



**Actual setting-up of a Joint Programme in
Radioactive Waste Management and Disposal
in Europe**
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JOPRAD Programme Workshop, 4th April 2017

Towards the actual setting-up of the JP

- ▶ JOPRAD has demonstrated the **feasibility** and the **added-value** of a Joint Programme in RWMD at European level, has engaged the community and is developing a **Strategic Research Agenda (Programme Doc.)**



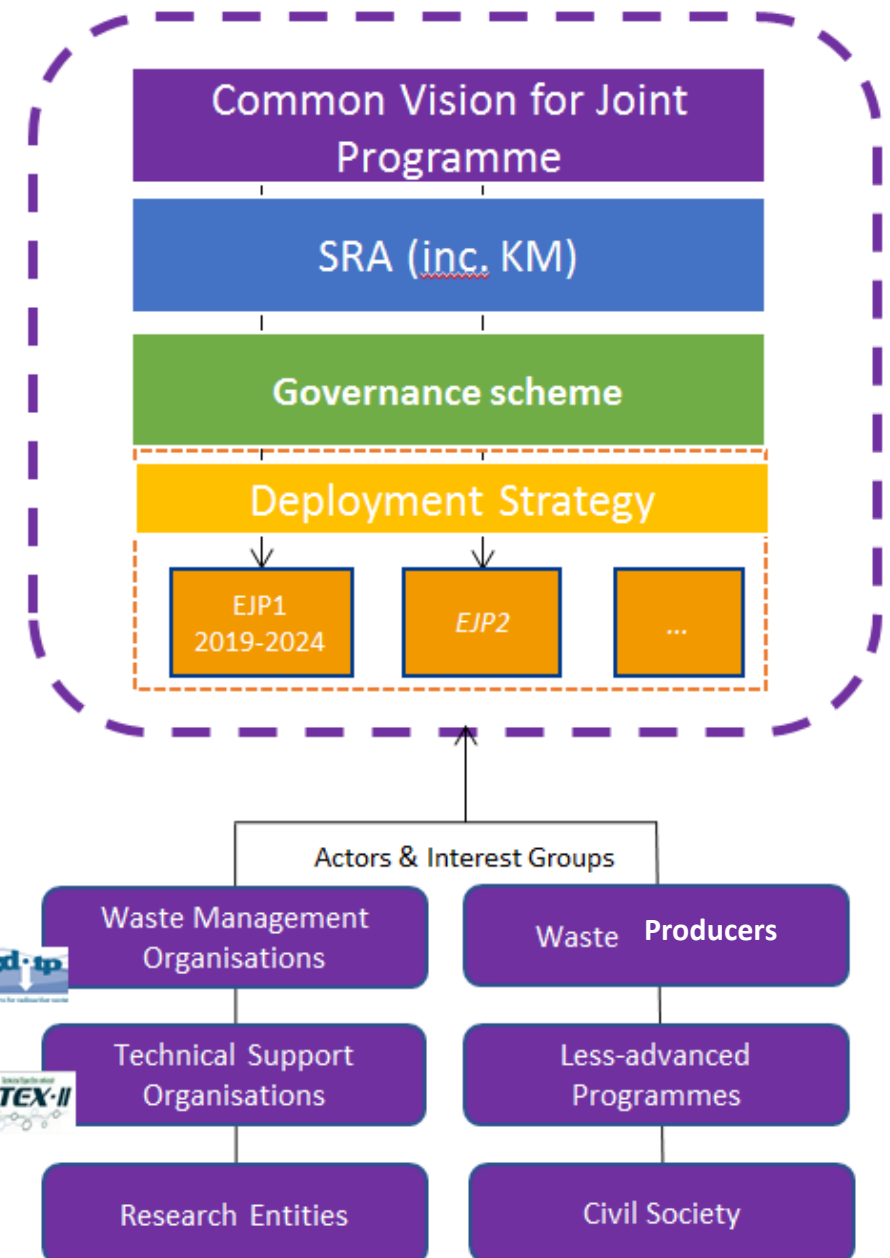
- ▶ EC informed about the possibility to launch the call for a EJP in October 2017, with a deadline of submission in March 2018 (EURATOM WP2018)

