



# FUTURE CIRCULAR COLLIDER

Innovation Study



## FCCNoW 2020 - MATEX Workshop

Management of excavated materials: Legal requirements,  
constraints and opportunities

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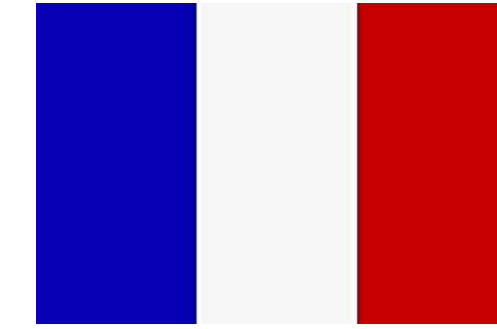
*The Future Circular Collider Innovation Study (FCCIS) project has received funding from the European Union's Horizon 2020 research and innovation programme under grant No 951754. The information herein only reflects the views of its authors and the European Commission is not responsible for any use that may be made of the information.*

# Regulation framework

- Excavated material definition
- Main legal and regulatory texts
- Comparison and main issues



# Excavated material definition



## In practical terms:

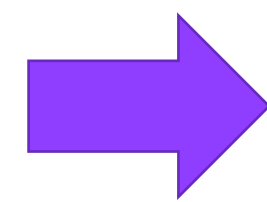
*“Natural or anthropic geological materials excavated during earthworks or underground works”*

Working group: «*Valorisation hors site des terres excavées, en technique routière pour des projets d'infrastructures linéaires*» led by UMTM (Union des Métiers de la Terre et de la Mer - Union of earth and sea trades)

## From a regulatory point of view:

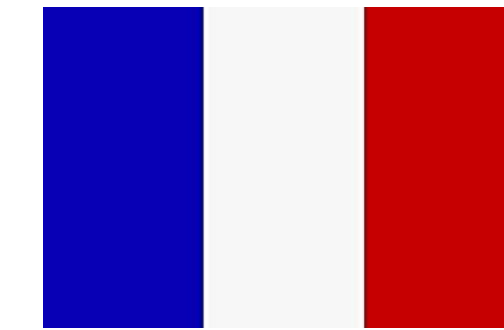
*Whether natural or not, excavated materials which leave the site from which they are extracted, are considered as waste*

- **Directive 2008/98/CE** of the European Parliament and of the Council of 19 November 2008 on waste
- **Ordinance n° 2010-1579** of 17 December 2010
- Article L. 541-4-1 of the **Environment Code**



The waste status of excavated materials is not driven by their quality and does not hinder their potential valorization

