

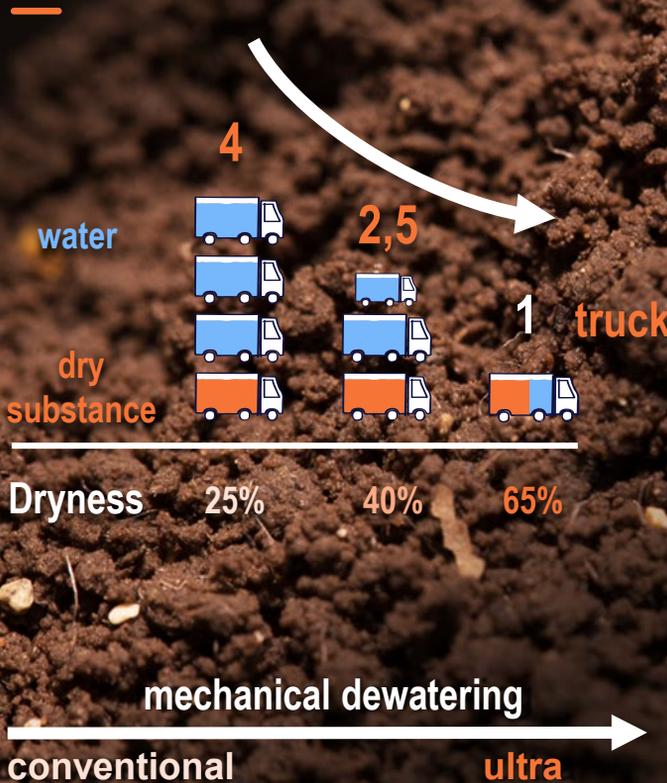
Dehydris™ Ultra

Biomimicry for a **sustainable** ultra-dewatering

Treatment Infrastructure



WHY? Over the limits of mechanical dewatering



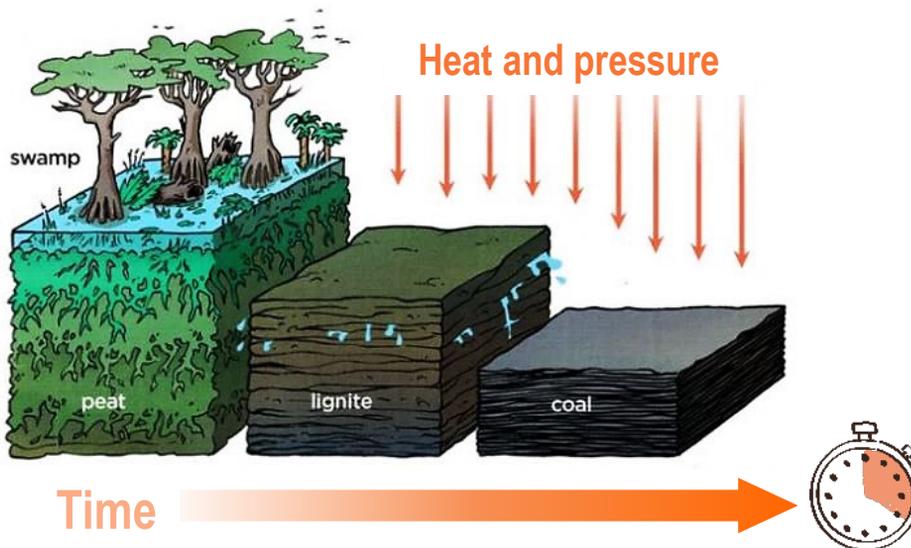
Drastic cake volume reduction

Opportunity

Extensive water removal without evaporation

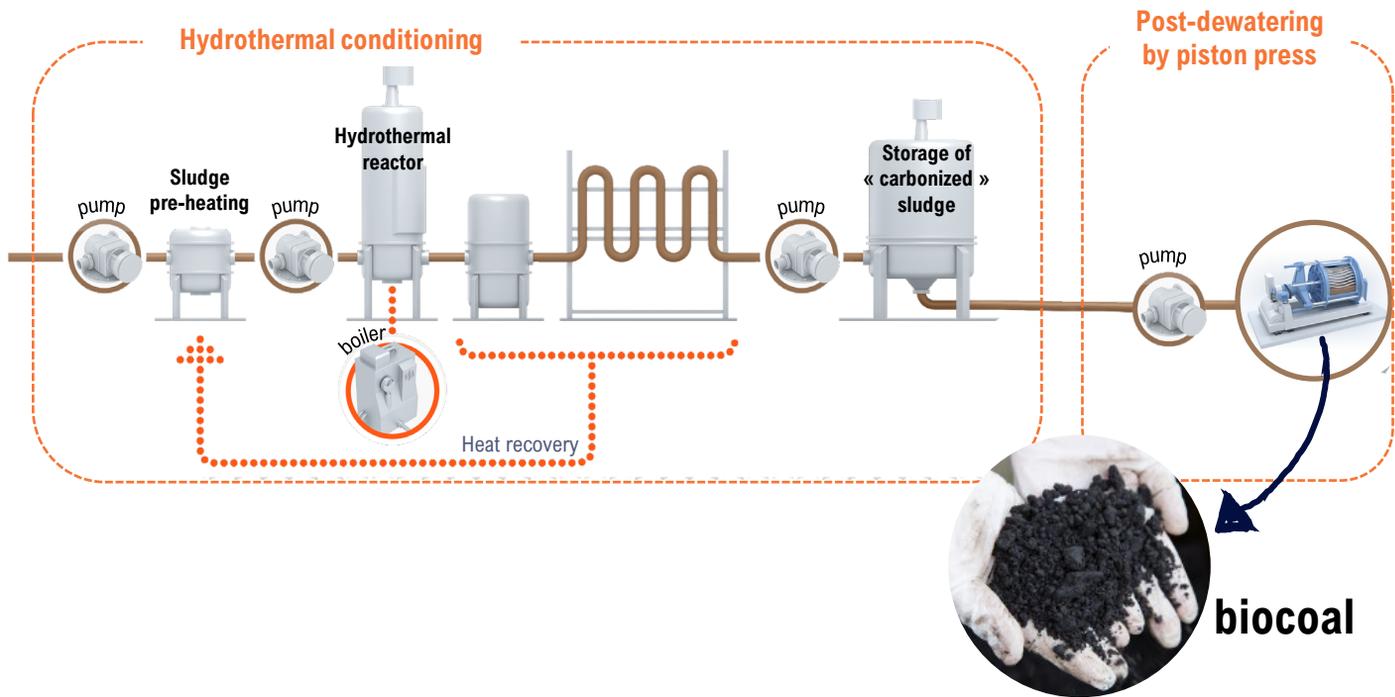
Valuable & sustainable product

HOW? Mimic the natural coal production



WHAT?

DehydriTM Ultra, a combination of hydrothermal conditioning and filtration to produce a hygienised, easily transported and stored **biocoal**



Value Proposition

Dehydris™ Ultra

Up to
75%
cake volume
reduction
vs conventional



Up to
70%
of the carbon
retained in the
biochar



Synergy with
digestion
100%
thermal energy
self-sufficient



1
SUEZ reference
with digestion



Open circles are touch zones, click on it to learn more

Key figures

Dehydris™ Ultra



Open circles are touch zones, click on it to learn more

ENVIRONMENT

100%

pathogens free
(class A)

0

polymer in the
cake produced

Up to
70%

of the carbon
retained in the
biocoal



ENERGY

Synergy with
digestion
100%
thermal energy
self-sufficient

End-product with
2/3
of wood's calorific
value

ECONOMY

Up to 
75%
cake volume
reduction
VS conventional

Up to
3x
less energy
consumed
VS
thermal drying

OPERATION

Up to
65%
Dryness without
evaporation

100%
odours confined
with piston press

TECHNOLOGY

Combination of
2
processes

1
thermal
conditioning step

N°1
technology
provider

100%
pathogens free
(class A)

Class A biosolids production



Compliant with regulations

US EPA Part 503 Biosolids Rule
EU Regulation N°142/2011 §3



Class A Biosolids

Fecal coliform < 1000 MPN / gDS
Salmonella spp. < 3 MPN / 4gDS
Viable helminth ova < 1 viable ova / 4gDS

