

# *Carbonization System and Beneficial Use of Carbonized Products*

## ***What is Carbonization ?***

When sewage sludge is heated with no or little oxygen supply, the evaporation of water and decomposition products by the decomposition reaction of organic matter occurs. This process accelerates deoxygenation and dehydrogenation and generates carbon-rich carbides as residue. This heat treatment technology is called carbonization.

Sewage sludge that is organic-rich material becomes long-term preservable products with no decomposition or rotten smell by carbonization.

*Carbonization furnace*



# *Features of Carbonized Products*

Lightweight

Odorless

Include effective phosphorus



*Carbonized products*

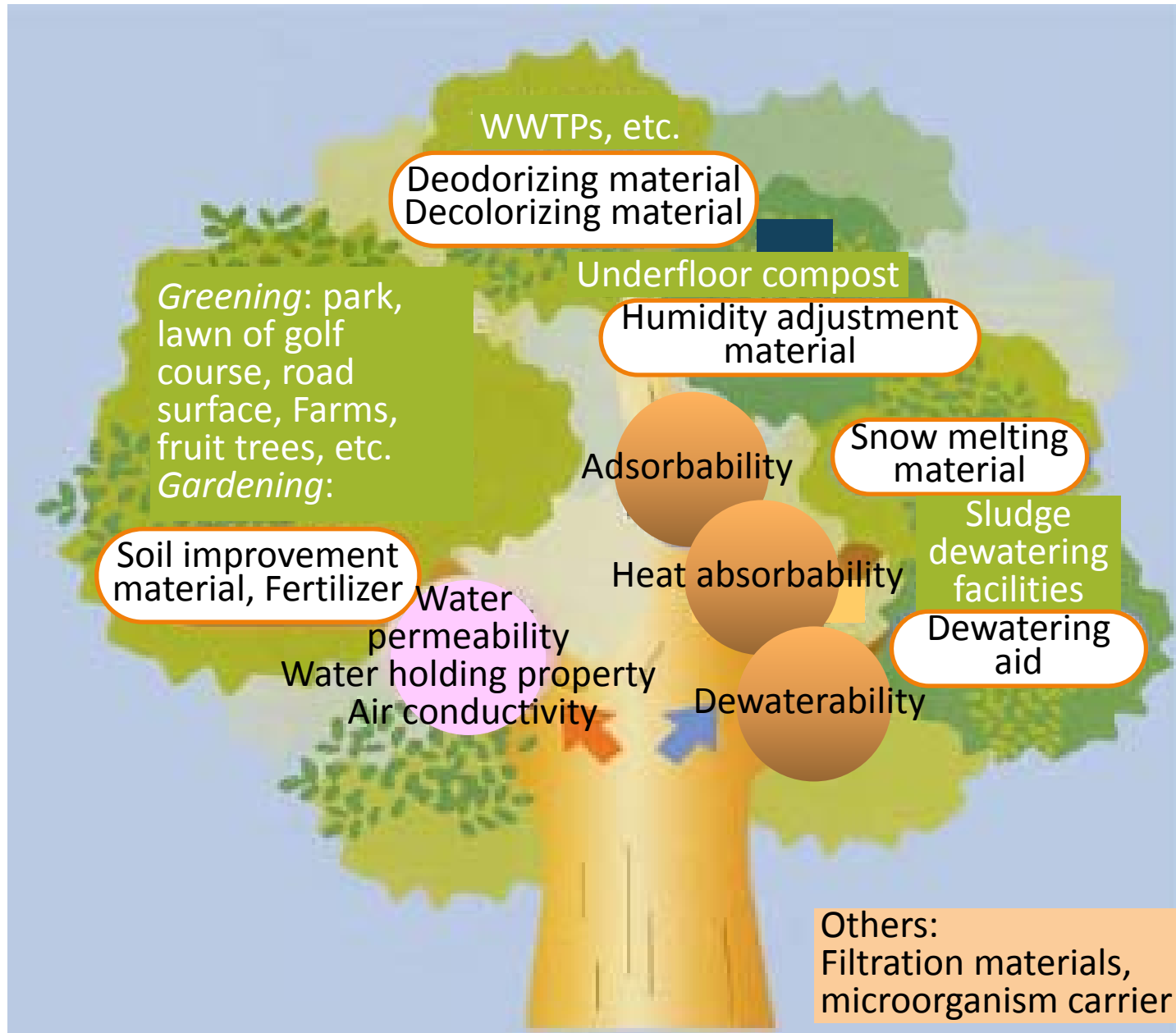
High water retentive, air conductivity

High adsorbability

Bufferable to fertilizer

High heat absorbing efficiency such as solar light

# Beneficial Use of Carbonized Products



## *Application examples to cyclamen*

Left: cultivated mixing with carbonized products

Right: cultivated in a conventional farm

Carbonized products improved the growing condition of cyclamen. It increased number of flowers and blooming period with no fertilizer damage.



## *Application examples to WWTPs*

