The development of European integrated frameworks on exposure and risk assessment and policy efficiency

Key recommendations for the European Commission and European Member States

European Commission

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The EU CoE CBRN Risk Mitigation initiative – what it is and how it works

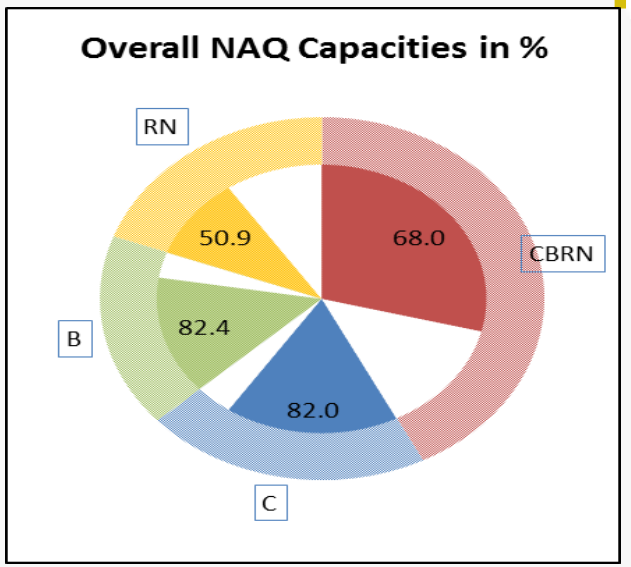
Need Assessment Questionnaire sections

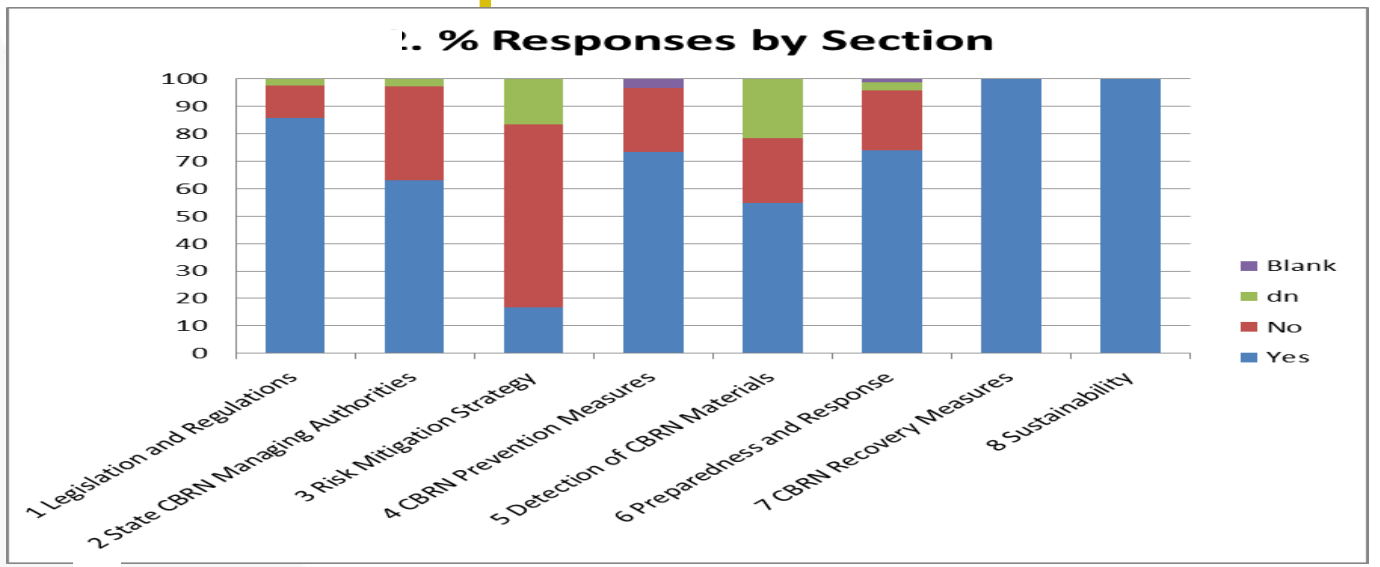
1. Legislation and Regulations
2. CBRN Managing Authorities
3. Risk Mitigating Strategy
4. CBRN Prevention Measures
5. Detection of CBRN Material
6. Preparedness & Response
7. CBRN Recovery Measures
8. Sustainability
9. Strategic Trade Control