# Main legal and regulatory texts

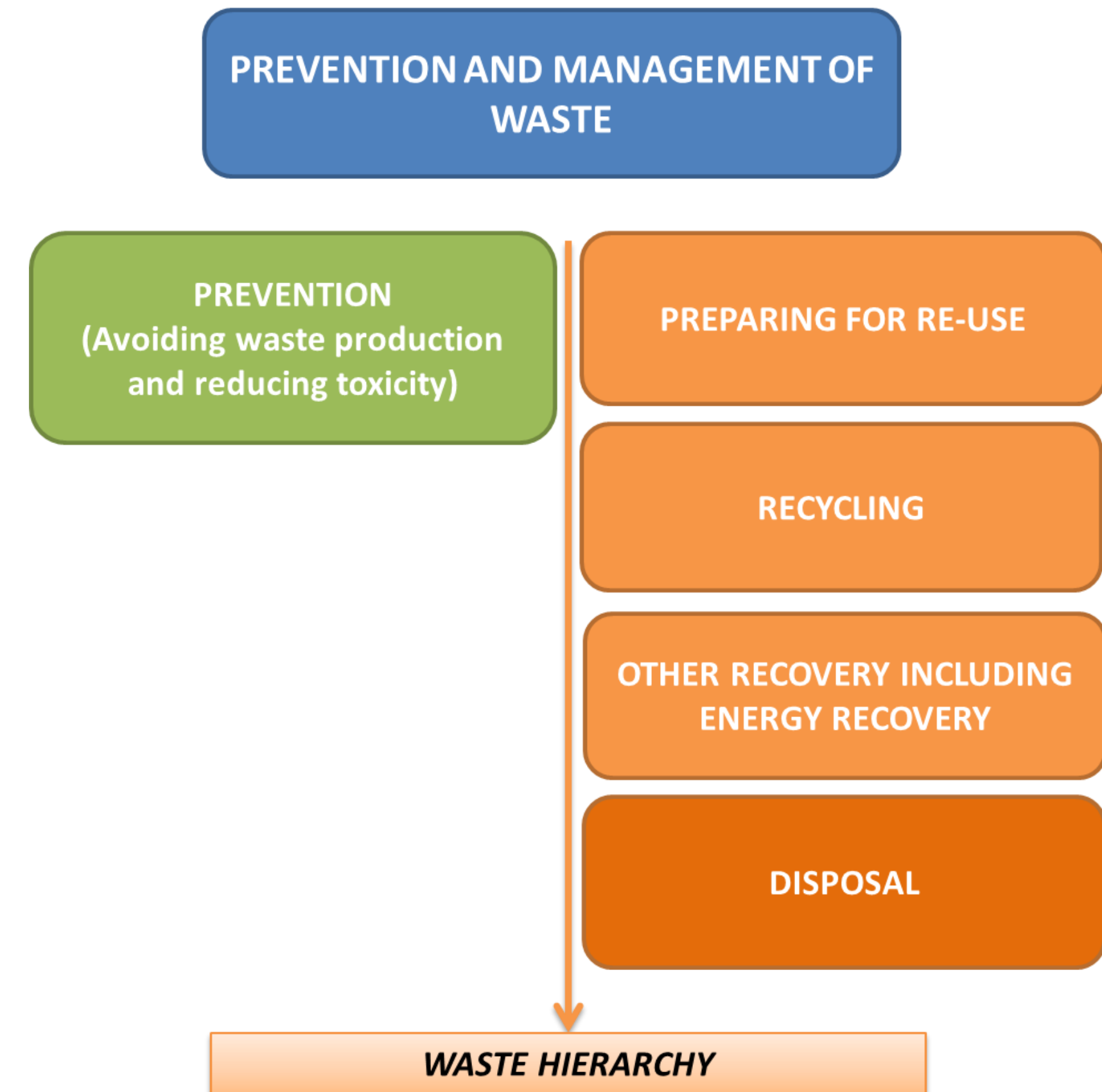


## *Transition to a circular economy*

Art. L541-1 of the Environment Code is modified by Art. 70-V of **the Law 2015-992 of the 17th August 2015 on “The energy transition for green growth”**

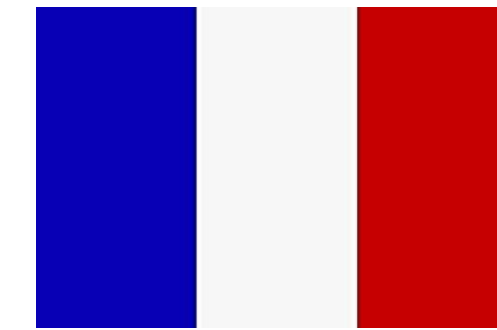
- 2020 target: Material recovery of 70% of waste from the construction sector

+ **the Law n°2020-105 of the 10<sup>th</sup> February 2020, referred to as “the anti-waste law for a circular economy”**





# Main legal and regulatory texts



## Defining ...

### Waste (Directive 2008/98/CE ):

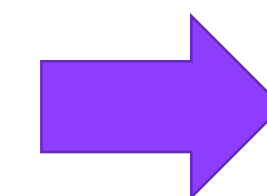
*“Any substance or object which the holder discards or intends or is required to discard”*

**Responsibility for waste management :** in accordance with article L.541-2 of the *Environment Code* :

*“Any waste producer is responsible for the management of this waste until its final disposal or recovery”*

### “Site” definition :

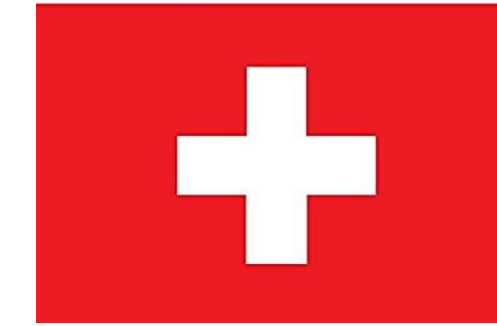
- Art. 2 of the Directive 2008/98/CE
- Art. L.541-7 -II of the Environment Code
- Note from 25 April 2017 (General directorate for risk prevention - DGPR)



The “site” definition has to be consistent with the scope of environmental evaluation



