EURAD-ROUTES ACTIVITIES ON WASTE ACCEPTANCE CRITERIA – AN OVERVIEW

21st April 2021 • PREDIS/ROUTES/ERDO Joint Webinar on WAC 1•

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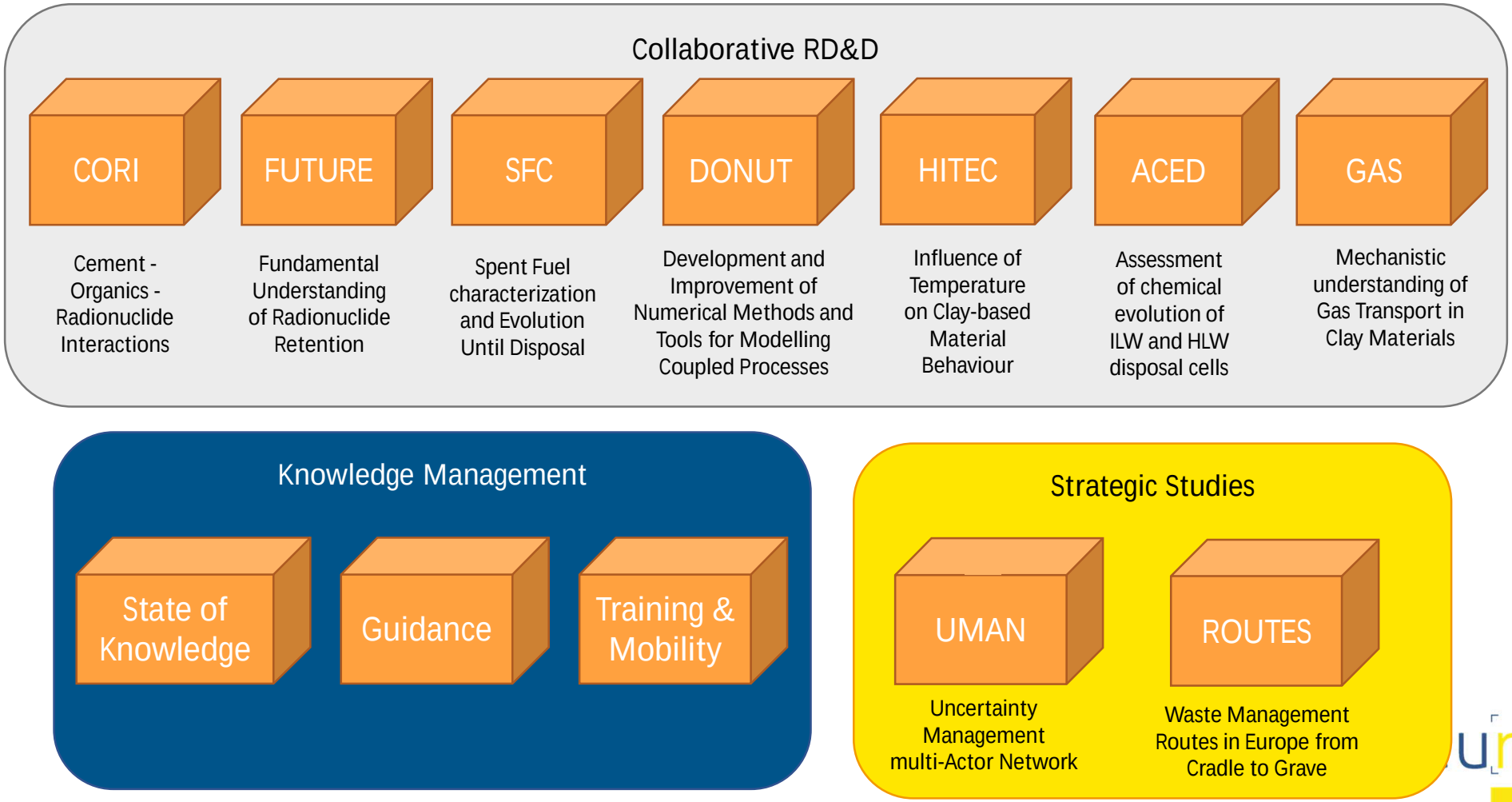
EUROPEAN JOINT PROGRAMME ON RADIOACTIVE WASTE MANAGEMENT – EURAD: PROGRAMME STRUCTURE