- ▶ A **core group** of WMOs, TSOs, REs & Civil Society representatives has been established and is currently working on this actual setting-up :
 - ▶ Liaise with the whole RWM community to ensure inclusiveness;
 - Through IGD-TP, SITEX, RE group and CSO group
 - ▶ Based on and in interaction with JOPRAD;
 - ▶ It will work on the reference documents (Vision, SRA, Governance, Deployment Strategy);
 - ▶ Propose a list of activities to be included within a first phase;
 - ▶ Coordinate the writing of the proposal.
- ▶ Objective: **Be ready** to submit a proposal for a EJP by March 2018

Research Joint Programme in Radioactive Waste Management and Disposal in Europe

Joint Programme = Sustainable European network that brings together all RD&D Actors around:

- ▶ a **Vision**
- ▶ a **Strategic Research Agenda** (RD&D needs for the next 10-15 years where synergy from joint programming has been identified) that includes a strategy for **Knowledge Management** as well as an approach to engage **Civil society**
- ▶ a **governance scheme**
- ▶ a strategy to **deploy activities** over time

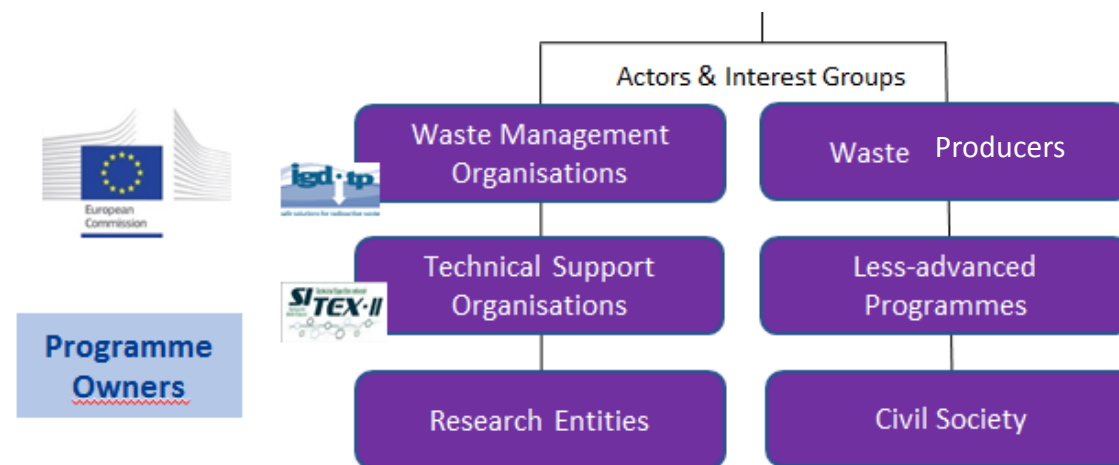


Joint Programme Actors

A JP in the field of RWMD will bring together:

- ▶ Waste Management organisations (WMOs);
- ▶ Technical support organisations (TSOs);
- ▶ Research Entities (REs);
- ▶ Waste Producers;
- ▶ Civil Society

with different ways of involvement depending on the status of the different actors.

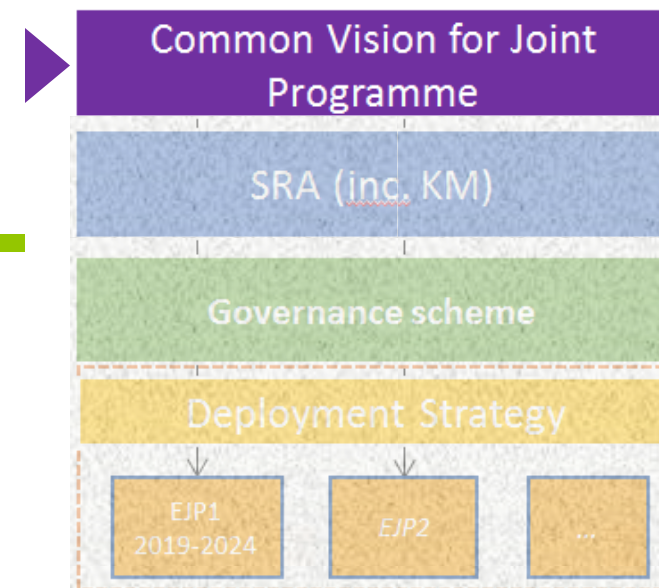


Joint Programme Vision

JOPRAD Vision: A step change in European collaboration towards safe radioactive waste disposal through a credible and sustained science and technology programme fostering mutual understanding and trust.