# Excavated material definition



## In Switzerland

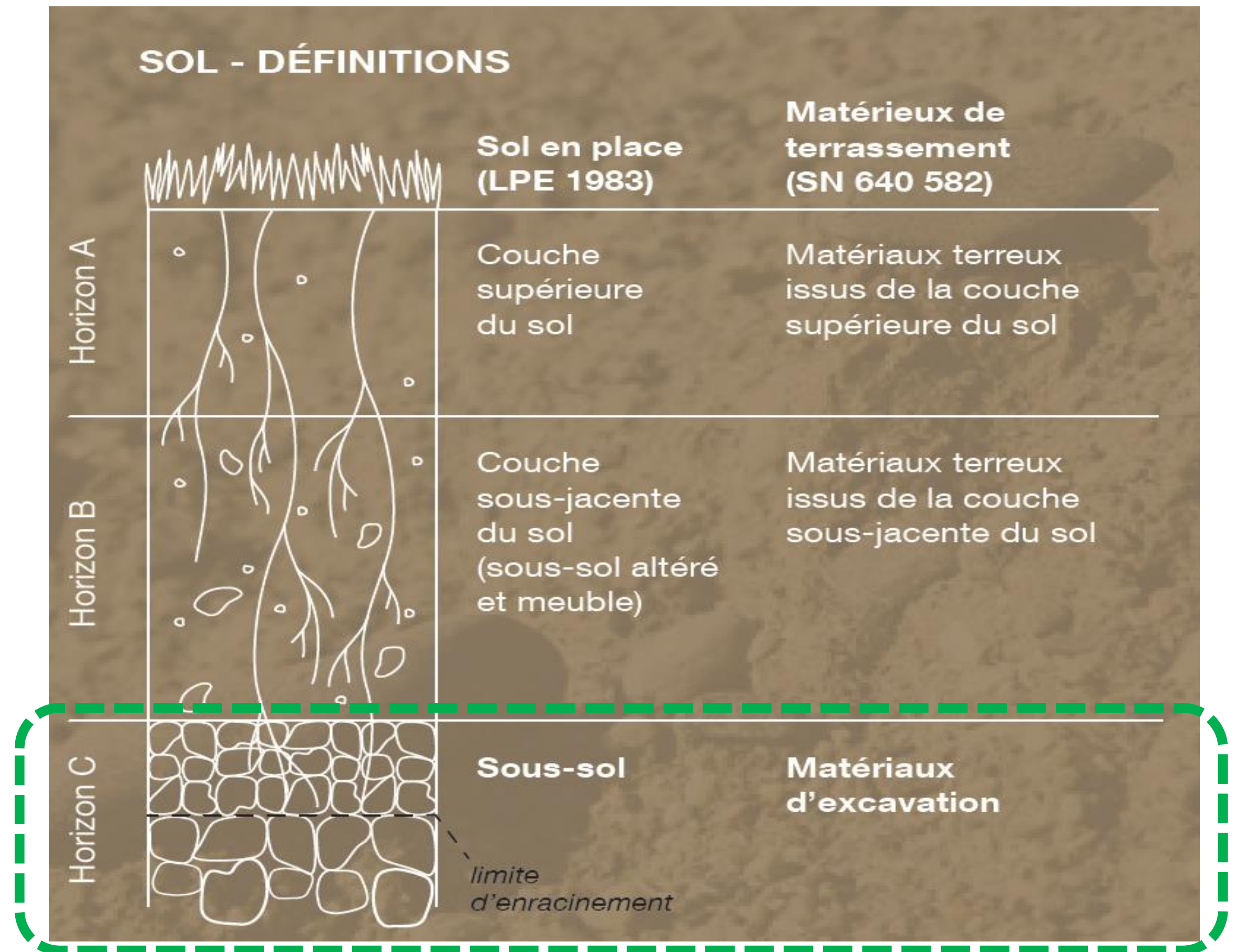
**“Materials excavated during civil engineering or construction work such as excavations, tunnels, caves and galleries”**

*Federal directive source for the recovery, treatment and storage of soil and soil (FOEN, 1999) - Horizon C*

*Not Topsoil: horizon A*

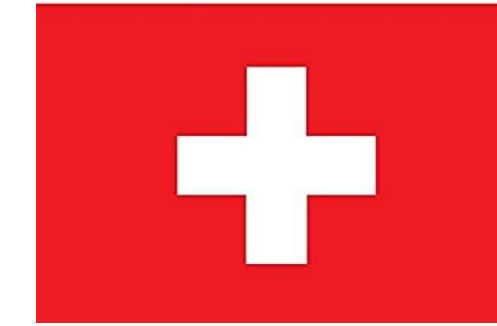
*Not underlying layer: horizon B*

} Soil



Source: OFEV / eia-fr – Lucien Bourban

# Main legal and regulatory texts



## In Switzerland

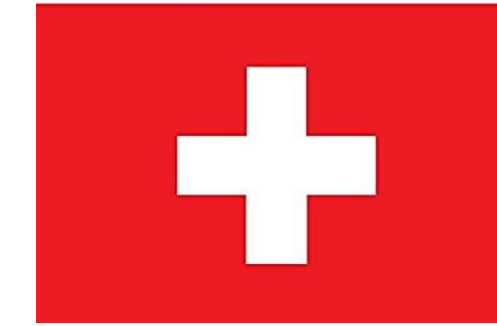
The main text is the « **Law on environmental protection** » (LPE):

### **Art. 30**

1. Waste generation should be limited as much as possible
2. Waste must be recovered as much as possible
3. Waste must be dumped in an environmentally friendly way and, as far as possible and appropriate, on national territory



# Main legal and regulatory texts

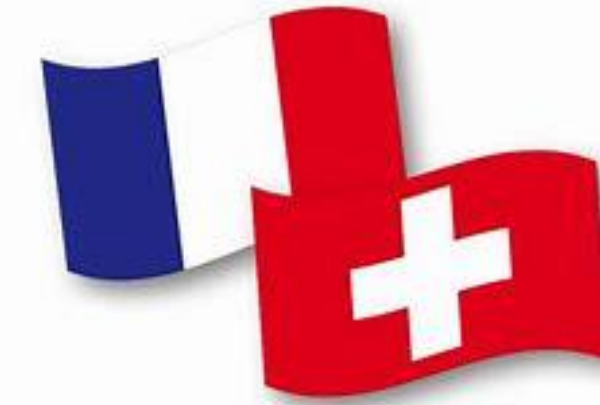


## In Switzerland

“**Waste Ordinance**” (OLED) forces at the stage of the request for the building permit, to announce, to collect and to recover

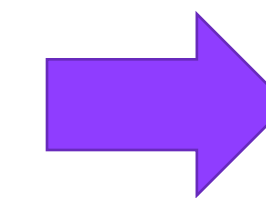
1. Announce: Art.16: Information required concerning the type and the amount of different categories of waste...
2. Collect: Art. 17: Construction waste must be collected separately and sorted...
3. Recover: Art. 19: Non polluted excavation and drilling materials should as much as possible be fully recovered

# Comparison and main issues



From the synthesis carried out by Greater Geneva (Study for the development of an inert materials management strategy on the scale of Greater Geneva, April 2016).

