

Mining the Atmosphere We Act Now!



How Does RECOAL Work?

Three steps

Waste Biomass



Wet waste biomass with the fixed CO₂ is the raw material for the CO₂ removal.

Hydrothermal Carbonization



The wet waste biomass is processed with hydrothermal carbonization (HTC) into a **stable hydrochar**.

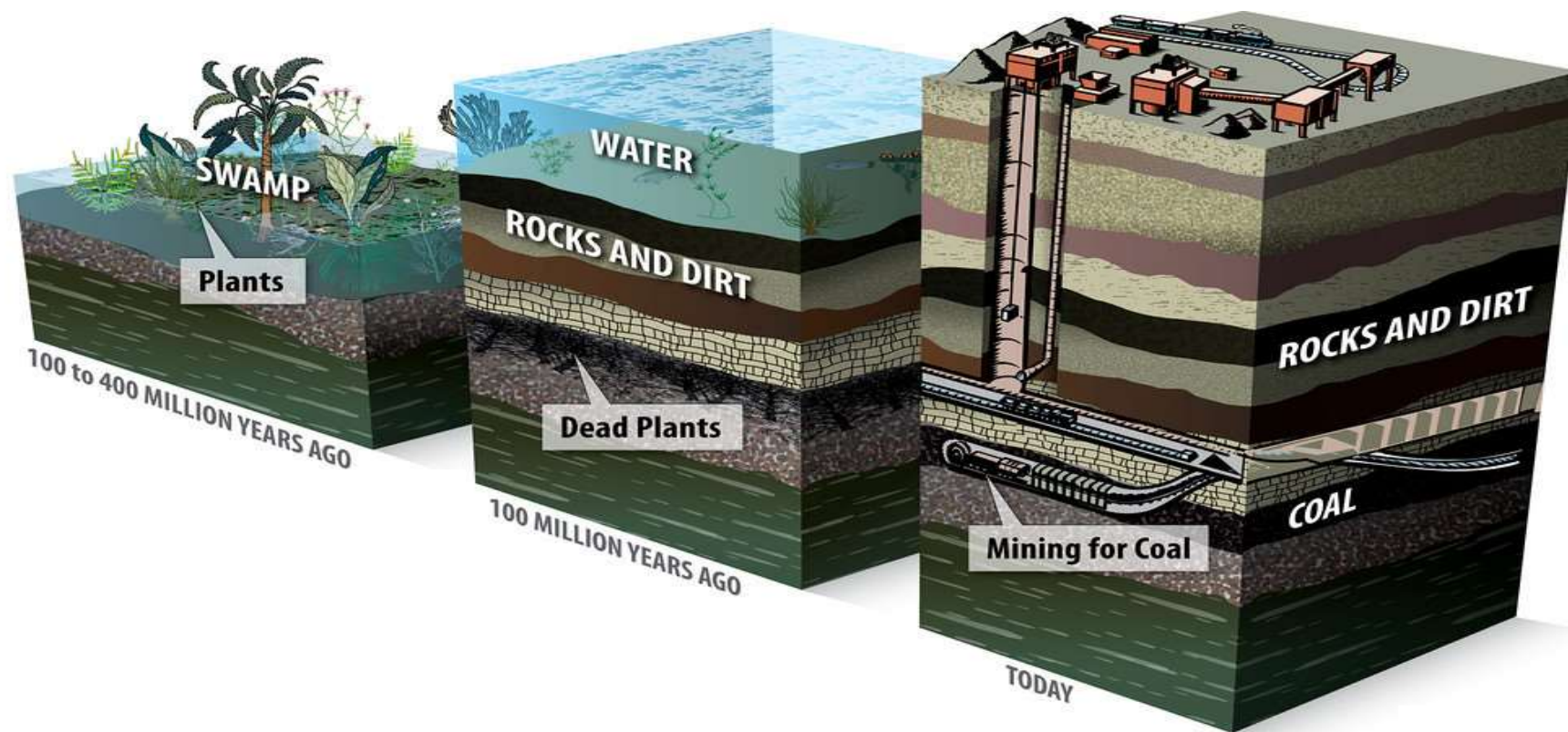
Geological Storage



The hydrochar is **geologically stored**. All storage sites are permanently sealed and monitored.

