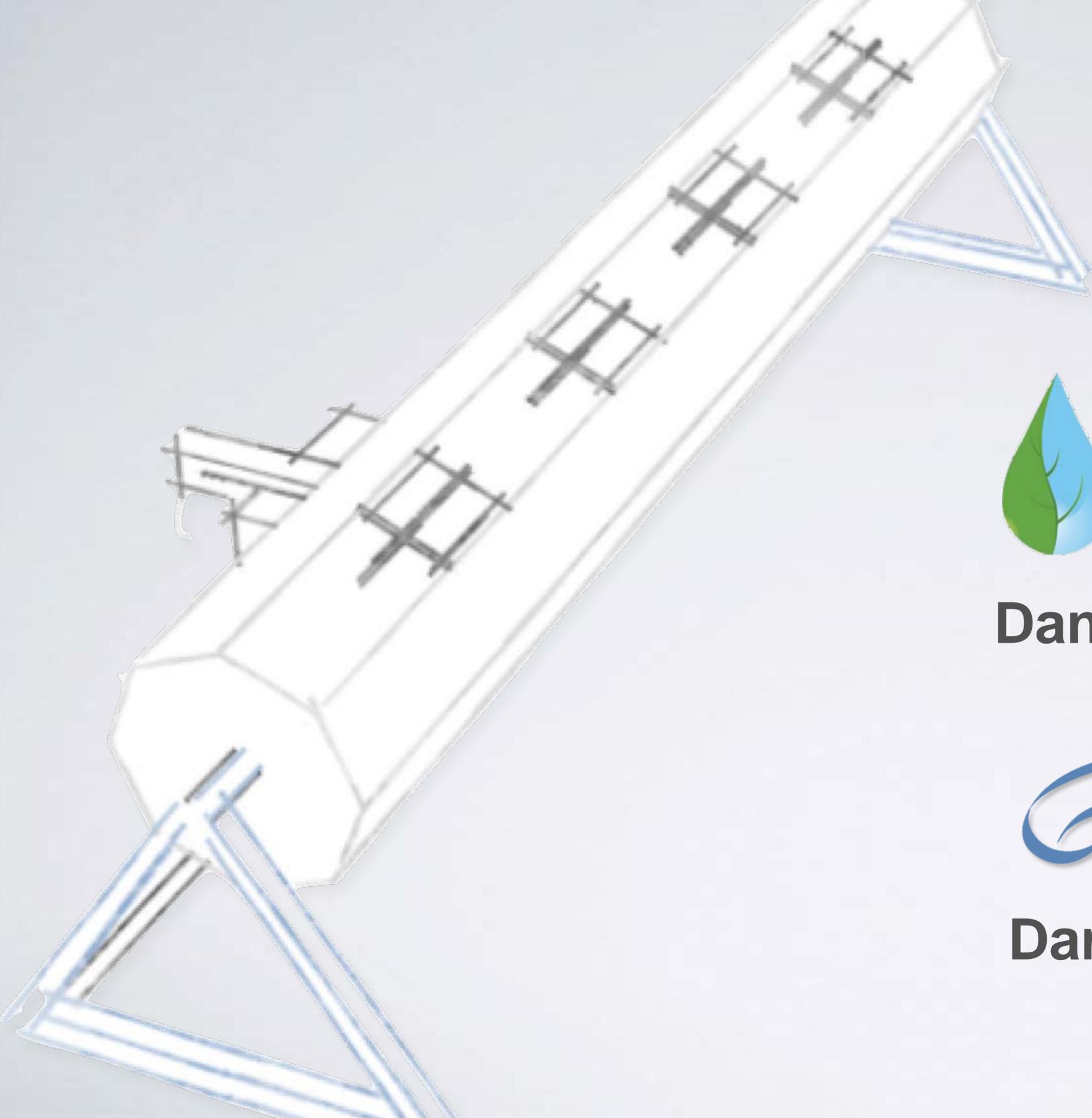


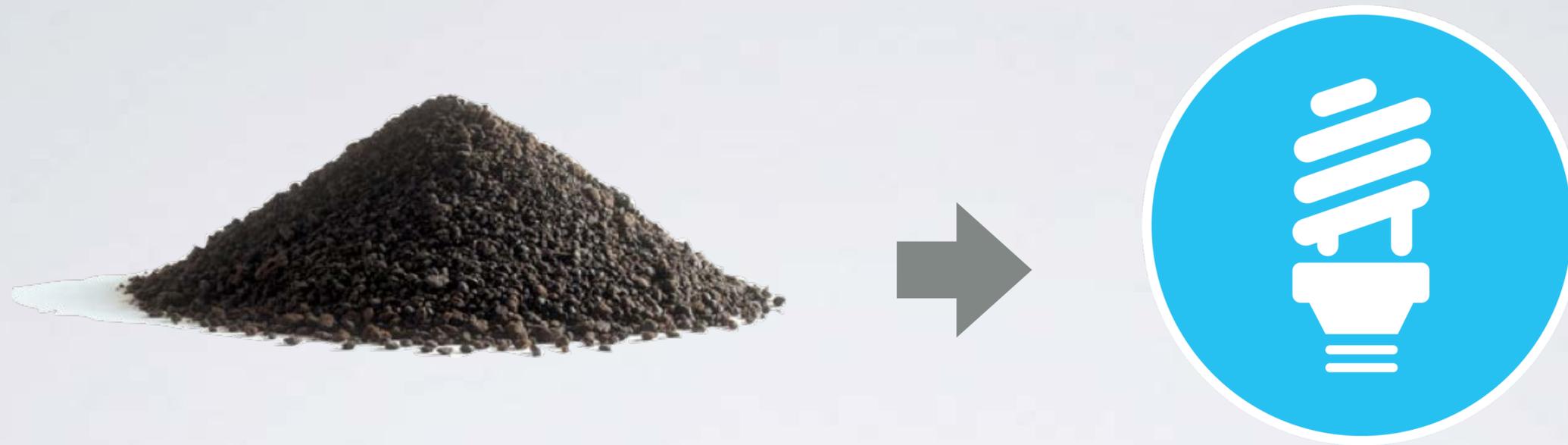
US EPA ARCHIVE DOCUMENT



Daniel T. Child - General Manager



Dario Presezzi - CEO



“Biosolids to energy”





in-house



energy-positive



additive-free



useful
byproducts



NO external energy
Fully automated
Low maintenance

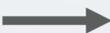
INDEPENDENT



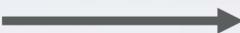
TOO MUCH
WATER!