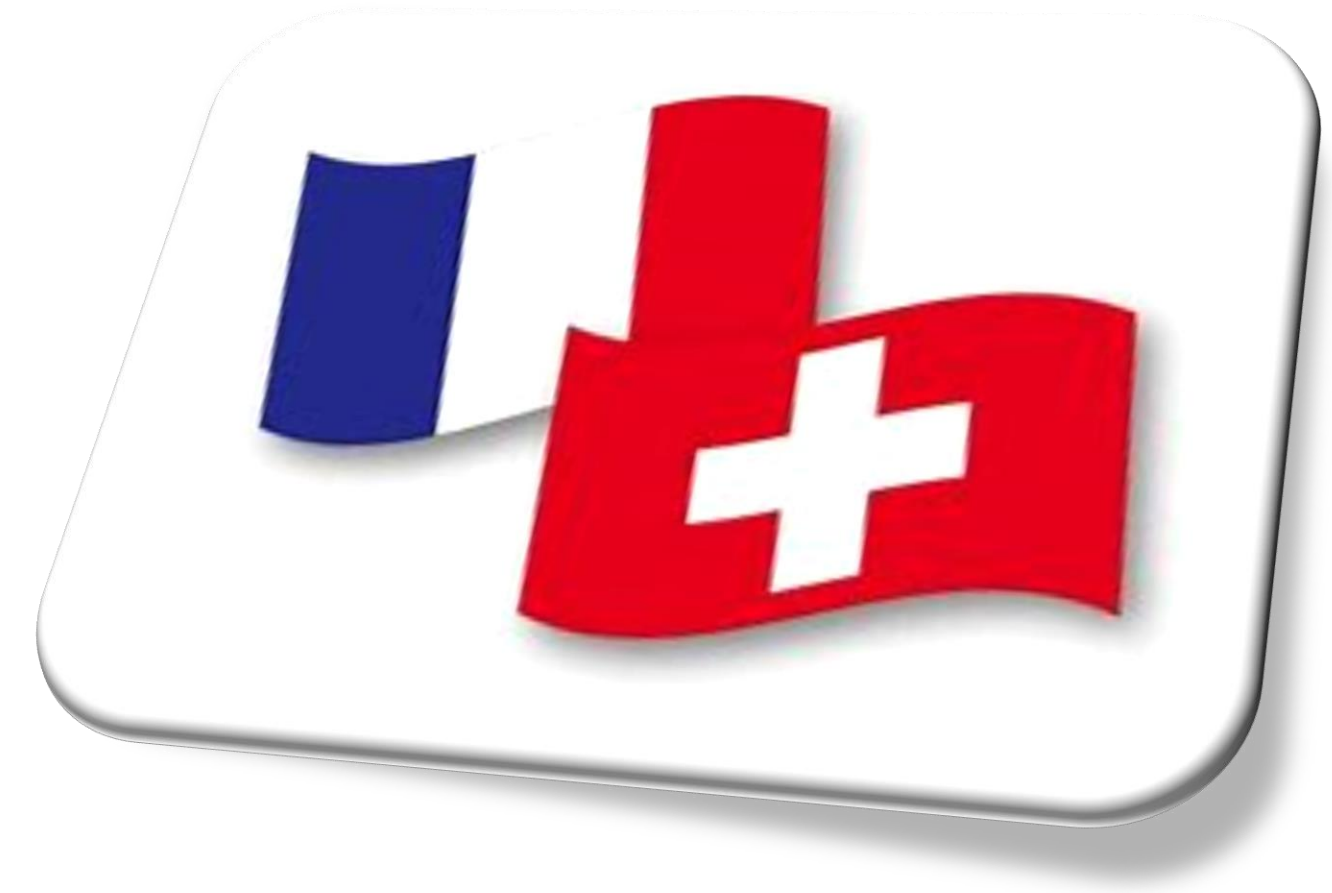
Aspects concerned by the regulation	France	Suisse
<b>Waste codification</b>	The Swiss definition of "unpolluted excavated material" in 17 05 06 corresponds to part of 17 05 04 "Land and stones other than those mentioned in 17 05 03. "without the soils.	
<b>Hierarchy in waste management</b>	Similar	
	Prevention; preparation; recycling; valorisation; disposal	Limitation; valorisation; final storage
<b>Planning and competences</b>	Waste planning in each country. Possibility to define input zones for all waste in the plans.	
	The Plans Locaux d'Urbanisme decide on the possible future of the land => risk of blocking the realisation of the projects because the PLU rarely provide for this type of installations, or even prevent them from being created.	Obligation for project owners to define and declare how their waste is to be managed.
<b>Overall objectives of prevention and recovery of building site waste</b>	General national objective of 70% recovery of inert construction site waste. More precise objectives defined in departmental plans. Specific national objectives for project owners, the State and local authorities.	No national but cantonal objectives.
<b>Exit from the waste status</b>	Possibility of turning materials in recycled waste through the procedure of removing it from the status of waste.	/
<b>Financial responsibility</b>	The financial responsibility for waste management and disposal lies with the waste producer.	Financial responsibility for waste management and disposal lies with the holder of the waste.
<b>Waste transfer</b>	French regulations imply an export from Switzerland to France only for valorisation.	