Reverse carbon mining







Feasibility study of carbon storage - ETH

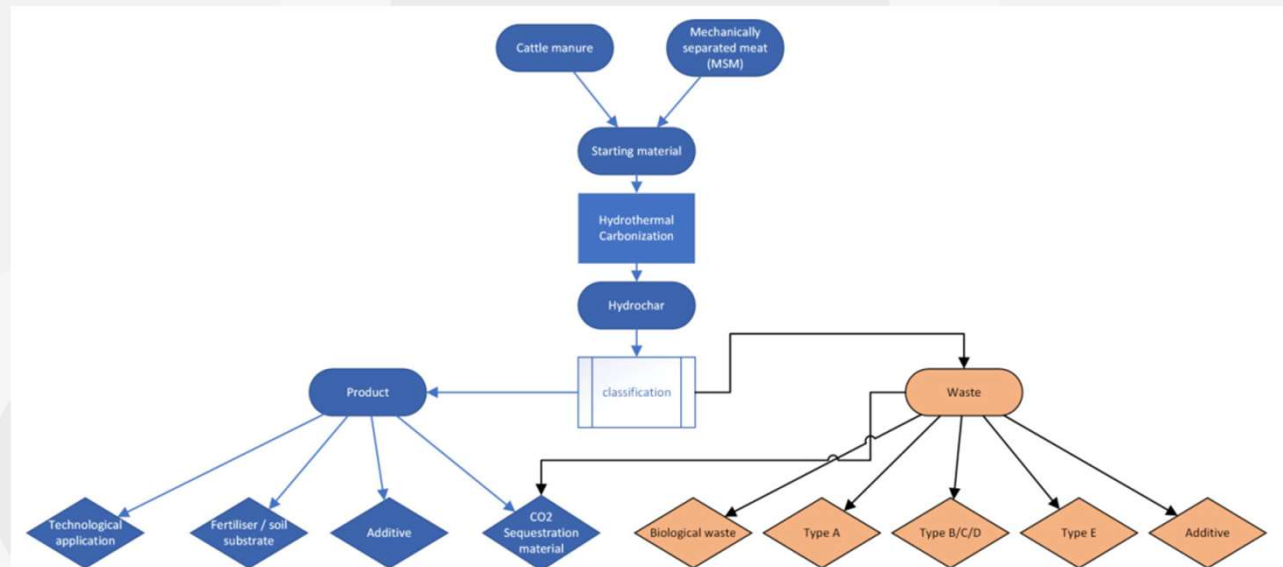
ETH study

Site evaluation for the long-term storage of hydrochar in Switzerland - A feasibility study