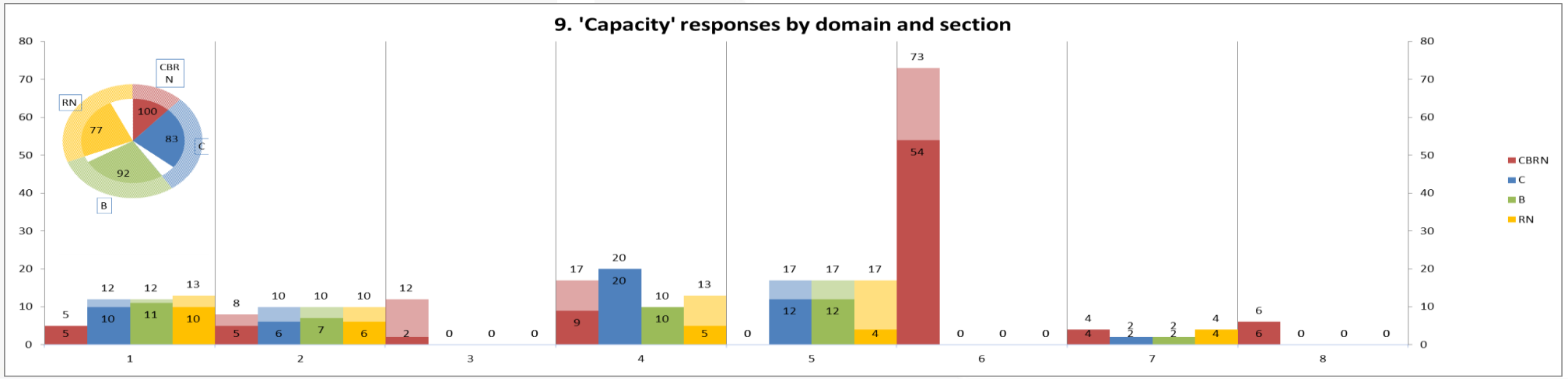
Voluntary :
For the Partner Country, used by the Partner Country (with or without technical support)

A methodology:
Designed to support a **comprehensive** and **systematic** identification, elucidation and analysis of existing capacities and gaps

Example NAQ responses







The EU CoE CBRN
Tackling safety and security issues

Locations important for Chemical Threats

- Chemical Facilities, comprising chemical Laboratories
- Biological Facilities
- RN Facilities
- Industries including petrochemical, chemical and power plants
- Fuel storage locations
- Waste treatment and management sites
- Gas storage
- Pipelines
- Ore mines
- Research centres
- RN storage

- But also:
  - Borders (blue and green borders)
  - Official points of entry
  - Supply chain actors (Manufacturer / Importer, Formulator/processor, Wholesaler, Retailer, End-user, Distributors)

Hazard/threat identification

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Safety Hazard identification

Safety Hazard refers to a non-deliberate hazard due to the properties of such chemicals.

Security hazard identification (threat)

Threat refers to deliberate created or use of a hazard due to the properties of such chemicals.

Hazard/threat identification

Safety Hazard identification

Depends on laboratory and/or field studies identifying the chemicals properties.

Security hazard identification (threat)

It stand or falls on the ability to factually discern through intelligence gathering the warning behaviours that will precede the targeted violence by hours, days, weeks or months, thus allowing for a considered determination of risk. If there are no behaviours before an attack, threat identification/assessment becomes almost impossible (Unsgaard and Meloy, 2011)

CBRN risk assessment outside the EU

Risk Assessment and NAP - example

STEP 1 :

OBJECTIVE 1 : Define List of hazards and risk priorities

Approach: Examine each risk according to their field and their relevance for the country

STEP 2 :

OBJECTIVE 2 : Identify country's strenght and weaknesses referring to each risk

Approach: Examine priority risks from the perspective Source-Flux-Target (use the NAQ as basis)