REMOVE WATER

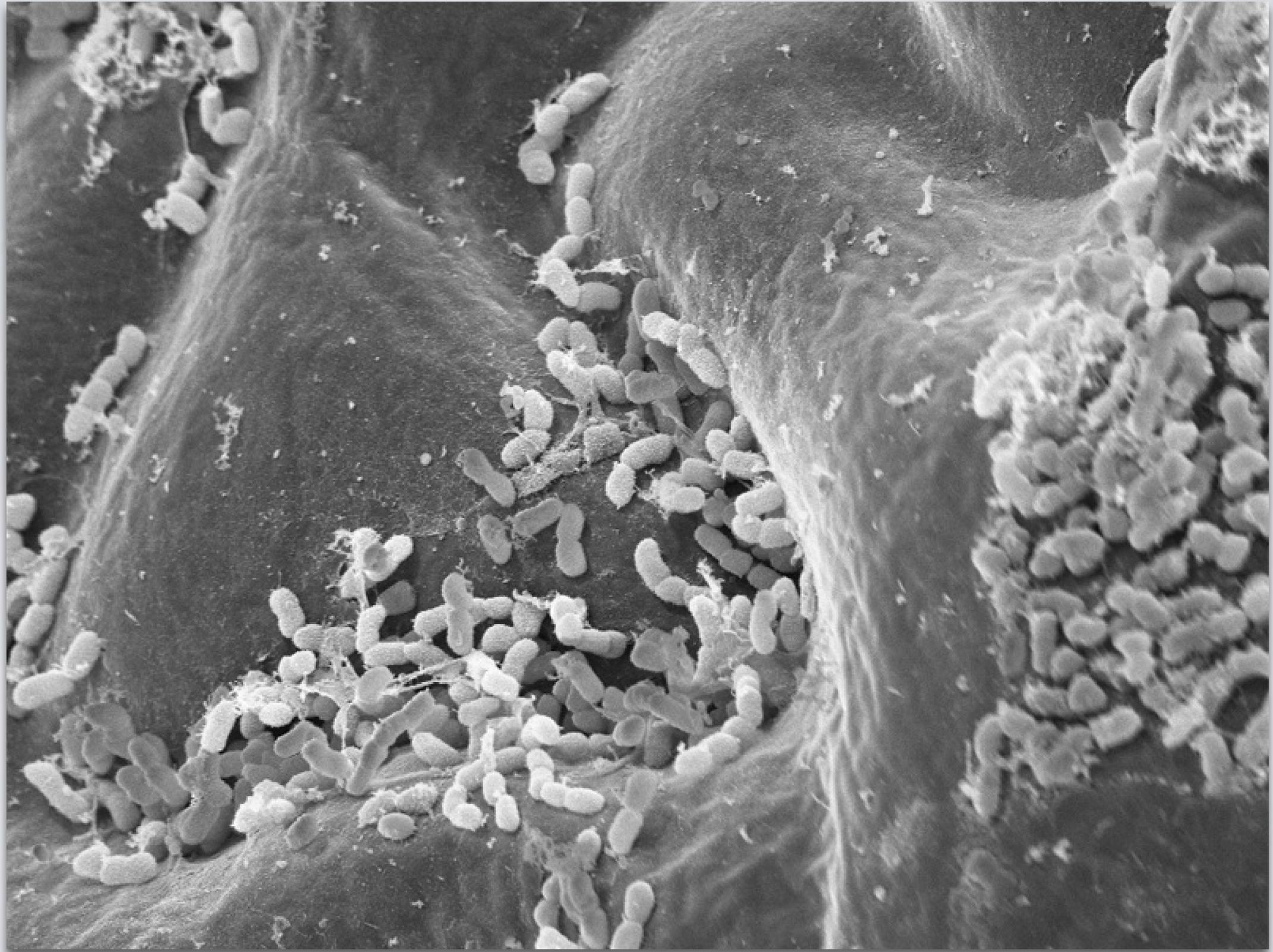
2000 lb of Biosolids
(25% solid)



~~450 kWh~~
1500 lb of water
(thermal energy)



720 lb of Biosolids
(70% solid)