Scenarios for the classification of Hydrochar

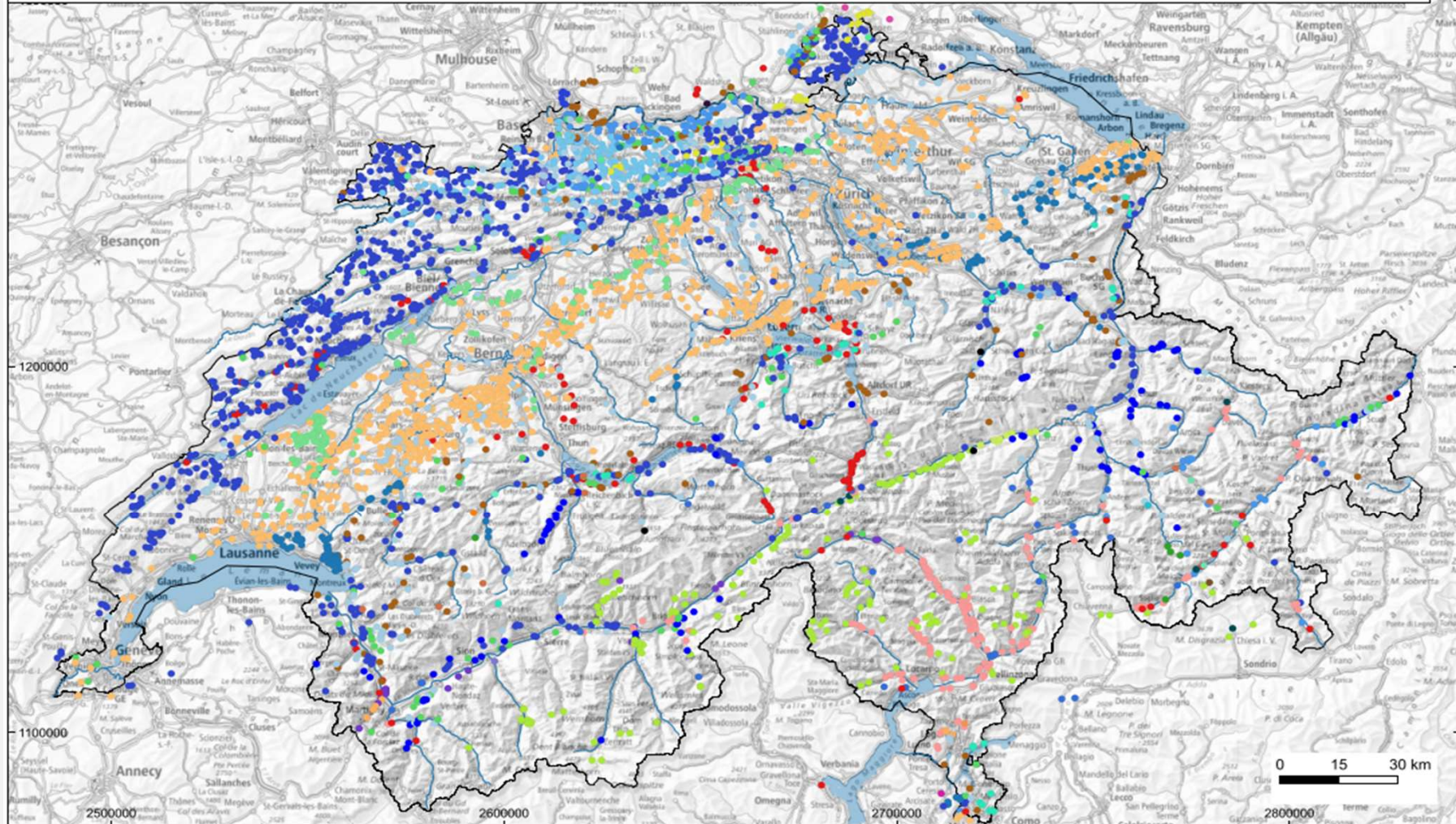
Target:

