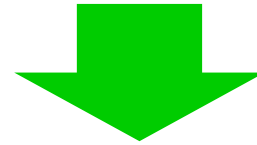
ENERGY MANAGERS, WHY ?

Bridging the gap between MILENG and logisticians establishing and providing OpEn capability

- Current



- Possible





Validating Experimentation

❑ NATO Exercise (LIVEX) – 2023/24 (Steadfast Series)

- Major objectives to be covered
- Planning phase included
- Operational Level priority

❑ Tactical Level (national) Ex (TBI)

- Minor and/or supportive objectives
- More controlled environment

❑ Stand-alone Event(s)

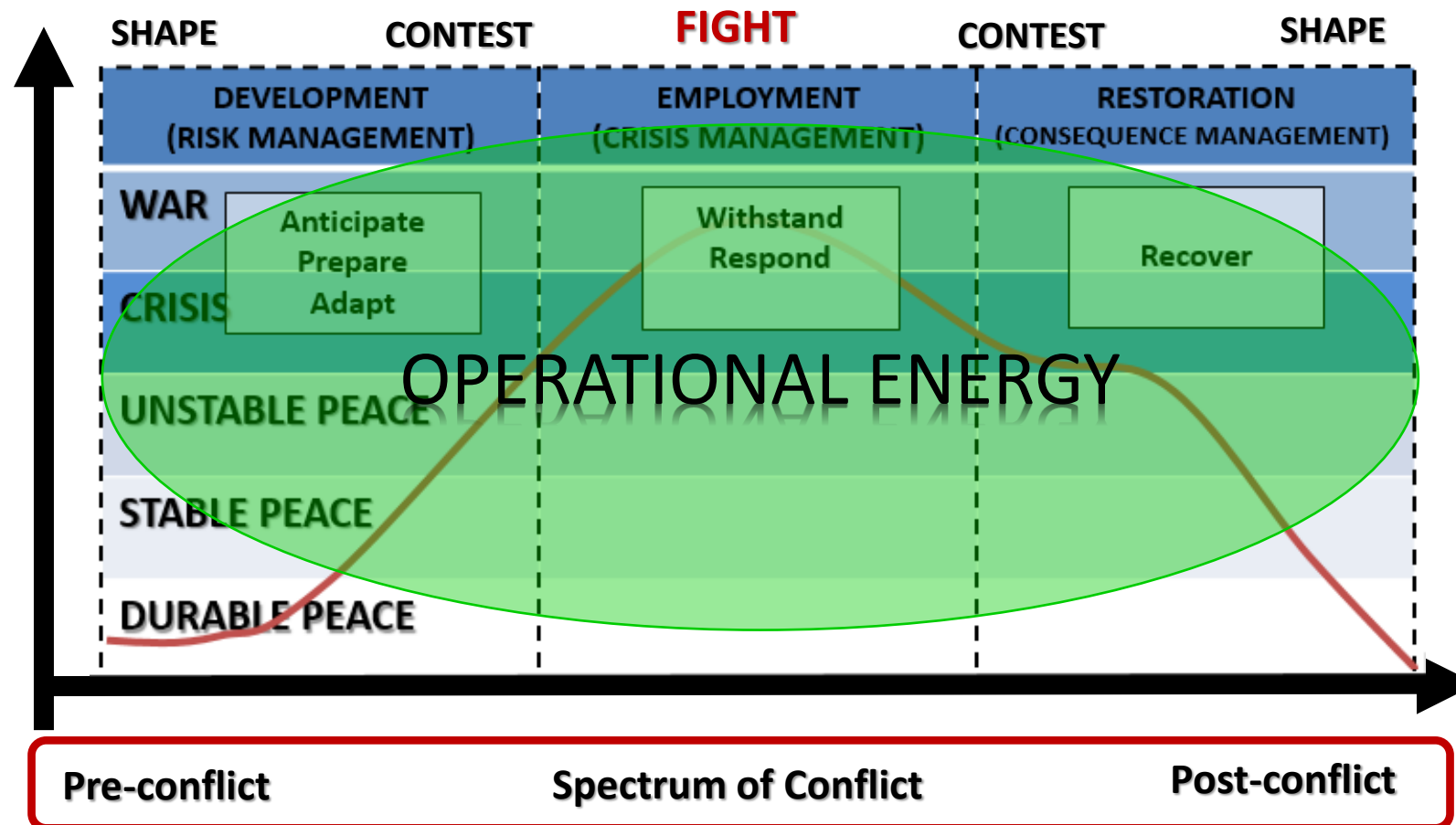
- Unique analysis opportunities
- All Command domains (Air, Land, Sea)





Operational Energy AND military resilience

Conflict Dynamics - Spectrum of Conflict





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