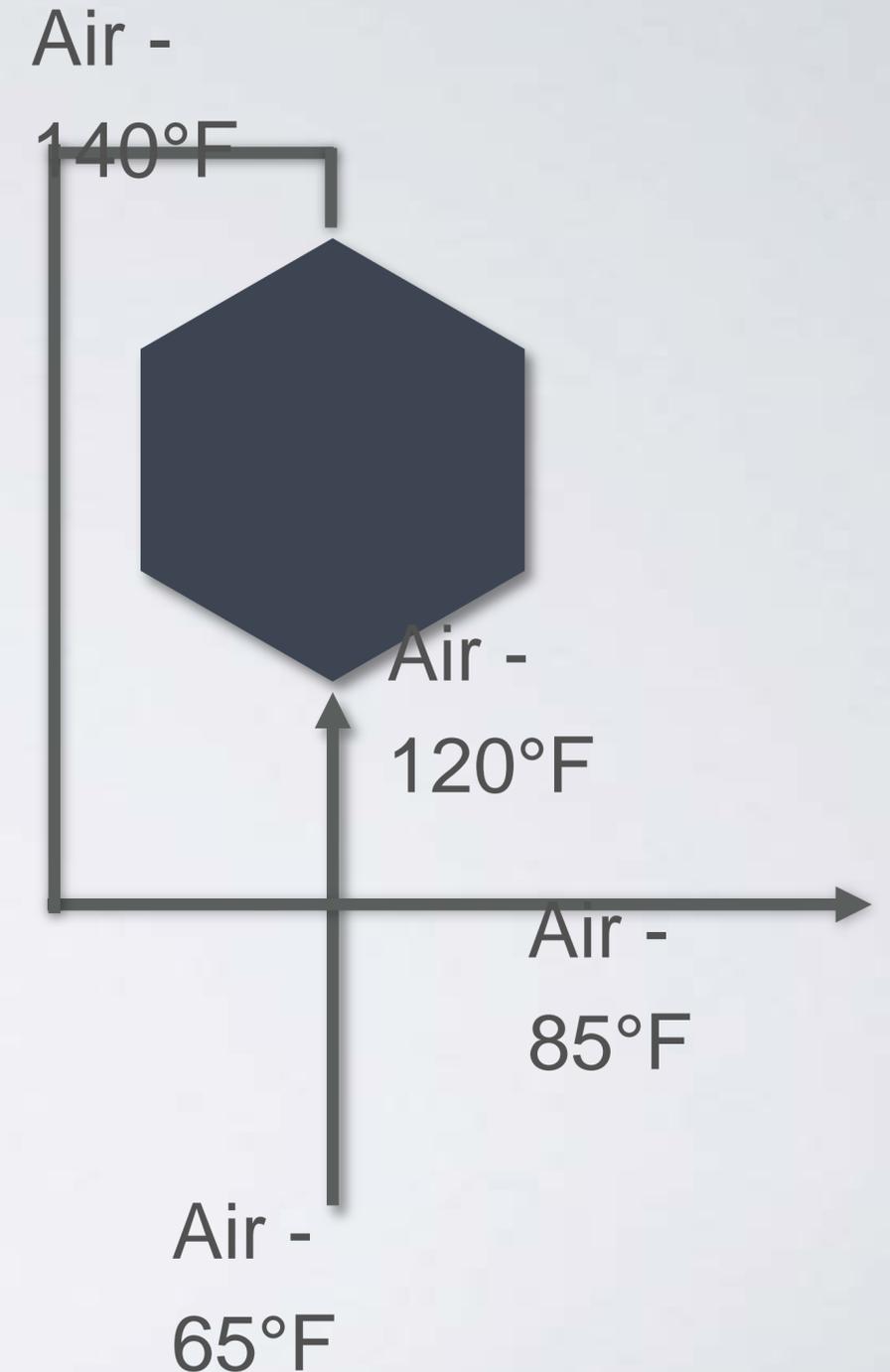
LIFE = ENERGY

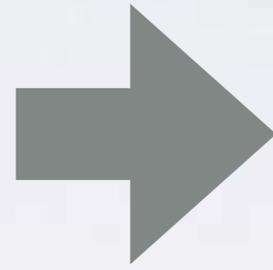
“the energy that is not conserved biologically as chemical energy (ATP formation) is liberated as heat (308,000 cal)”