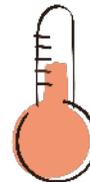


Safe usage

Agricultural spreading
Landscaping
Soil enhancer

Thermally treated biosolids

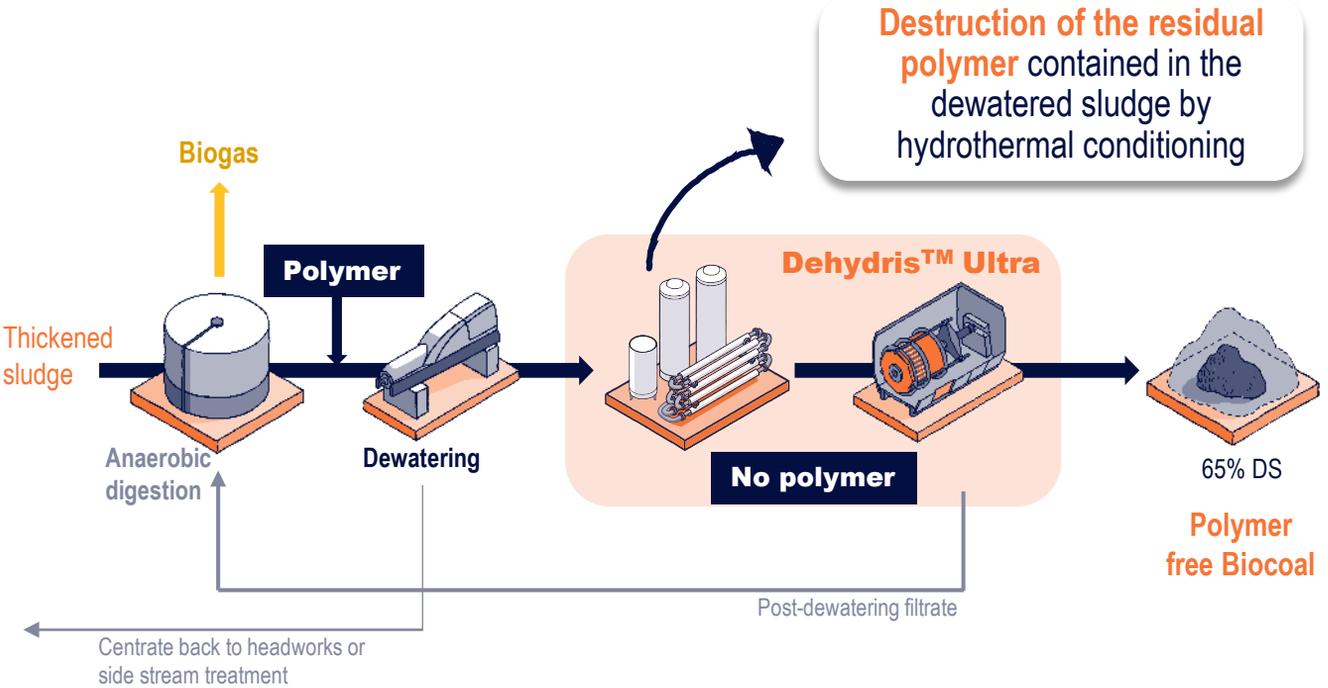
> **180 °C**
> **30 min**



DehydriTM Ultra, a way to produce US EPA Class A Biosolids

0
polymer in the
cake produced

Polymer free



No polymer needed for the post-dewatering



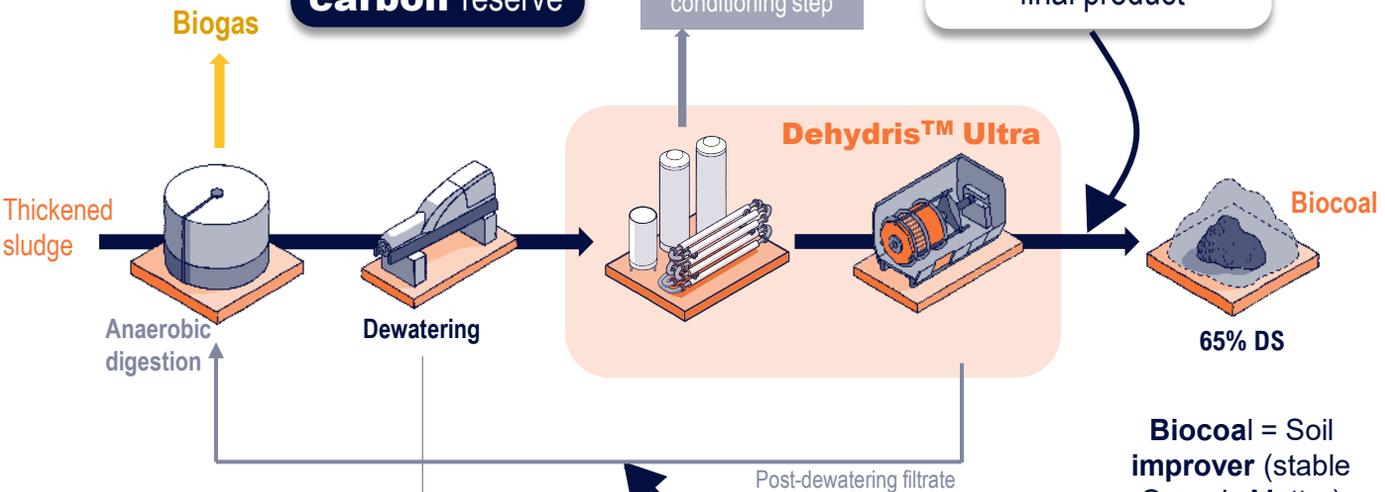
Carbon concentration

Up to **70%** of the carbon retained in the biocoal

The sludge processed is a **carbon** reserve

1% of the carbon is lost with the hydrothermal conditioning step

68% of the carbon is concentrated in the final product



Centrate back to headworks or side stream treatment

31% of the carbon is solubilised and recovered in the filtrates

Biocoal = Soil improver (stable Organic Matter)