STEP 3 :

OBJECTIVE 3 : Set the bases for the national action plan

Approach: Set objectives (WHAT?), propose means and concrete actions (HOW?) and define priority level according to risk assessment

Risk Assessment and NAP

STEP 1 : Define priority risks

1.a) List main general national hazards in the Chemical field (AG1,2,3,…)

1.b) List specific hazards of relevance for the country in the Chemical field (AP1,2,3,…)

1.c) Perform assessment of the risk related to each hazard

1.d) Draft matrix Probability x Impact

Risk Assessment and NAP

1.a) Main generic national hazards in the Chemical field (AG1,2,3,…)

GENERIC NATIONAL HAZARDS	
AG1 : Industrial fire (production or storage facility)	AG6 : Toxic cloud from an industrial facility
AG2 : TDG fire (land: rail, road, pipe, …)	AG7 : Toxic cloud from a TDG accident
AG3 : TDG fire (maritime: ship, off-shore, …)	AG8 : Terrestial or aquatic pollution
AG4 : Explosion in an industrial facility	AG9 : Contamination in the food chain
AG5 : Explosion outside an industrial facility (TDG)	AG10 : Illicit trafficking, smuggling

Risk Assessment and NAP

1.b) Specific hazards of relevance for the country in the Chemical field

SPECIFIC NATIONAL HAZARDS		
AG1	AG1AP1	Industrial fire in the capital city
	AG1AP2	Industrial fire outside the capital city
	AG1AP3	Fire in the capital city harbor
	AG1AP4	…
	AG1AP5	…
AG2	AG2AP1	Fire of a tanker in the capital city
	AG2AP2	Fire of a tanker in an urban area different from the capital city
	AG2AP3	Fire of a fuel tanker at the airport of the capital city

AG1 : Industrial fire (production or storage facility)
AG2 : TDG fire (land: rail, road, pipe, …)

Risk Assessment and NAP

1.c) Assessment of the risk related to each hazard

IMPACT and PROBABILITY for SPECIFIC NATIONAL HAZARDS		
HAZARD	**IMPACT (Weak : 1 / High : 5)**	**PROBABILITY (Weak : 1 / High : 5)**
AG1AP1	Score : 2 - Industrial equipment - Economic challenge (medium) - Potential propagation	Score : 3 - Considering the hazards and the weak prevention and preparedness
AG1AP2	Score : 3 -Industrial equipment - Economic challenge (high) -No propagation risk	Score : 3 - Considering the hazards and the weak prevention and preparedness
AG2AP2	Score : 3 -Population -Urbanization	Score : 4 - Considering the intensity of trafic and no prevention

AG1AP1 : Industrial fire in the capital city
AG1AP2 : Industrial fire outside the capital city
AG2AP2 : Fire of a tanker in an urban area different from the capital city (TDG)