ROUTES OBJECTIVES & KEY FIGURES

- Provide an opportunity to share experience and knowledge on waste management routes between interested organisations (from different countries, with programmes at different stages of development, with different amounts and types of radioactive waste to manage)
- Identify safety relevant issues and their R&D needs associated with the waste management routes (cradle to grave), including the management routes of legacy and historical waste, considering interdependencies between the routes
- Describe and compare the different approaches to characterisation, treatment and conditioning and to long term waste management routes, and identify opportunities for collaboration between Member States

- 35 participating organisations drawn from 21 countries

ROUTES: TASKS BREAKDOWN

T2 Challenging Waste to be collaboratively tackled within EURAD

2.1 Identify challenging wastes and map existing WM Routes (if any)
2.2 Compare knowledge and strategies for their management

T3 Description and comparison of RW characterisation approaches

3.1 Radio-analytical characterisation of RW and waste with complex/toxic properties
3.2 Characterisation approaches of historical and legacy waste

T4 Identification of WAC used in MS for different disposal alternatives

4.1 Current use of WAC
4.2 Sharing experience on WM with/or without WAC
4.3 R&D needs an opportunities of collaboration

T6 Shared solutions in European countries

6.1 State of the art on shared developments/technologies/facilities
6.2 Case studies
6.3 Assess feasibility of developing shared solutions

T5 RWM solutions for small amounts of waste

5.1 Knowledge about disposal options for SIMS
5.2 Define predisposal routes for disposal

T7 Interaction with Civil Society

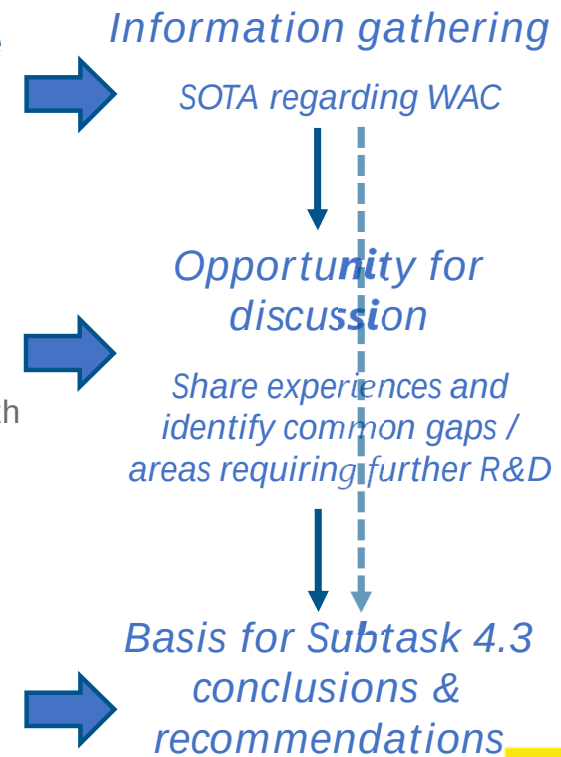
7.1 Scoping of Routes and action plan
7.2 Implementation of the action plan

ROUTES TASK 4 - GENERAL OUTLINE

- "Identification of WAC used in EU Member-States for different disposal alternatives in order to inform development of WAC in countries without WAC/facilities"
- Duration: 40 months
- Task 4 size relative to ROUTES
  - Direct costs: 20% of ROUTES
  - Person months: 25% of ROUTES
- Task Leads: ONDRAF/NIRAS (Chris De Bock) and Galson Sciences Ltd (Liz Harvey)
  - Other task contributors: Andra, CEA (Orano), CIEMAT, EEAE, FTMC, Juelich, GRS, IAE, INCT, IRSN, IST-LPSR, JSI (EIMV), LEI, NCSRD, RATEN, SÚRAO, SKB, SSTC NRS, STUBA, SÚRO, TUS
- General objectives
  1. Provide an up-to-date overview in Member-States on the use of WAC at different stages in the waste lifecycle
  2. Offer a structured approach to support decision-taking of "no regret" waste management measures
  3. Identify R&D needs and opportunities for collaboration between Member-States