Requirements in both countries seem to be similar

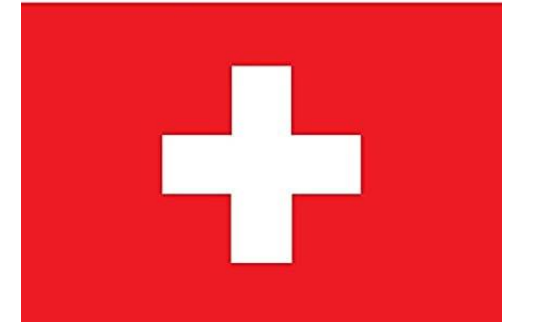
# Focus on ...

- Documents supporting decision making process
- Hierarchy of waste treatment modes
- Logistics issues





# Documents supporting decision making process



## ECOMAT<sup>GE</sup>

“EcoMat” approach for **non polluted materials** using

1. First guide has been published in 2009 with the objectives of:
  - Improving the consideration of excavated materials at the very first steps of the planning stages (PDQ, PLQ, Authorization, etc.)
  - Promoting the on-site reuse
2. Second document
 

This guide aims to promote the recovery of excavation materials by providing a complete overview of the possible uses, depending on the nature of materials

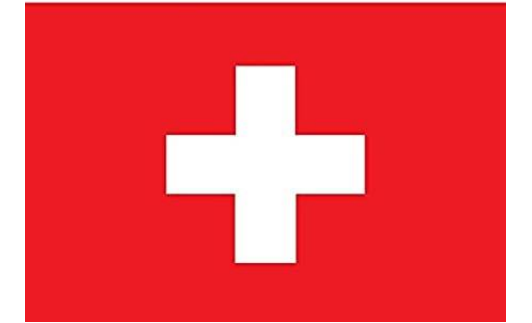


# Documents supporting decision making process

## For polluted materials

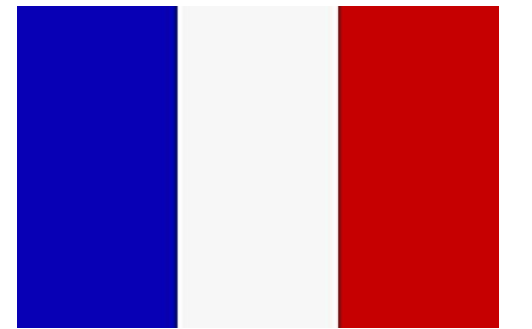
Very practical guide about pollution investigations and contaminated materials management, with:

- Recommendations on sampling
- Reference limit values for elimination of materials in the three kinds of disposal sites (A, B or E type landfills)
- ...