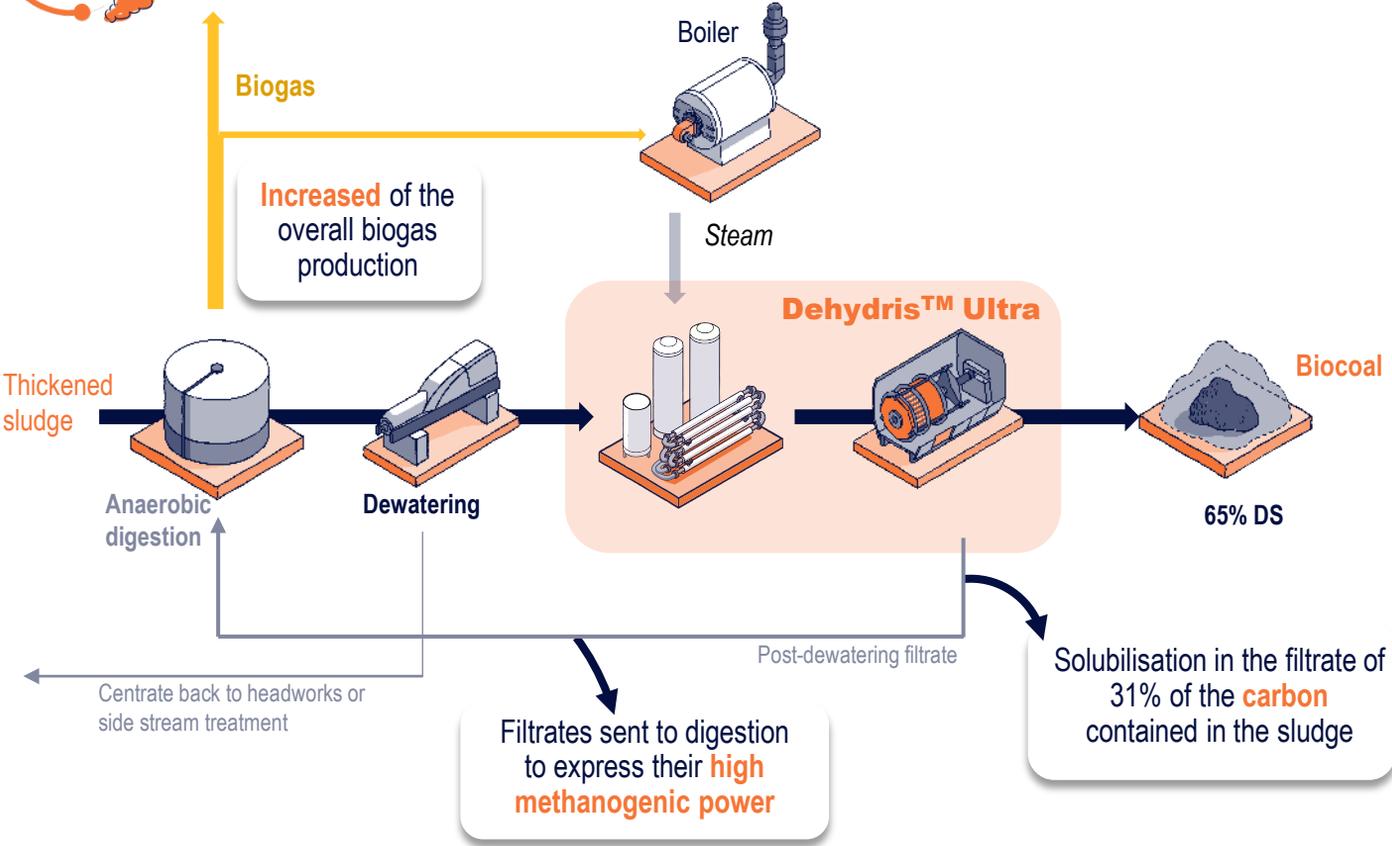
C Sequestration potential in soil

[Learn more >>](#)