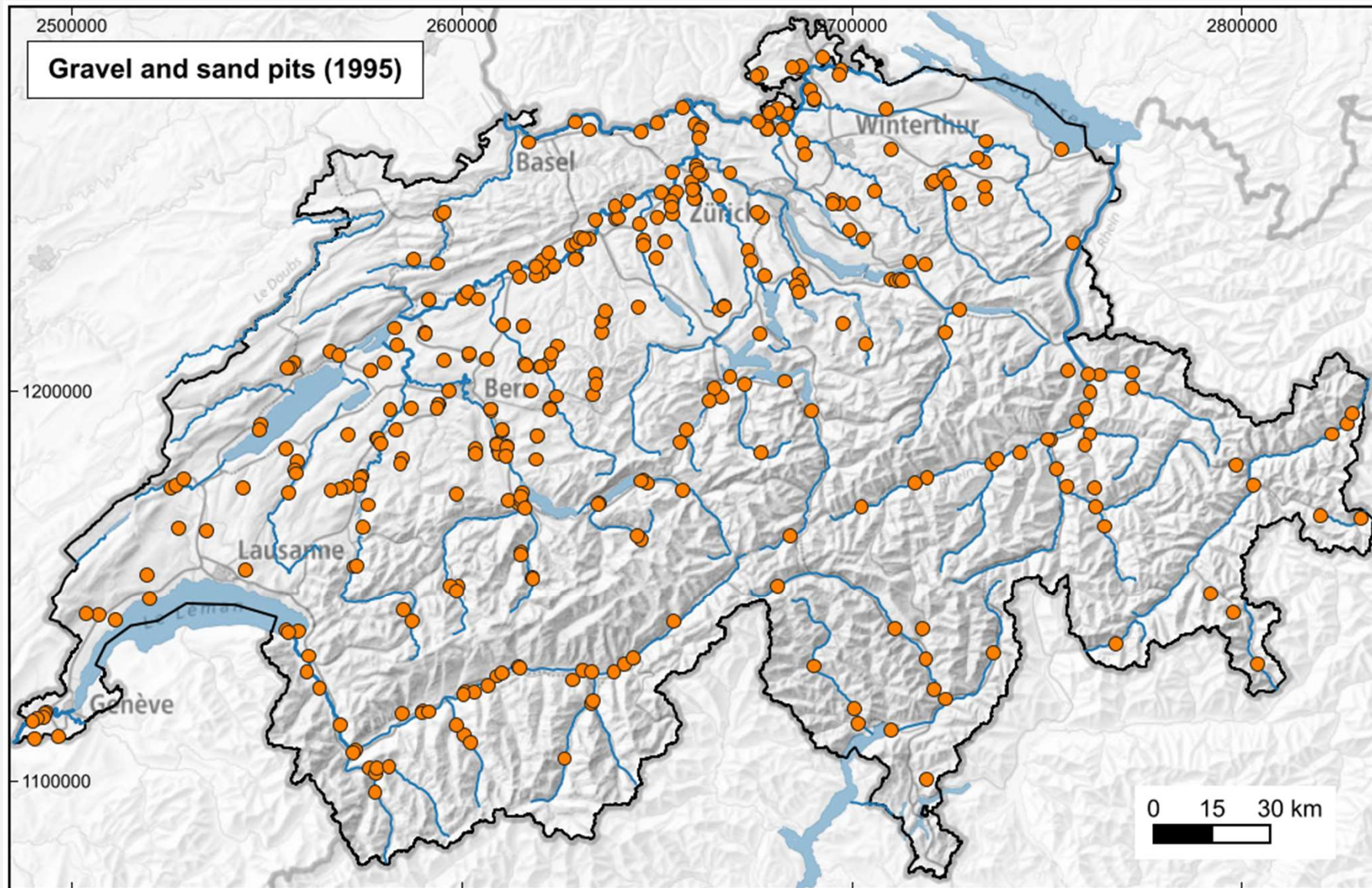
Classify as a product and not as waste

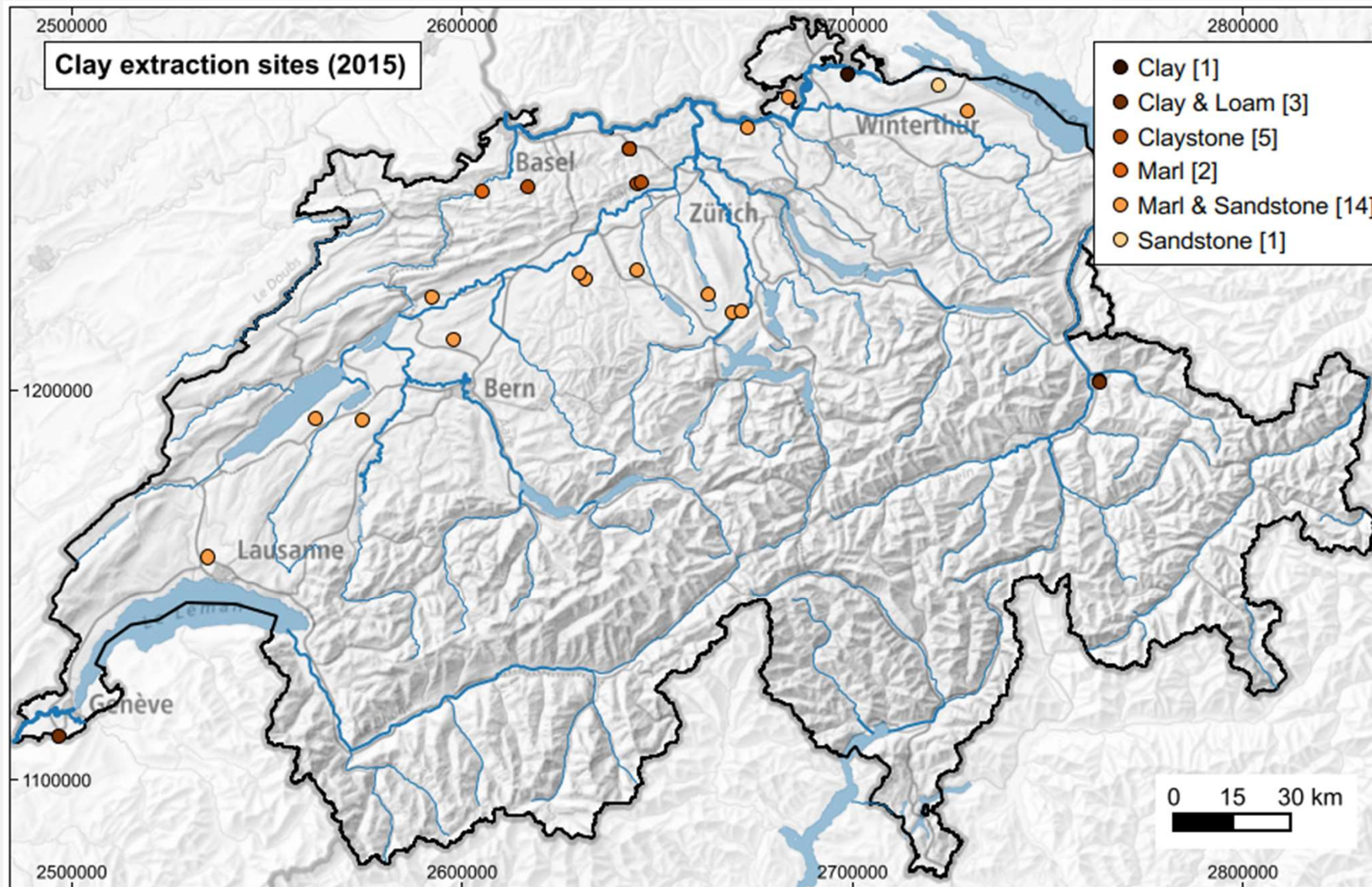


Quarries 1910 and older [4348]

- | | | | | | | | | |
|---------------------|-----------------------------------|--------------------|------------------------|-------------------------------|--------------------------|------------------|------------------|--------------------------|
| • (Meta)Quarzit [4] | • Brekzie [11] | • Gneis [160] | • Homstein, Chert [7] | • Kalkschiefer [102] | • Lavezstein [177] | • Ophicalcit [1] | • Rhyolith [2] | • Spatit (Spatkalk) [26] |
| • Amphibolit [1] | • Dolomit [143] | • Granit [125] | • Kalkbrekzie [31] | • Kalksinter, Quelltuff [301] | • Marmor [30] | • Phonolit [2] | • Sandstein [93] | • Süsswasserkalk [13] |