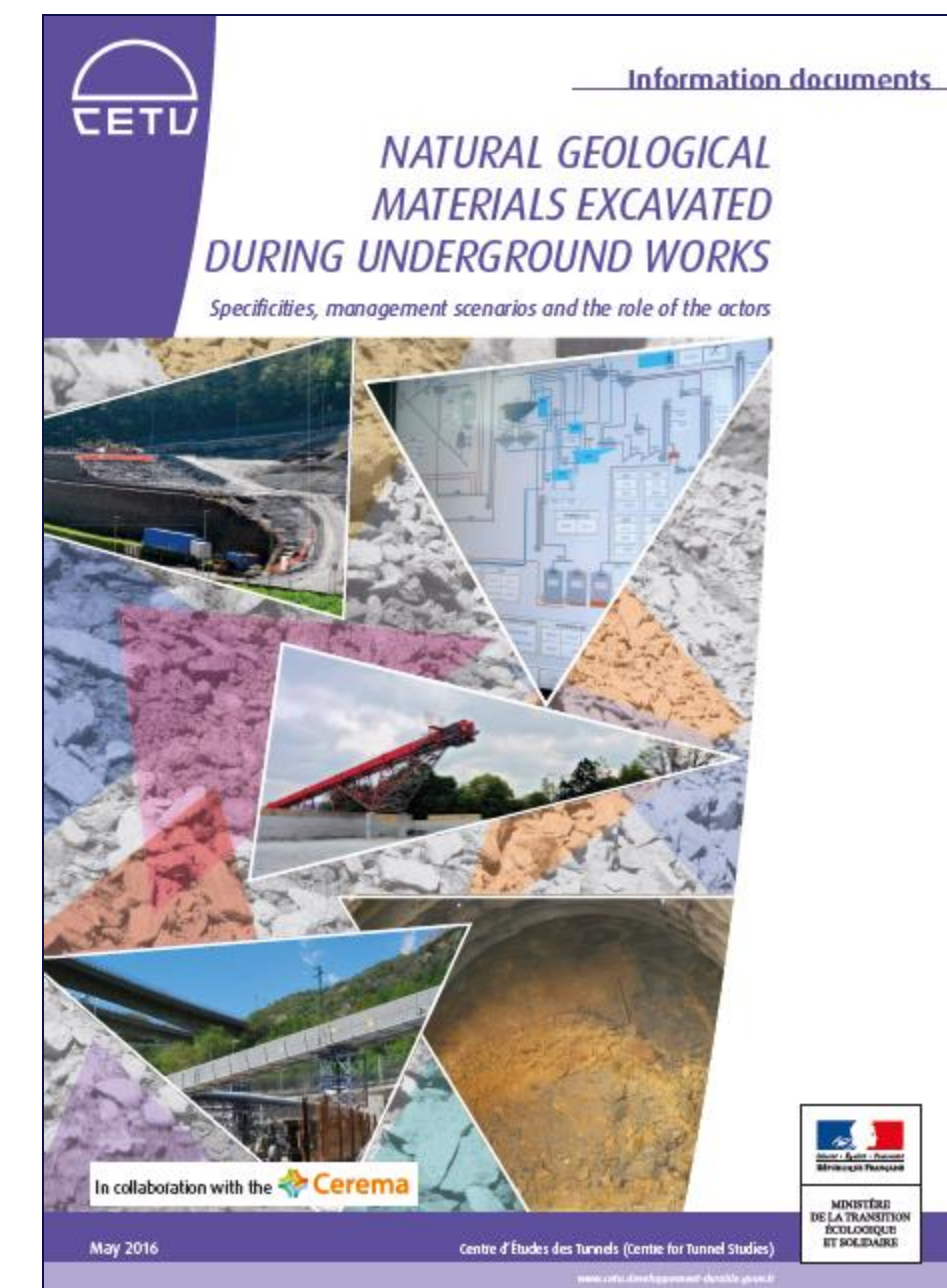
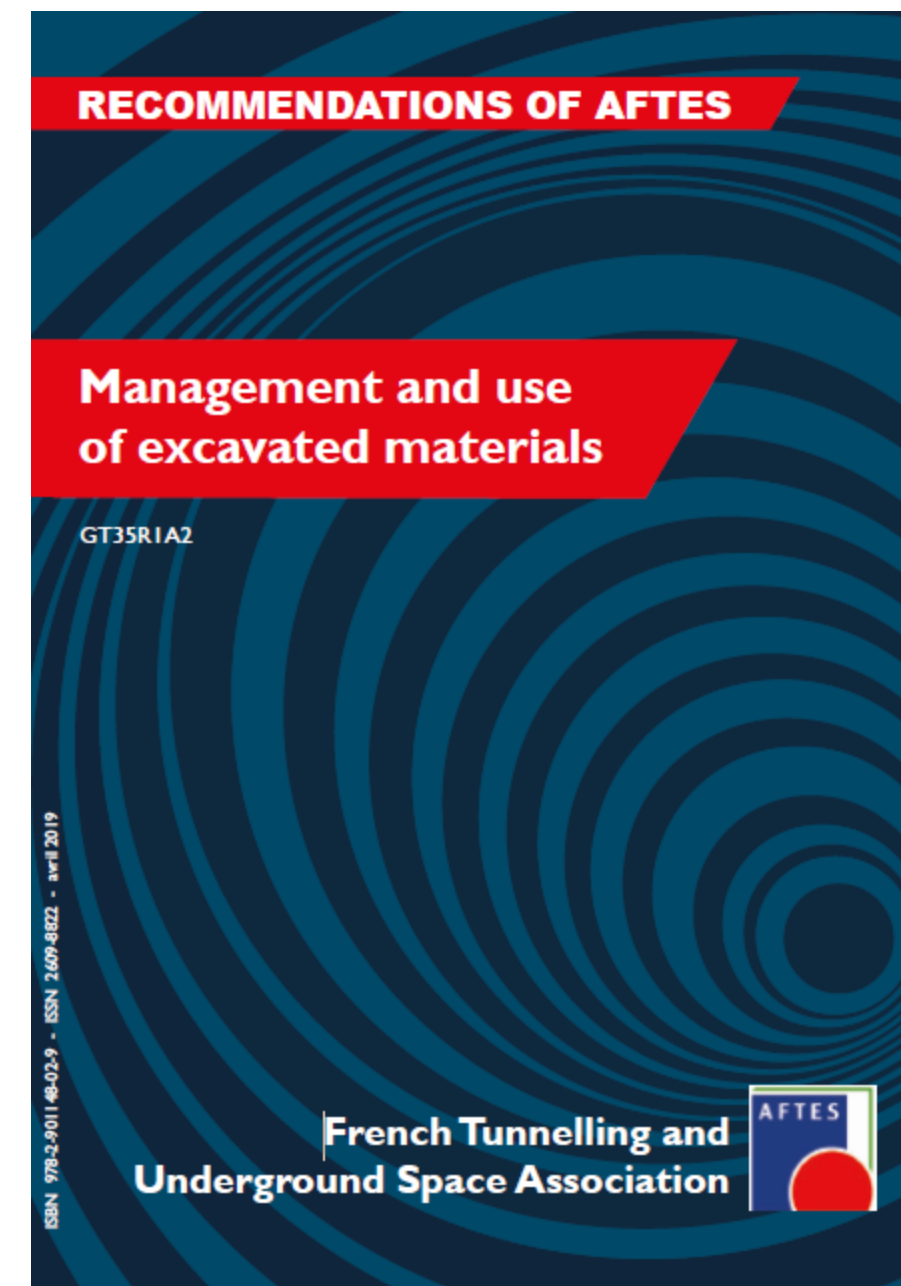