Energy demand covered by digestion

Synergy with digestion
100%
thermal energy self-sufficient

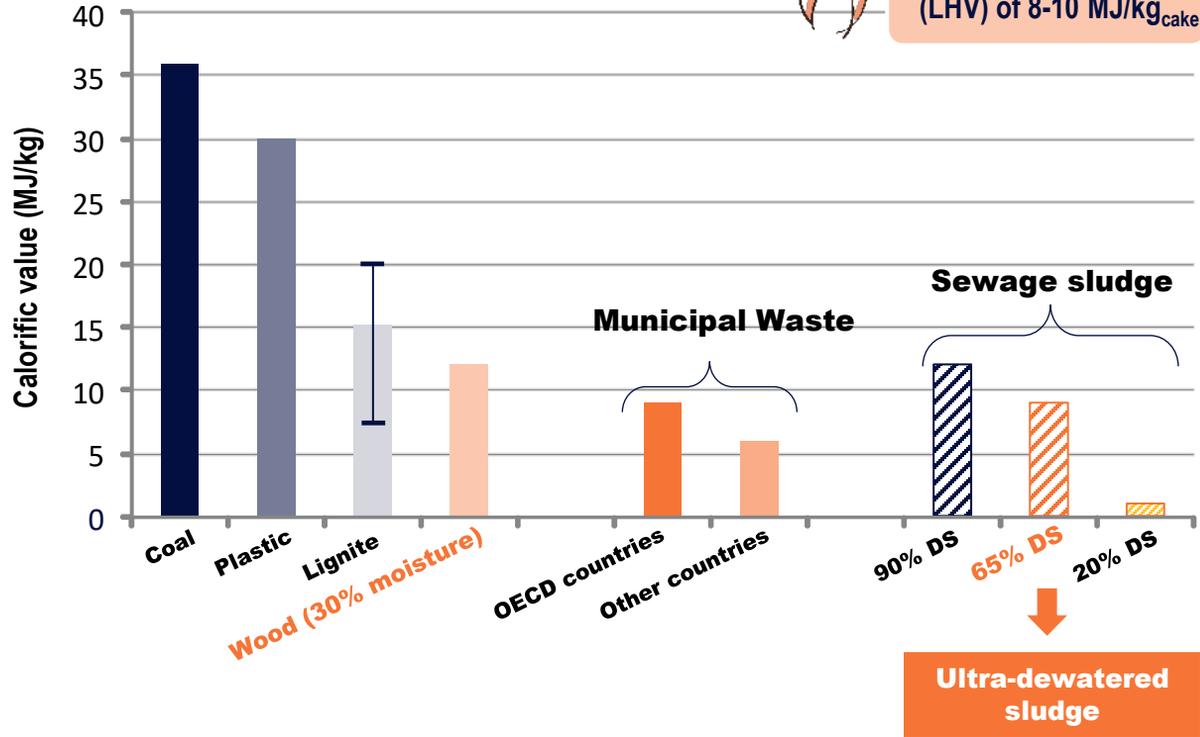


Calorific value scale

End-product with
2/3
of wood's calorific
value

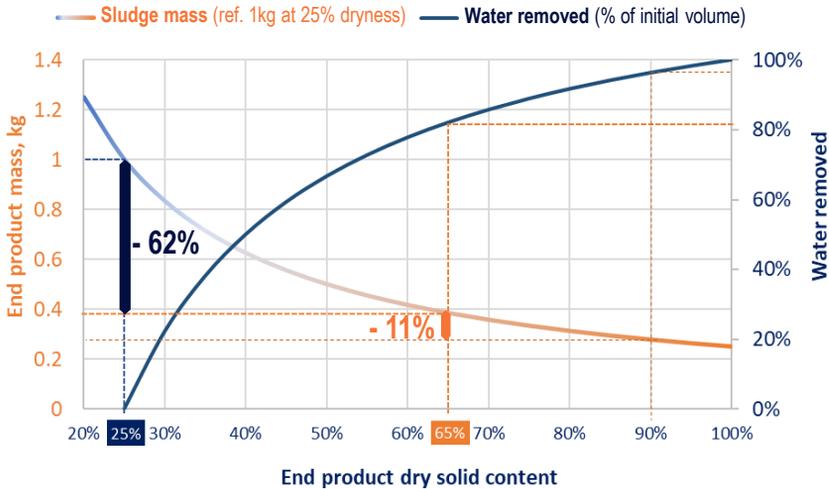


End-product with a
Low Heating Value
(LHV) of 8-10 MJ/kg_{cake}



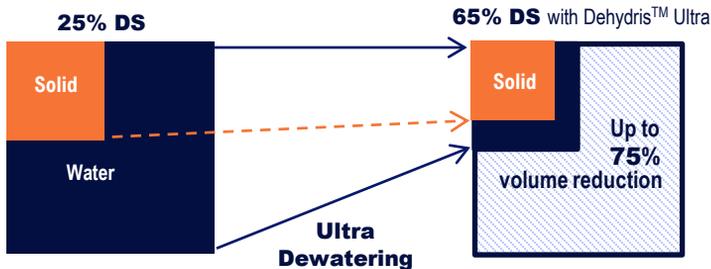


Water removal dynamics



From 25% to 65% dryness
 ► **62% mass reduction**

From 65% to 90% dryness
 ► **only 11% additional mass reduction**



Dehydri™ Ultra also induces **Solid reduction** which leads to a global volume reduction of **75%**

[Learn more >>](#)



Energy footprint

Up to
3x
less energy
consumed
vs
thermal drying

Specific energy consumption
MWh/h
(at the boundaries of the equipment)