| • Aptychenkalk [1] | • Flyschsandstein, Grauwacke [59] | • Granophyr [1] | • Kalkkonglomerat [29] | • Kalkstein [1100] | • Metabasalt [1] | • Phyllit [1] | • Schiefer [3] | |
| • Arkose [1104] | • Gips [145] | • Granulit [1] | • Kalkoolith [230] | • Kieselkalk [47] | • Muschelsandstein [193] | • Radiolarit [1] | • Schotter [1] | |
| | • Glimmerschiefer [21] | • Grünschiefer [4] | • Kalksandstein [132] | • Konglomerat [12] | • Nummulitenkalk [15] | • Rauhwacke [9] | • Serpentin [6] | |









Feasibility study of carbon storage – TU Delft

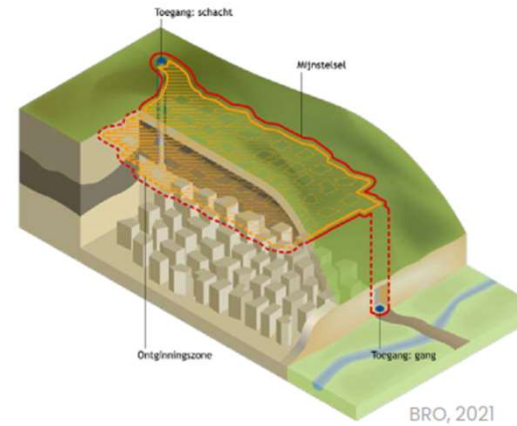
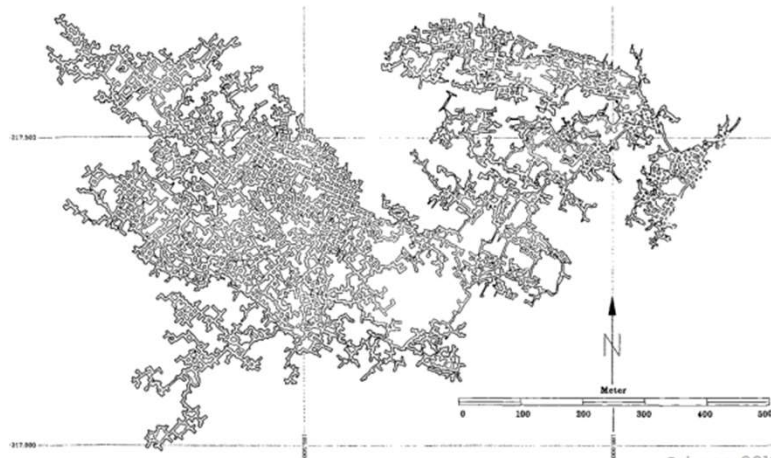
TU Delft study