In implementing an EJP much of the JOPRAD vision will be achieved, therefore the vision for the EJP would be:

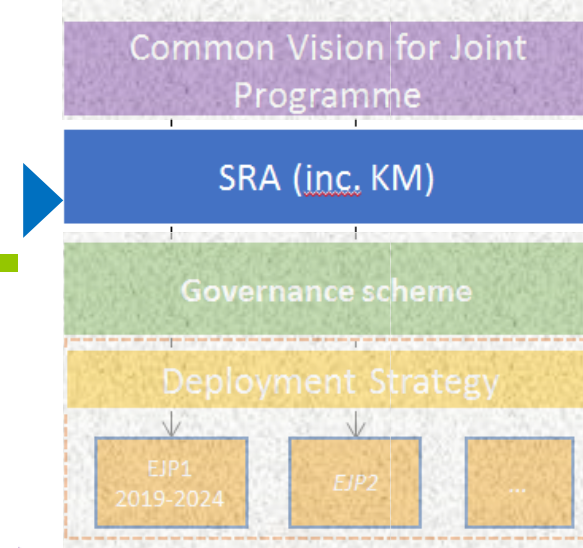
Implement a strategic joint programme of research and knowledge management activities at European level bringing together and complementing EU Member State programmes in order to ensure cutting-edge knowledge creation and preservation in view of delivering safe, sustainable and publicly acceptable solutions for the management and disposal of radioactive waste across Europe.



Commitments

- ▶ Support the Vision of IGD-TP that by 2025 the first geological disposal facilities for spent fuel, high-level waste and other long-lived radioactive waste will be operating safely;
- ▶ Enable Member States to have by 2035 the necessary knowledge to implement safe long-term management of their radioactive waste
 - ▶ In line with requirements under the Waste Directive (2011/70/Euratom)
- ▶ Establish state of the art science and guidance, in particular towards Member States with less developed waste management and disposal programme.

Strategic Research Agenda



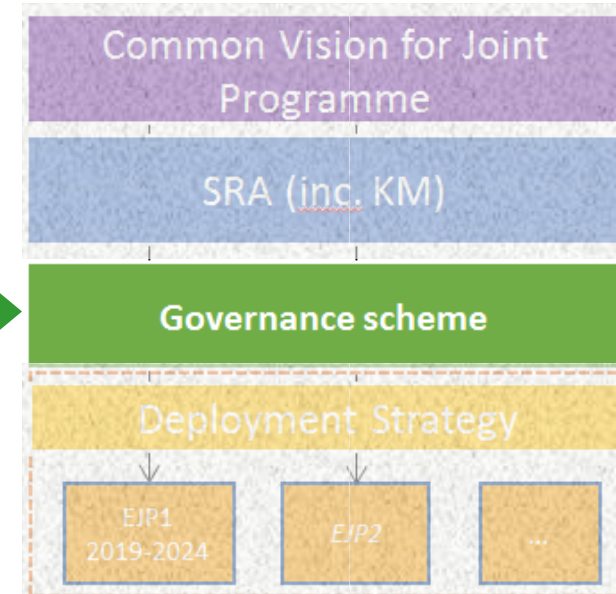
RD&D Scope: covers predominantly scientific and technical studies on:

- ▶ Characterization and processing (treatment, conditioning, packaging)
- ▶ Interim storage and transport of radioactive waste
- ▶ Disposal solutions - Mainly geological disposal of spent fuel, HLW and ILW
 - ▶ *Surface disposal / low-level waste are not excluded, it is assumed that it does not require specific RD&D but RD&D studies may address both surface and deep geological disposal. It can also be addressed within a Knowledge Management activity.*