ROUTES TASK 4 - STRUCTURE, SCOPE & MAIN COMPONENTS

- Subtask 4.1 “Current use of WAC”
  - Provide an up-to-date overview per country on the use of WAC at different stages in the waste lifecycle
  - Memorandum n°1 (internal) = milestone 88
- Subtask 4.2 “Sharing experience on waste management with/without WAC available”
  - Offer a structured approach to support decision-taking of “no regret” waste management measures
  - Gap analysis of different approaches to waste management while maintaining compatibility with the option(s) for disposal
  - Workshop 1
  - Memorandum n°2 (internal)
- Subtask 4.3 “R&D needs and opportunities of collaboration”
  - Identify and prioritise common R&D needs related to the management of challenging wastes and identify opportunities for collaboration between Member-States
  - Workshop 2
  - Summary Report (deliverable)



ROUTES TASK 4 - PLANNING

present

Civil year	2019							2020												2021												2022								
Civil month	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	mai	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	mai	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	mai	jun	jul	aug	sep
Project year	1												2												3												4			
Project month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Subtask 4.1															MS88																									
Subtask 4.2																									WS1				Memo											
Subtask 4.3																																	WS2							Deliv

ROUTES SUBTASK 4.1 - MEMORANDUM N°1

- Addresses the following topics
  - Status and nature of WAC in different countries
  - Approaches to develop and update WAC and WAC-related responsibilities of different parties
  - Use of generic WAC
  - Detailed requirements set out in WAC
  - Approaches to determine compliance with WAC
  - Approaches to respond when a non-compliance with one or more WAC is detected
- Twenty-one European countries covered in detail; five more at a high level
- Sources of input
  - ROUTES Questionnaire
  - ROUTES Workshop in Athens (Greece) March 2020
  - Publicly available information
    (IAEA/EU National Reports & Programmes, NEA National Summaries, THERAMIN and CHANCE reports, IAEA TECDOCs)
    - Convey little information on actual WAC contents
    - Are primarily concerned with WAC for disposal
    - Used for short summaries on European countries not participating in ROUTES (Croatia, Finland, Italy, Norway, Switzerland)