Risk Assessment and NAP

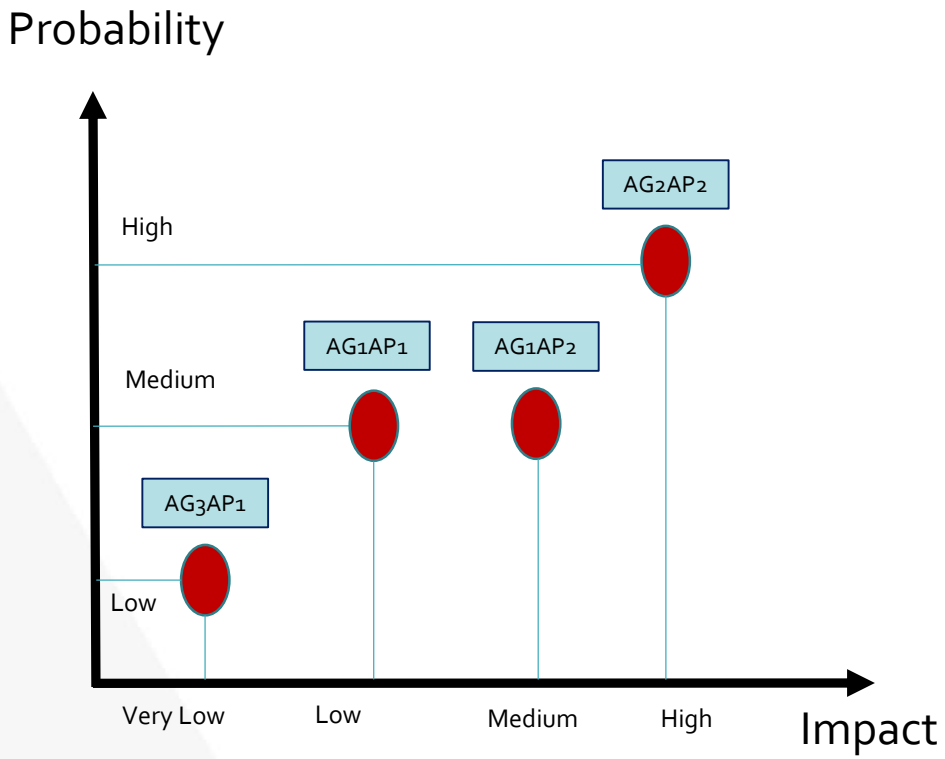
1.d) Matrix Probability x Impact

Scénario AG2AP2 : Fire of a tanker in an urban area different from the capital city (TDG)