Cross-cutting activities scope :

- ▶ Deployment of the **Integrated Knowledge Management System**
- ▶ **Sharing of experience/networking**
- ▶ **engagement of Civil Society.**

Governing principles



<i>Inclusiveness</i>	ensure that the different categories of Actors and Groups of Interest are involved in the definition and implementation of the Joint Programme;
<i>Transparency</i>	ensure that decisions are taken in a transparent way, especially regarding how, why and by whom projects and activities are evaluated, selected and implemented;
<i>Excellence</i>	Ensure that highest scientific standards are applied in all research works
<i>Balance and equity</i>	strive for the highest level of balance and equity by covering interests in RD&D/cross-cutting activities of the different categories of Actors/Groups and by fair distribution of budget;
<i>Preservation of independence</i>	avoid conflicts of interests and preserve the independence between the “Expertise function” and the “Implementing function”;
<i>Flexibility</i>	ensure that new Actors can get involved and new activities can be launched in the course of an implementation phase.

Who can participate in a JP?

- ▶ EJP Beneficiaries are legal entities from EU Member-States or associated countries able to direct national funding and/or manage a national research programme:
 - ▶ **Programme owners** (national /regional authorities) responsible for defining, financing or managing national/regional programmes ;
 - ▶ **Programme managers** (research councils, funding agencies or other entities - not necessarily public) implementing national/regional research programmes under the supervision of the programme owners.

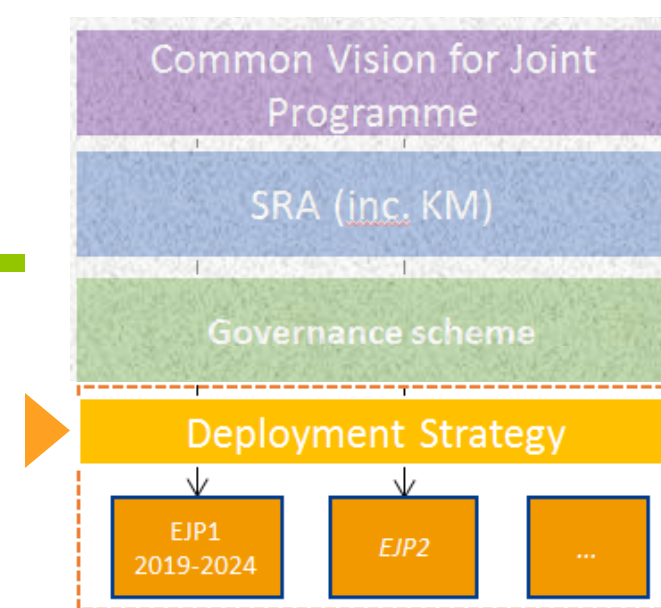
Programme Managers are mandated by the Programme Owner. A Programme Owner can at the same time be the Programme Manager.

- ▶ In our case, the organisations **mandated** as *Programme managers/owners* will participate as **Beneficiary**:
 - ▶ Mandated Waste Management organisations (WMOs);
 - ▶ Mandated Technical Support Organisations (TSOs); and
 - ▶ Mandated Research Entities (REs).
- ▶ Organisations that would not be mandated will be able to contribute as **Linked Third Parties** if they have a legal link with a Beneficiary
 - ▶ WMOs, TSOs, Research Entities that will not be mandated
 - ▶ Waste Producers
 - ▶ Civil Society Organisations

2 status for those who carry out activities

	Beneficiary	Linked Third Party
Organisations	<p>Organisations <u>mandated</u> as 'Programme managers' and/or 'Programme owners':</p> <ul style="list-style-type: none"> • WMOs • TSOs • Research Entities • Other Entities (if needed) 	<p>Organisations that would not be mandated but that will contribute to the EJP activities :</p> <ul style="list-style-type: none"> • WMOs, TSOs, Research Entities that will not be mandated • Waste Producers • Civil Society Organisations
Conditions	Mandate given by Programme Owner	be linked to a Beneficiary, i.e. have an already existing contractual or other legal link with a Beneficiary
Contribution to EJP activities	Both Beneficiaries and Linked Third Parties carry out work for the EJP independently and claim their own (actual) costs for the work they perform (no profit is allowed)	
EC funding rate	Same EC funding rate for both	
Receiving the EC Funding	receiving directly EC co-funding, and distribute it to their Linked Third Parties	receiving their EC co-funding through the Beneficiary to which it is linked