ROUTES SUBTASK 4.1 - MEMORANDUM N°1

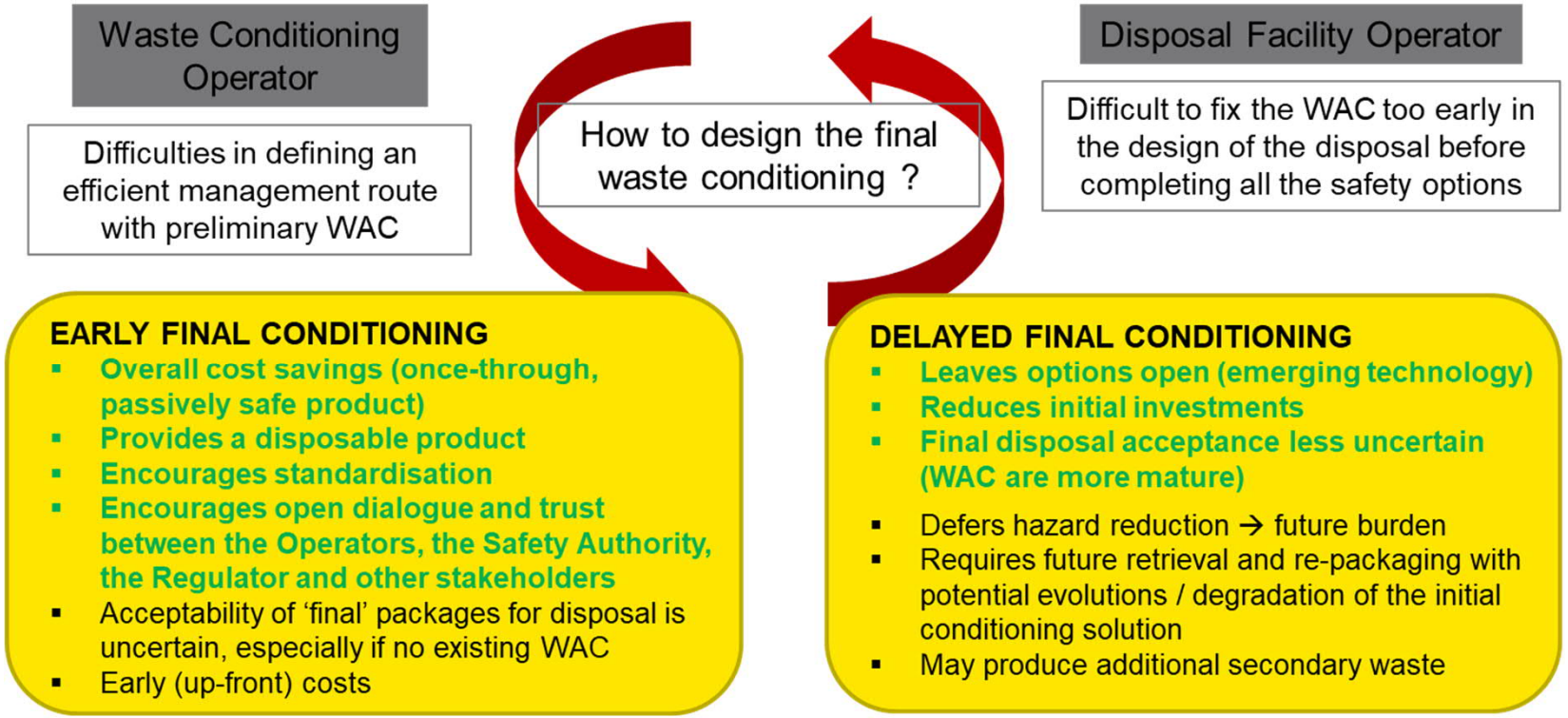
- Contains detailed and up-to-date information on WAC that was not previously publicly available
- Some notable observations:
  - Different interpretations of the term ‘WAC’ in different countries
  - Application of WAC to different lifecycle stages varies considerably
  - Development and scope of WAC is often, but not always, linked to safety assessment
  - Limited use of generic WAC and variable interpretation of what ‘generic’ WAC constitute
  - Roles of different parties in applying WAC and determining compliance vary widely
  - Range of technical approaches to determine compliance
- Published February 2021 – available to download here:

https://www.ejp-eurad.eu/publications/eurad-milestone-88-current-use-waste-acceptance-criteria-european-union-members-states

APPROACH TO SUBTASK 4.2
"SHARING EXPERIENCE ON WASTE MANAGEMENT WITH/WITHOUT WAC AVAILABLE"

- Sharing experience through discussion of:
  - Case studies of waste management experiences
  - Cross-cutting topics relating to WAC
- Case studies:
  - Identified through national responses to ROUTES questionnaire
  - Selection of five case studies that provide opportunities to:
    - Share experiences of waste management in the absence of WAC / downstream facilities / disposal routes
    - Learn lessons from cases of waste conditioning without a final disposal solution being available
    - Contribute different perspectives (including both LIMS and SIMS, and different disposal end points)
    - Facilitate a gap analysis through comparison of cases
- Cross-cutting topics:
  - Various topics of interest identified by ROUTES partners during development of 1st Memorandum
  - Scope refined through planning discussions with Subtask 4.2 partners
- Workshop 14-16th June 2021 (to be held online)
- Outcomes to be summarised in Memorandum nº2

CASE STUDIES CENTRAL THEME = THE DILEMMA OF (FINAL) CONDITIONING



When to implement (final) conditioning in the absence of an established disposal route ?

PLANNED SCOPE OF CROSS-CUTTING TOPICS

1) Generic WAC and the UK Disposability Assessment Process
   - Interest expressed in the potential for wider application of generic WAC
   - Interpretations of what 'generic WAC' constitute vary considerably – discussion to explore what aspects would be of most value
2) Managing the potential for non-compliances to arise as WAC are iterated
   - What happens if more restrictive limits on waste acceptance are imposed based on e.g. development of the safety assessment for a planned disposal facility?
3) Involvement of civil society and other stakeholders in the development and application of WAC
   - Link between safety assessment and derivation of WAC
   - Other factors influencing the scope of defined WAC
   - The role of checking compliance with WAC in providing reassurance to civil society

Thank You for your attention!

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Or see: https://cordis.europa.eu/project/id/847593 *and* https://www.ejp-eurad.eu/