Scénarios AG1AP1 : Industrial fire in the capital city

Scénarios AG1AP2 : Industrial fire outside the capital city

Scénario AG3AP1 : Fire of chemical nature at sea

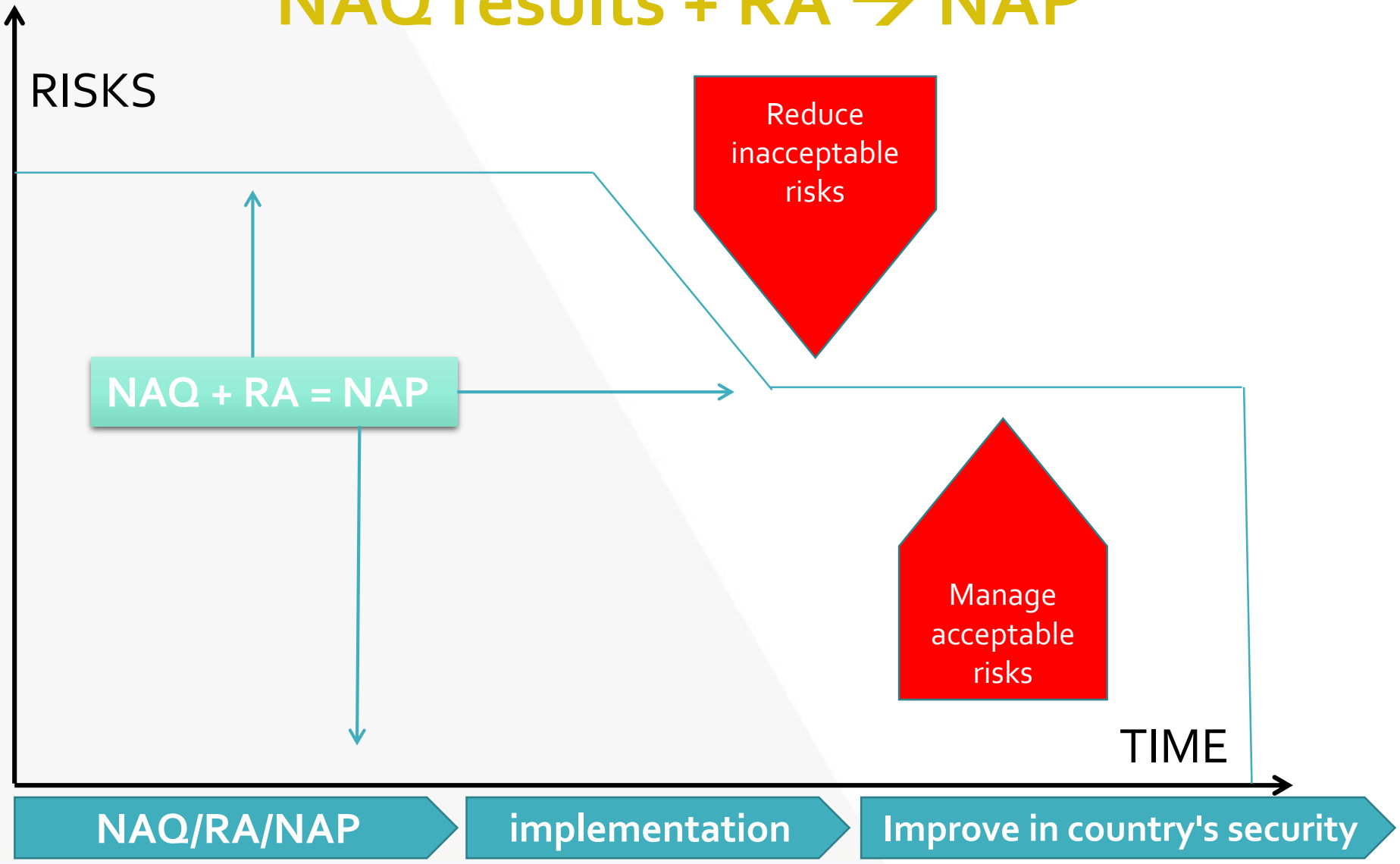


STEP 3 : Fill out the table with the previous steps as well as NAQ results

Ex : fire risk reated to the transport of dangerous goods

OBJECTIVES (What?)	Existing capacities	Desired/needed capacities	NAQ Reference	ACTIONS (How ?)	PRIORITY
Define the hazardous activity (TDG) as part of the legal framework	Lack of specific legal and regulatory framework of TDG	Legal and regulatory texts defining the obligations of carriers of DG, for example training	Q 1.1.2 Q1.2.2 Q1.3.2 Q4.10/13/14	A1 : Participation in the xywz project and involvement of relevant staff in the Ministry of Transport	HIGH
Development of specific response tools and means to face a TDG emergency	**Law-enforcement units** (good general performance and country coverage but no specific competence in this domain) **Civil protection units** (weak coverage, indadequate equipment, poor training).	Capacity to secure the intervention area Capacity tof intervention to effectively block leakage and keep potential explosions under control Capacity to extinguish a fire produced by inflammable chemicals Inter-service coordination	Q6.2.2 Q6.11/13/15 Q6.16/19	A2 : Reinforcement of civil protection means to improve territorial coverage A3 : Provide civil protection with specific means to face TDG accidents A4 : Establish intervenation procedures as appropriate	HIGH

NAQ results + RA → NAP



Key recommendations for the European Commission and European Member States

Key recommendations

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The EU can promote the development of a system with similar global standards for CBRN materials and specimens ensuring a level playing field and high level of protection for humans and the environment. For this it is recommended to:

1. **Develop legal actions introducing consistency and coherence of CBRN materials and specimen safety and security requirements across European CBRN regulations.**
2. **Expand the knowledge base of CBRN safety and security concepts strengthening the principals of prevention by better involving policy makers, practitioners, scientists and citizens**
3. **Develop global incentives on the production, use, exposure, risks and supply chain responsibilities during the entire life-cycle of CBRN materials and specimen comprising recycling and disposal.**
4. **Enhance accessibility, sharing and training of European existing IT infrastructure, knowledge and proven best practices as applied by regulatory agencies in Europe to better regulate non-EU trade, production, storage, transportation and use of CBRN materials and specimen.**

Key recommendations

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5. Create a sustainable EU funding mechanism to detach experts that support the development of regulations and implementation procedures in non-EU countries. This mechanism could provide options for mutual detachments for a certain duration.
6. Provide support and solutions including financial mechanisms to the paradigm of non-EU waste management problems partially caused by the exportation of European waste streams to non-EU regions.
7. Develop harmonized methods and tool to assess risks and risk mitigation options across safety and security domains.
8. Develop channeling mechanisms that link data and monitoring information gathered and assessed outside the EU to European actors linking origin responsibilities and fast interventions and compensation mechanisms.

Questions?

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