Implementation of the JP



- ▶ The activities of the JP will consist of deploying the **Strategic Research Agenda** through **5-year implementation phases** that will be co-funded by EC through the ***EJP Co-fund*** tool (Grant).
- ▶ The **first implementation phase (RWMD EJPI) if accepted** would be launched in January 2019 for 5 years (2019-2023) in response to EURATOM Work Programme 2018 after the signature of the *Grant Agreement* with EC.
- ▶ List of projects to be launched within RWMD EJPI will be described in the **Deployment Strategy**

EJP1 EC available budget & Co-funding rate

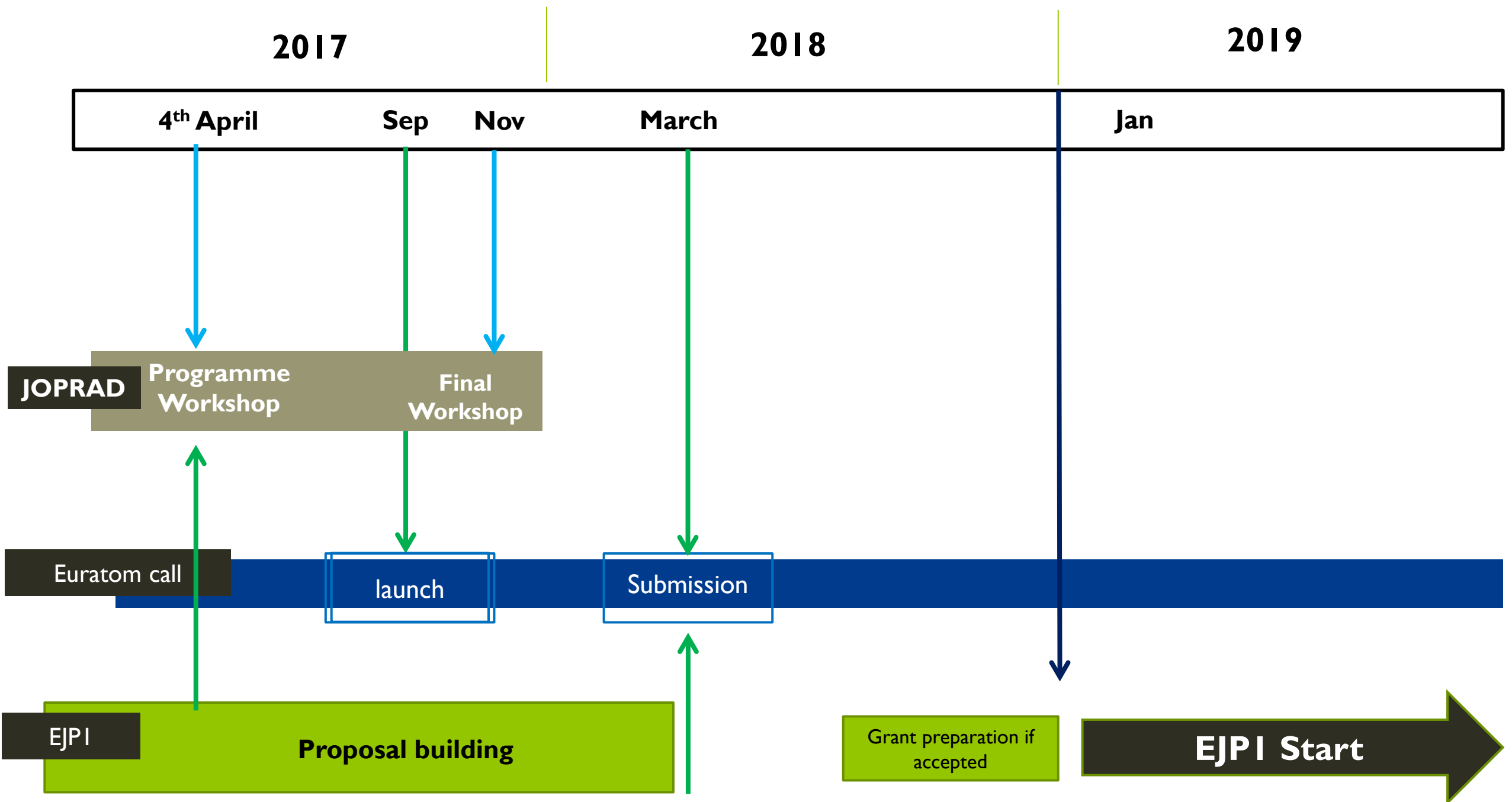
Budget input at EC level

- ▶ Available EC budget between 25-45M€
- ▶ EC funding rate between 50 and 70% of total costs
 - ▶ Will appear in the EC call
 - ▶ Aspirationally, by bringing together nationally funded Actors, the leverage will be even higher.

Budget input at EJP level

- ▶ Possibility to have specific funding rates per activities
 - ▶ This will be analysed when EC budget and funding rate will be known

Timeline



EJP - activities

Objectives	Means/Activities
Generate scientific and technical knowledge	Collaborative RD&D
Share Knowledge	Experience sharing/ Networking
<ul style="list-style-type: none">▪ Identify Knowledge needs▪ Preserve/capitalize Knowledge▪ Transfer Knowledge▪ Collate and disseminate Knowledge	Knowledge Management
Bring science Knowledge closer to society	Citizen science / Knowledge sharing with CS

EJP - activities

Objectives	Means/Activities
<p>Generate scientific and technical knowledge</p> <ul style="list-style-type: none">▪ Develop/ maintain/ increase knowledge throughout the incremental development, operation and closure of disposal facilities, that will be spread over many decades;▪ Ensure optimization of management routes and disposal solutions;▪ Ensure credibility and scientific excellence▪ Gain or maintain public confidence	<p>Collaborative RD&D</p> <p>Experience sharing/ Networking</p> <p>Knowledge Management</p> <p>Citizen science / Knowledge sharing with CS</p>

EJP - activities

Objectives	Means/Activities
Share Knowledge Ensure that know-how sharing is possible for topics for which sharing of information and experiences has been identified as valuable/beneficial. Of particular importance to LAPs.	<p>Collaborative RD&D</p> <p>Experience sharing/ Networking</p> <p>Knowledge Management</p> <p>Citizen science / Knowledge sharing with CS</p>