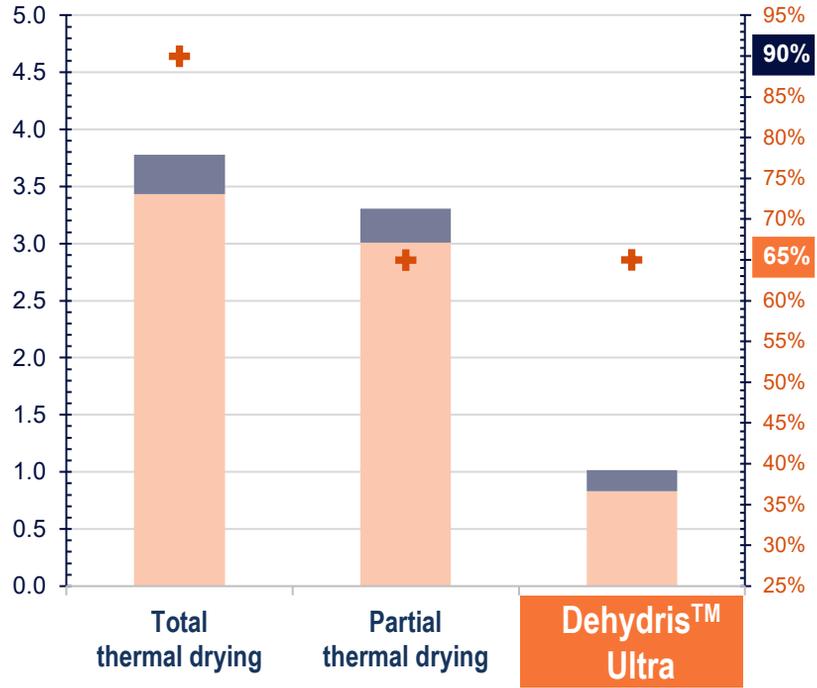
Electrical assessment

MWh_{electrical}/h

Thermal assessment

MWh_{thermal}/h

Cake dryness

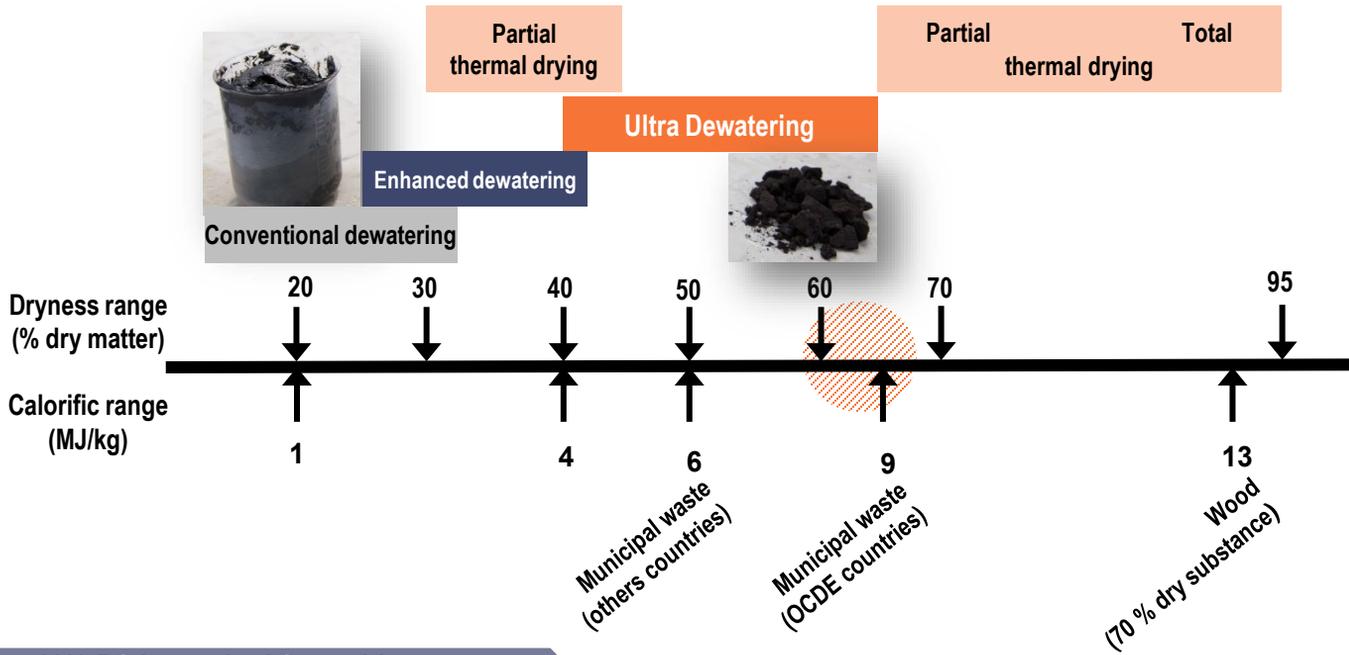


base:
1 tDS of pre-dewatered digested
sludge at 22% dryness

dryer consumption:
1000 kWh_{thermal} + 100 kWh_{electrical}
per ton of water evaporated