# Documents supporting decision making process



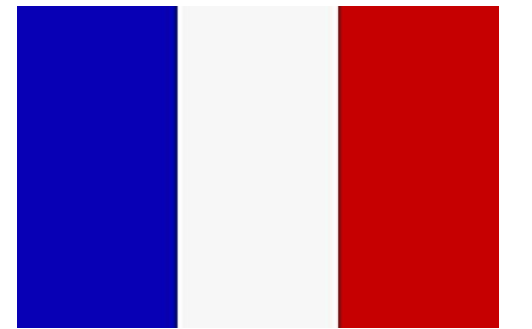
## Recently published:

- *The recommendations of GT35 “Management and use of excavated materials” – 2019*
- *Information Document CETU (with CEREMA) “Natural geological materials excavated during underground works” - 2016:*
  - Specificities of excavated materials
  - 3 main scenarios of management
  - Main usages
  - Roles of actors





# Documents supporting decision making process



## A broad panel of guides for various applications and recently updated

- “*Guide de valorisation hors site des terres excavées non issues de sites et sols pollués dans des projets d'aménagement*”. BRGM and the Ministry of ecological transition, April 2020 ,
- “*Guide de valorisation hors site des terres excavées issues de sites et sols potentiellement pollués dans des projets d'aménagement*”. BRGM, INERIS and the Ministry of ecological transition. April 2020.
- “*Guide de valorisation hors site des terres excavées en technique routière pour des projets d'infrastructure linéaire de transport*”. CEREMA and UMTM. To be published.
- ...



# Hierarchy of waste treatment modes

## Prevention :

- **Project design optimization** → impact on excavated quantities: main structures, ancillary works, construction site tracks...
- **Analysis of construction site material needs** → Re-use

## Valorization :

- **Analysis of well-known uses** and prospection for application sites
- **Innovation** → FCC IS “Mining the future”: sorting, treatment, development of new uses...