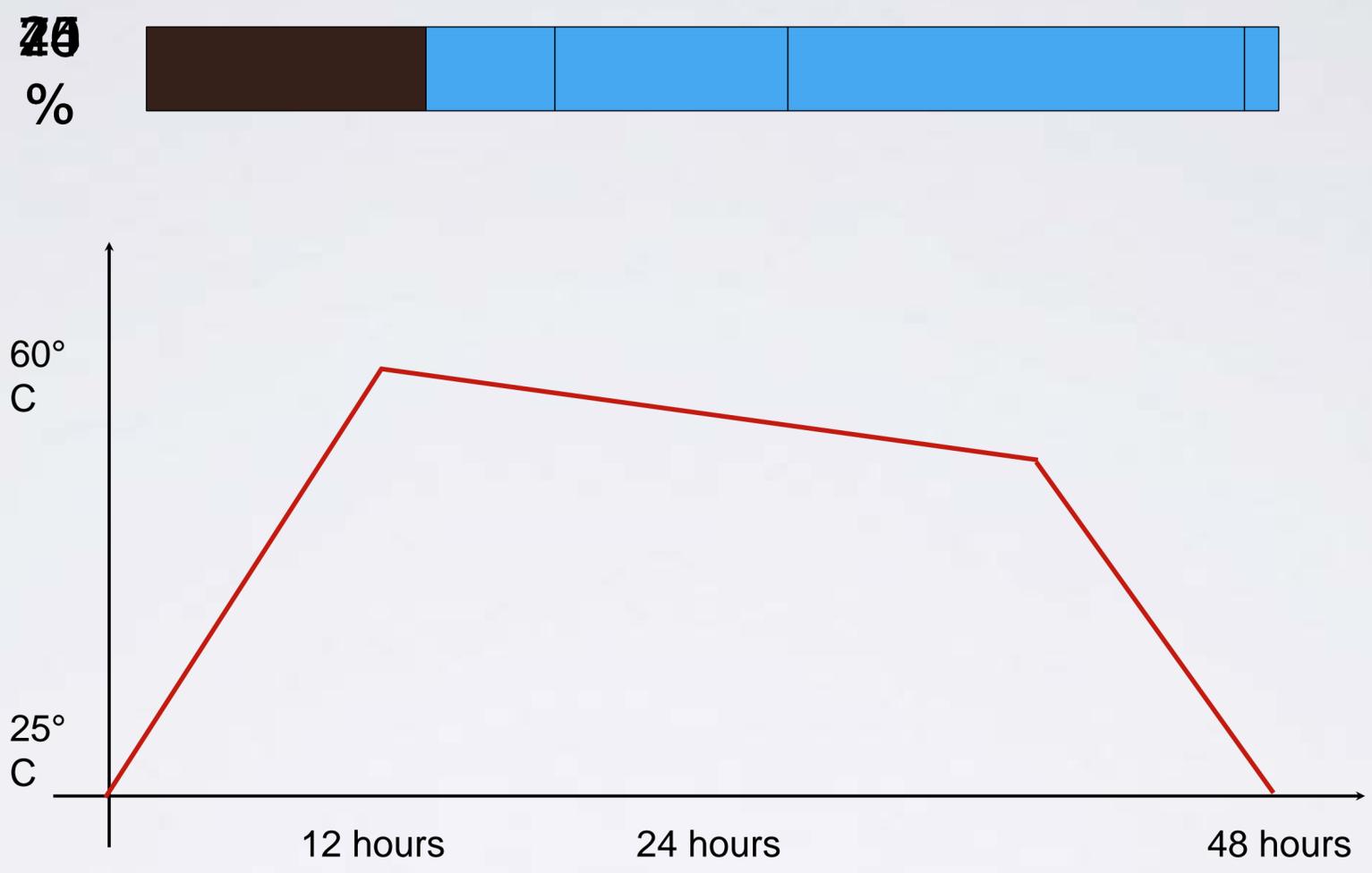
<http://www.ncbi.nlm.nih.gov>

BIOLOGICAL DRYER

- Energy from bacterial biochemical reactions
- Reaches 140°F in 12 hours (no external heat)
- From 25% solid to 70% solid in 48 hours
- AI Controlled - Fully Automated
- Require 16 kWh per ton (electricity)