Feasibility of hydrochar storage in the Dutch, shallow and deep subsurfaces

Limestone caves

Total volume < 1 million m³

Cultural heritage and usage



Natuurmonumenten, 2023

TU Delft study

Feasibility of hydrochar storage in the Dutch, shallow and deep subsurfaces

Onshore sandpits

Volume 1-3 million m³ average pit

Dredging material dumping common

Hydrological effect and stability of material?



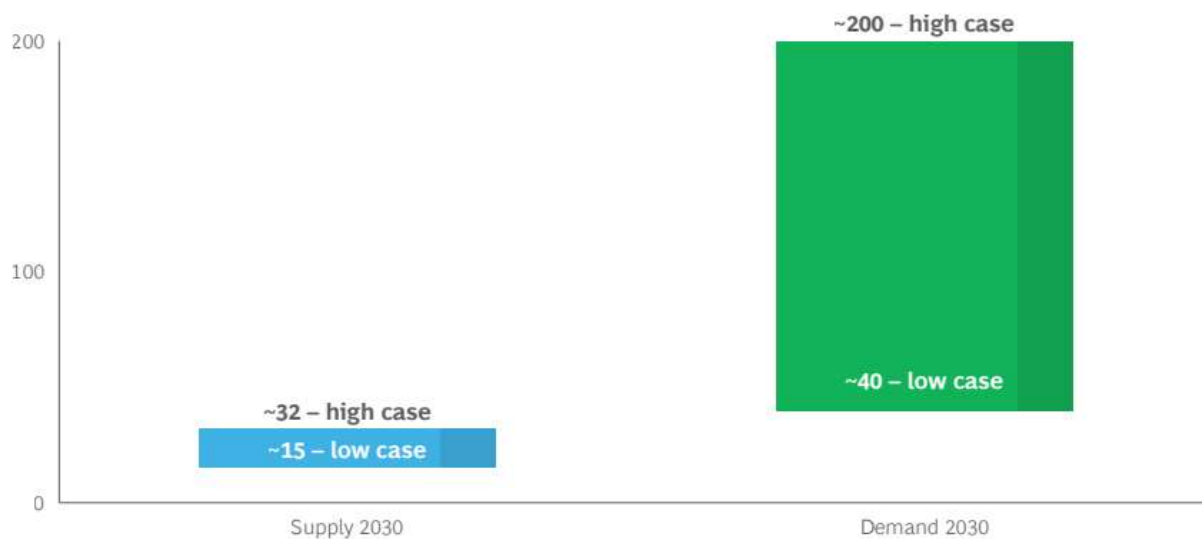
Location	Volume [10 ⁶ m ³]	Infill [%]
Gamerensche Waars	0.6	84
Veenoordkol	0.6	54
Rosandepias	1.1	52
Betuweplas	0.8	71
Koornwaard Heukelum	0.5	50
Noorderhoek	0.8	26
Plas Helsingen Vianen	0.2	57
Grote Veenderplas Barneveld	0.3	4



Voluntary Carbon Market (VCM) Outlook 2030

Demand is far greater than supply

Figure 8 - Supply and demand range (Mt CO₂ per annum) for 2030



Sources: CDR.fyi; BCG Survey and Analysis, 2023.

Note: While we recognize significant uncertainty in the carbon removals future market, the low scenario represents what we believe is the most likely lower bound. The market is potentially lower if the price of CDR does not go below \$300 by 2030, or if net-zero pledges are not addressed.



A market opportunity of 40 to 200 Mt of removed CO₂ per year.



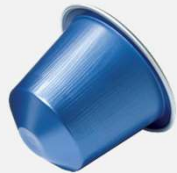
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