Up to
65%
Dryness without
evaporation

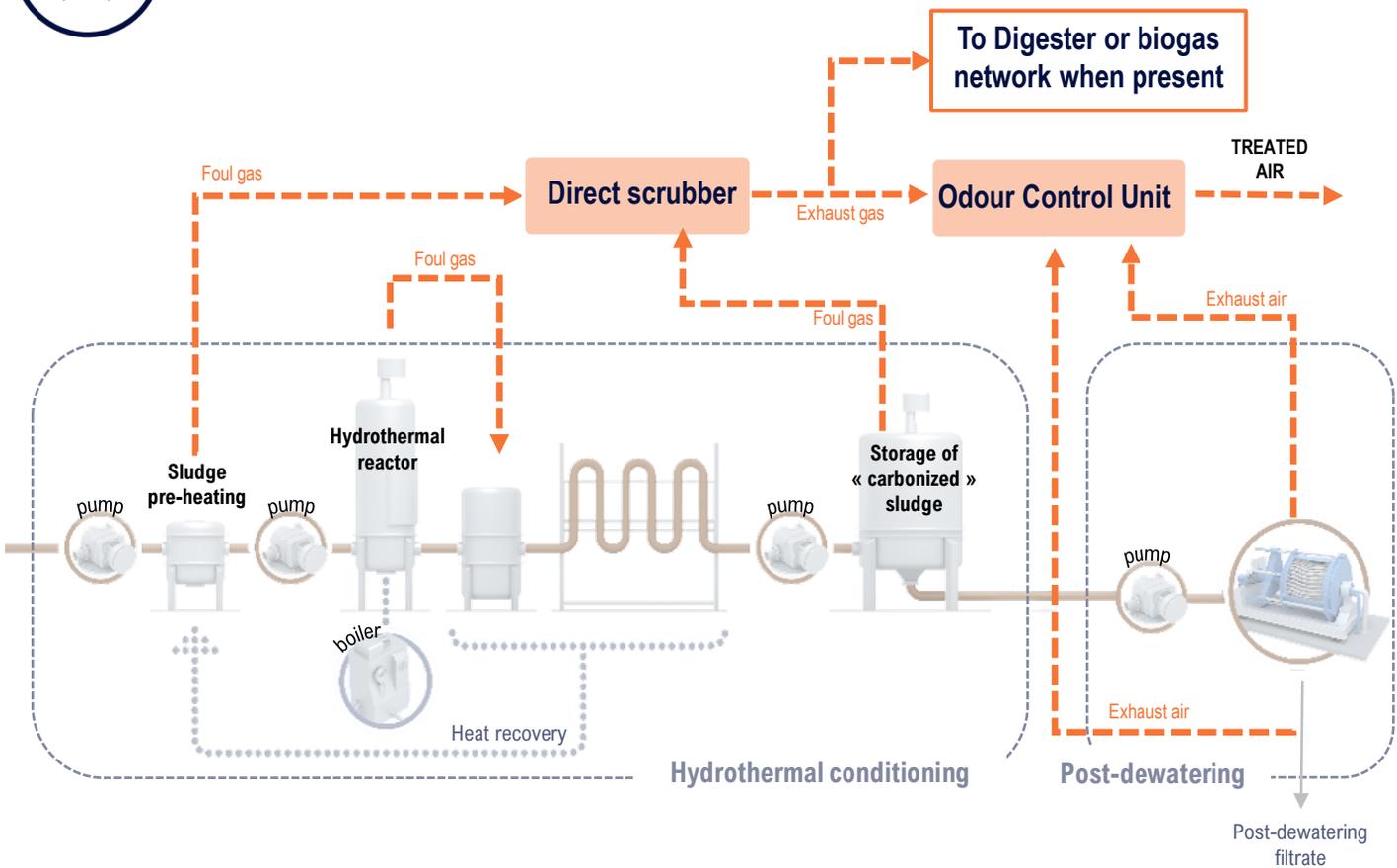
Main application drivers : **dryness** & **calorific value**



Above 60% DS is required for multi-recovery

100%
odours confined
with piston press

Hot foul gases: removed, condensed and polished





1st french Biofactory™, Dehydris™ Ultra inside



Dehydris™ Ultra is one of the **key technologies** enabling the Lescar WWTP to become the **reference and the world pioneer** in the production of **10** energies and resources from wastewater



Dehydris™ Ultra at the service of an **ambitious** and **proactive environmental policy**

[Learn more >>](#)



SUEZ India commences works on India's LARGEST SEWAGE TREATMENT PLANT

Under the Yamuna Action Plan-III of Govt. of India, to restore the quality of River Yamuna, directly or indirectly, impacting over 18 million population.