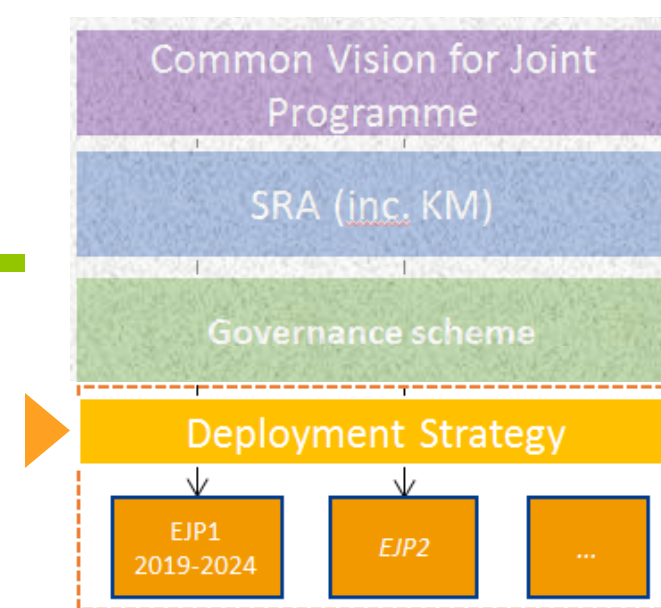
EJP - activities

Objectives	Means/Activities
<p>Identify Knowledge needs When needed, carry out strategic studies in support of national programmes, e.g. identify where a common understanding on a topic needs to be reached and if necessary, elaborate upon how to proceed (RD&D activities, knowledge management activities, position paper, update of the SRA etc.)</p>	<p>Collaborative RD&D</p>
<p>Preserve/capitalize Knowledge Ensure that knowledge is documented, maintained & kept accessible to enable present and future RWM programmes and generations to benefit from the knowledge generated through past, on-going and future collaborative activities.</p>	<p>Experience sharing/ Networking</p>
<p>Transfer Knowledge Ensure transfer of knowledge to future generations of experts. Furthermore, facilitate transfer of knowledge from countries with more advanced programmes to countries with less-advanced programme where implementation is not foreseen for several decades to come.</p>	<p>Knowledge Management</p>
<p>Collate and disseminate Knowledge Establish and implement a dissemination strategy with specific actions adapted to each target group that will show the added-value and maximise the impact of the EJP, notably in achieving scientific excellence, contributing to competitiveness, solving societal challenges and achieving a high-level of engagement.</p>	<p>Citizen science / Knowledge sharing with CS</p>

EJP - activities

Objectives	Means/Activities
	<p>Collaborative RD&D</p> <p>Experience sharing/ Networking</p> <p>Knowledge Management</p>
<p>Bring science Knowledge closer to society</p> <p>Actively engage with civil society on the research conducted in RWMD</p>	<p>Citizen science / Knowledge sharing with CS</p>

Implementation mechanism



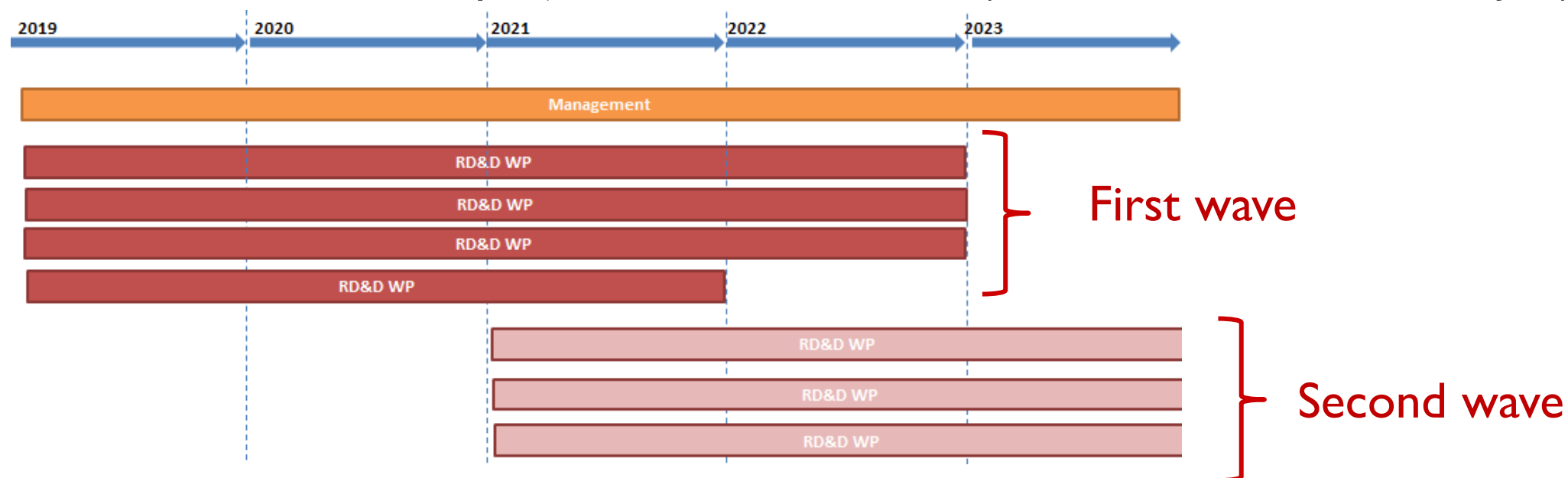
To be **eligible** for inclusion in an EJP Implementation Phase, the activities must:

- ▶ Contribute to the **Vision's** commitments;
- ▶ Be guided by the **Strategic Research Agenda:**
 - ▶ Activities should address one or several scientific and technical sub-domain(s) and/or should contribute to the Knowledge Management Strategy
- ▶ Involve at least **5 countries:**
 - ▶ From EU Member-States or associated countries
- ▶ Involve at least **2 categories of actors :**
 - ▶ Activity that only addresses interests from a single category of actors is not eligible.