## Elimination

# Logistics issues

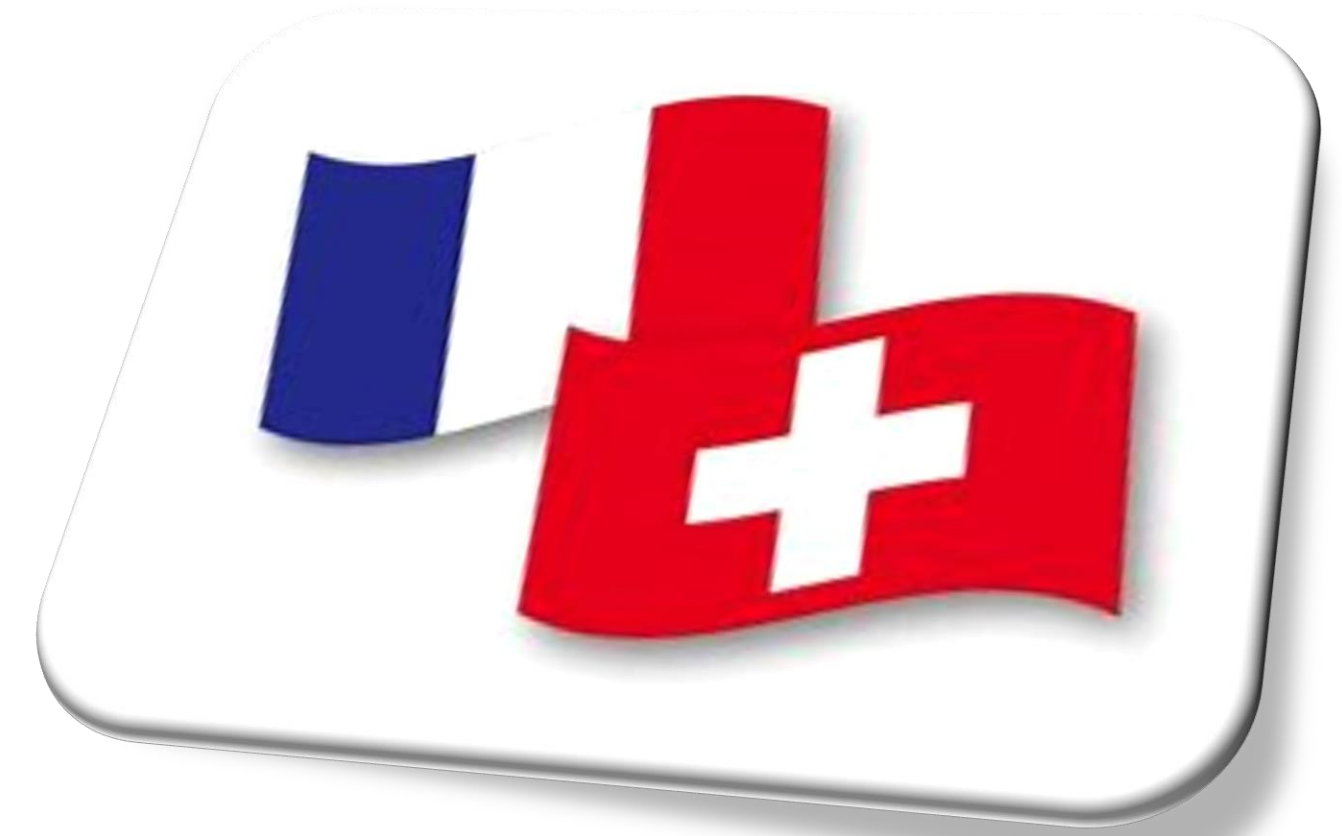
## *Both in France and Switzerland*

- **Treatment and transit facilities**
- **Storage facilities**
- **Planning documents**
  - Modification of urban documents
  - Consistency with waste and quarry management plans
- **Transportation:** Environmental performance assessment, Principles of proximity, reduction of greenhouse gas emissions...
- **Traceability**

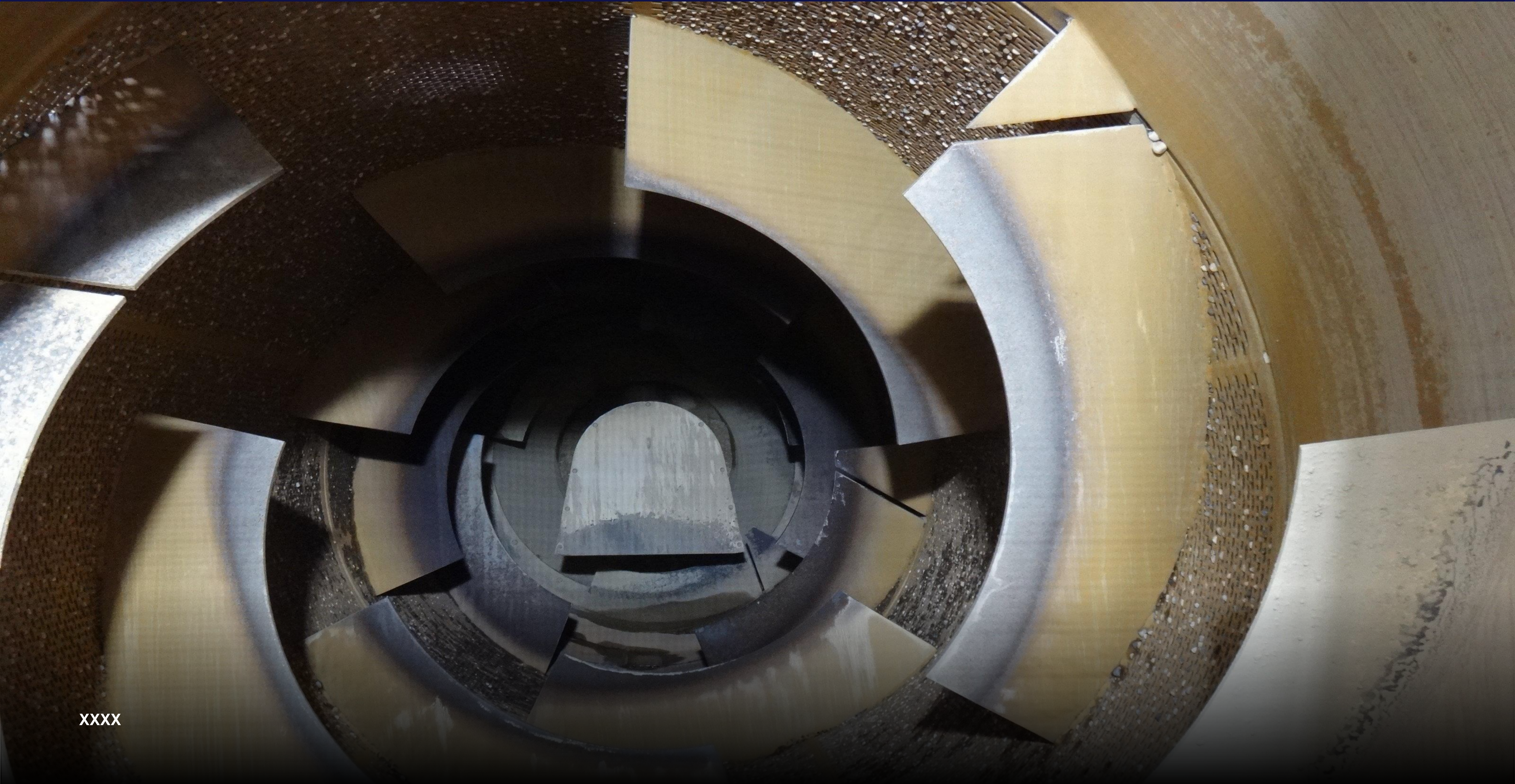


# Remaining open questions

- Project organization and management? Responsibilities?
- What regulation applies?
- What should be the role of the different stakeholders?
- How to account for the project temporality?
- Cross-border transportation?
- ...







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Thank you  
for your attention.