FUNDED BY:

END USER :



Japan International Cooperation Agency



Delhi Jal Board

DBO
564 MLD STP
at Okhla in
New Delhi,
INDIA

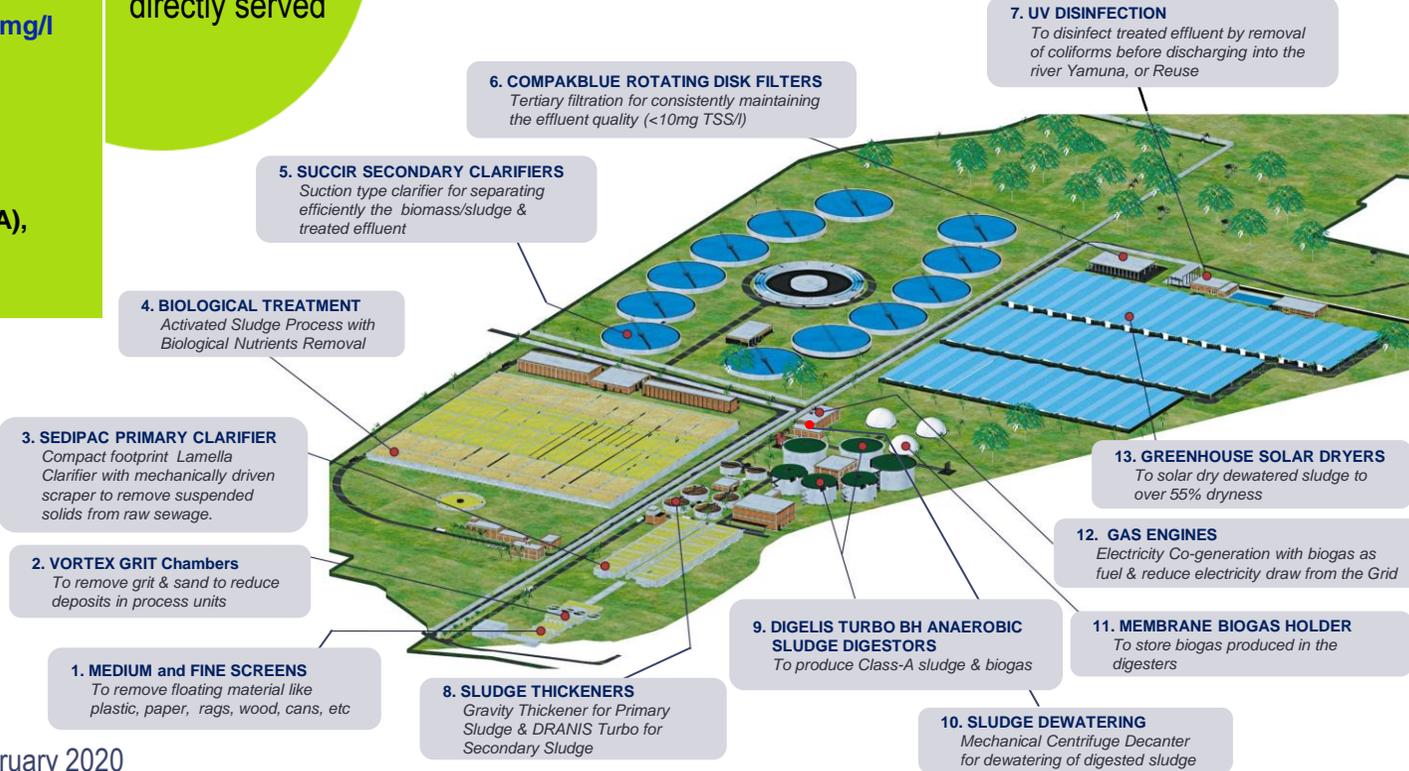
11 years
O&M



- Treated Effluent Quality
BOD <10 mg/l, TSS <10 mg/l
TN < 10 mg/l, TP <2 mg/l
Fecal Coliform <230
MPN/100ml
- Sludge Quality
Class-A (as per USEPA),
Dryness > 55 %

3 million
population
directly served

55% energy self
sufficiency by
Cogeneration using
Biogas



For the first time in India

Largest Single Stage STP
Meeting most stringent discharge norms (TSS<10mg/L, BOD<10mg/L, TN<10mg/L, F. Coliform<230 MPN/100ml)

Largest UV Disinfection System
For chemical - free discharge of effluent into the river

SUEZ Digelis Turbo BH Process
Enhanced sludge hydrolysis for accelerated anaerobic digestion, increased biogas production and Class-A quality sludge for safe reuse/disposal.

Largest Greenhouse Solar Sludge Drying
Largest greenhouse solar sludge drying system, achieving up to 60% dryness with minimal energy consumption

Fully Integrated Facility
Providing complete solution for wastewater treatment, sludge management and power generation