Implementation mechanism – RD&D

RD&D activities will be launched on a « 2-waves » basis:

- ▶ In 2019 (at the launch of the RWMD EJPI)
 - ▶ The building of these projects will start soon and will be included in the EJP proposal that will be submitted in March 2018
 - ▶ Duration of these projects 36 – 48 months
- ▶ In 2021
 - ▶ These projects will be built during the second year of the EJP and could start in 2021. Process is under discussion, but is enabled by the submission of an annual work plan.
 - ▶ Duration of these projects: max 36 months (until the end of RWMD EJPI)



Implementation mechanism – KM

- ▶ A set of KM activities will be defined and launched at the start of RWMD EJPI.
- ▶ New activities could be launched on a yearly basis, through the annual work plan
 - ▶ **State-of-Knowledge Handbook**
 - ▶ Maintain and update the state-of-knowledge generated through past, on-going and future collaborative activities.
 - ▶ **Guidance**
 - ▶ Develop guidance to transfer knowledge from countries with advanced programmes to countries having a less advanced programme
 - ▶ **Education & Training**
 - ▶ Map / make links with existing E&T modules / initiatives
 - ▶ Suggest training modules
 - ▶ **Strategic Studies**
 - ▶ Identify and assess needs (R&D, networking, KM), common positions
 - ▶ **Dissemination activities**
 - ▶ **iKMS web platform**
 - ▶ Make knowledge accessible for the whole RWM community and the general public

Definition of activities to be included in RWMD EJPI

- ▶ The **Core Group** has the mission to coordinate the definition of RWMD EJPI set of activities:
 - ▶ WMOs, TSOs and REs have been consulted via their network (IGD-TP, SITEX, RE group) on potential **RD&D activities** to be launched at start of EJPI
 - ▶ This draft list of topics/projects will be presented in the dedicated parallel session
 - ▶ A set of **KM** activities to be identified shortly for implementation during the first year of RWMD EJPI.
 - ▶ CS representatives are participating in the Core Group with the aim of integrating complimentary CS activities within projects where appropriate.

The Core Group has been formed to enable RWMD EJPI. It is not deciding on the content of the programme (it is facilitating).

Breakout sessions

Session 1 Governance/finance	Session 2 Knowledge Management Activities	Session 3 Research activities
Chair: Marie Garcia (Andra) and Gilles Hériard Dubreuil (MUTADIS)	Chair: Gunnar Buckau (JRC) and Frank Lemy (Bel V)	Chair: Bernd Grambow (CNRS) and Christophe Serres (IRSN)
Room: Marylebone	Room: Serpentine	Room: Bond Street

Oxford Street : further meeting room

Breakout sessions

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Q&A session on finance and governance arrangements

Breakout sessions

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Room: Marylebone	Room: Serpentine	Room: Bond Street

Objective: Discussing, commenting on and providing feed back:

- **List of IKMS topics provided in the Programme Document**
- **Activities in support to LAPs and non nuclear countries**
- **Additional activities important for providing « the glue of the Programme » (go beyond a collection of R&D projects)**
- **Priorities for the first year of RWMD EJP I**

Breakout sessions

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Room: Marylebone	Room: Serpentine	Room: Bond Street

In this session, the list of potential R&D projects will be discussed. These projects address the following topics:

- ▶ **RADIONUCLIDE AND CHEMICAL SPECIES MIGRATION**
- ▶ **SPENT FUEL**
- ▶ **WASTE/NEAR-FIELD**
- ▶ **CLAY-BASED MATERIAL**
- ▶ **GAS MIGRATION**
- ▶ **PERFORMANCE ASSESSMENT**



Thank you for your attention