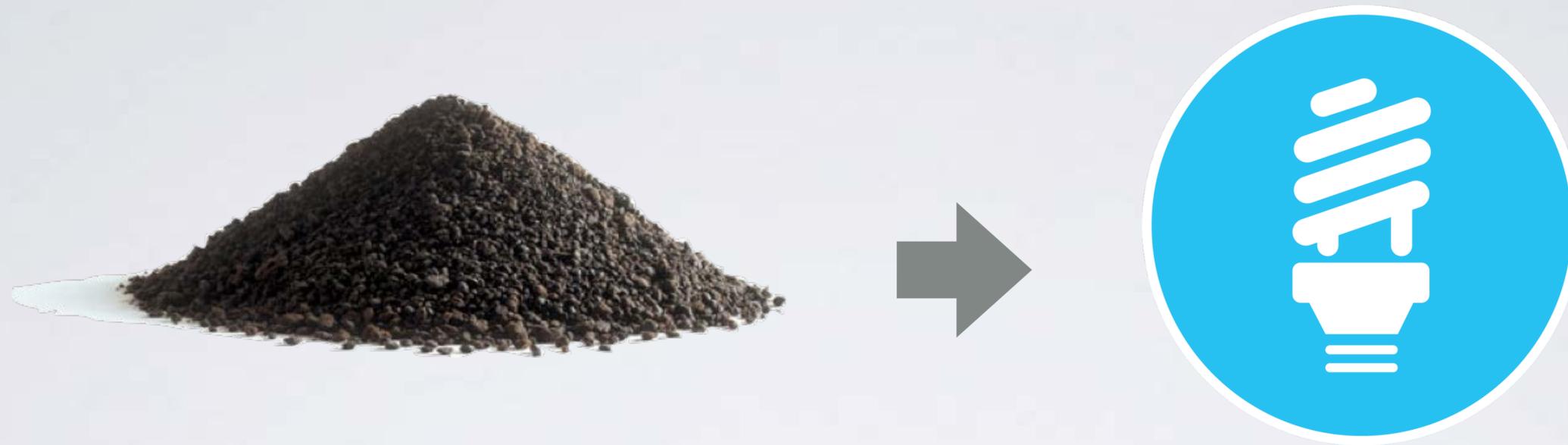
JUNE 2013



BFT PILOT DRYER

- Dryer Capacity : 400 kg
- 6 months of testing at SVCW





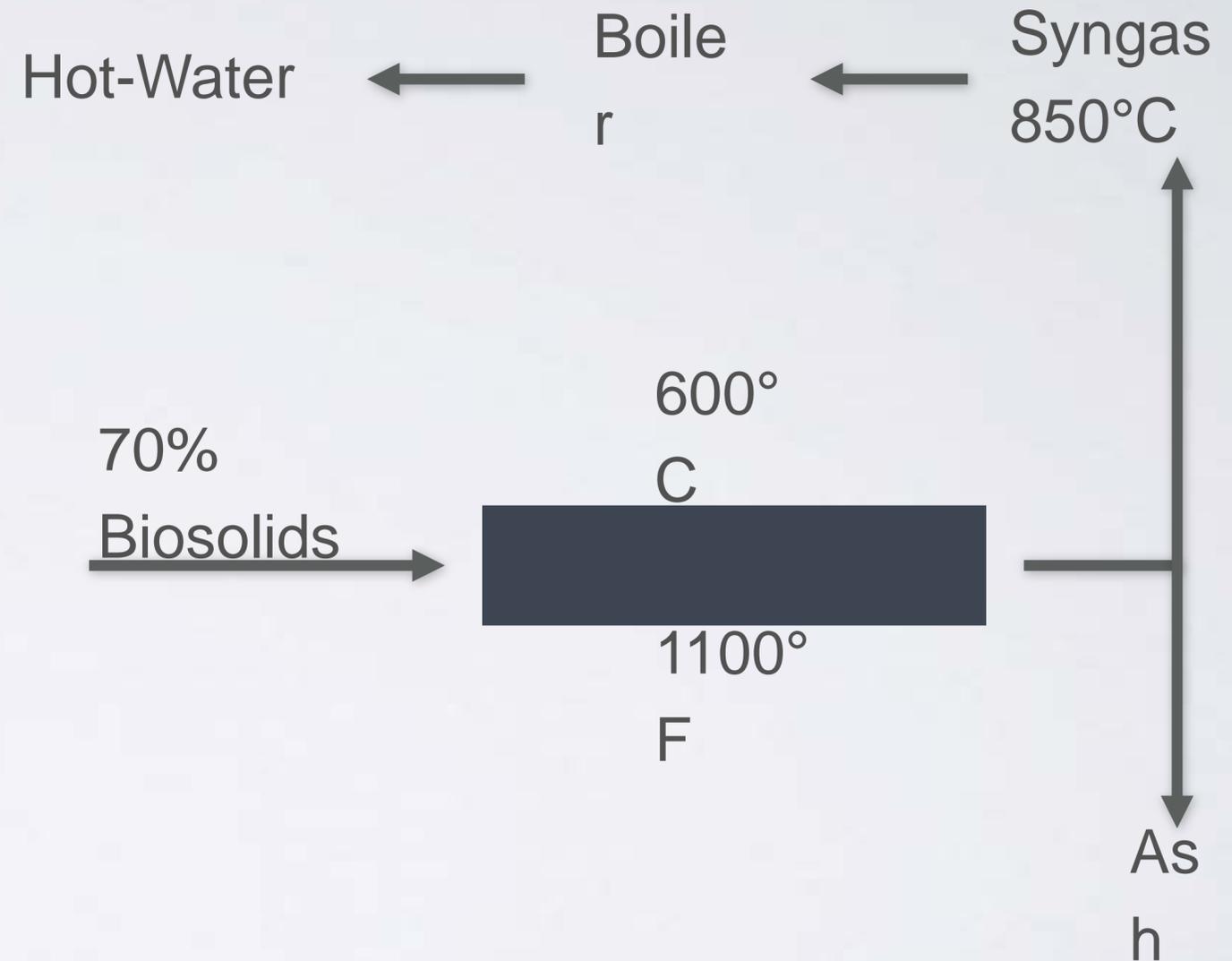
“Biosolids to energy”

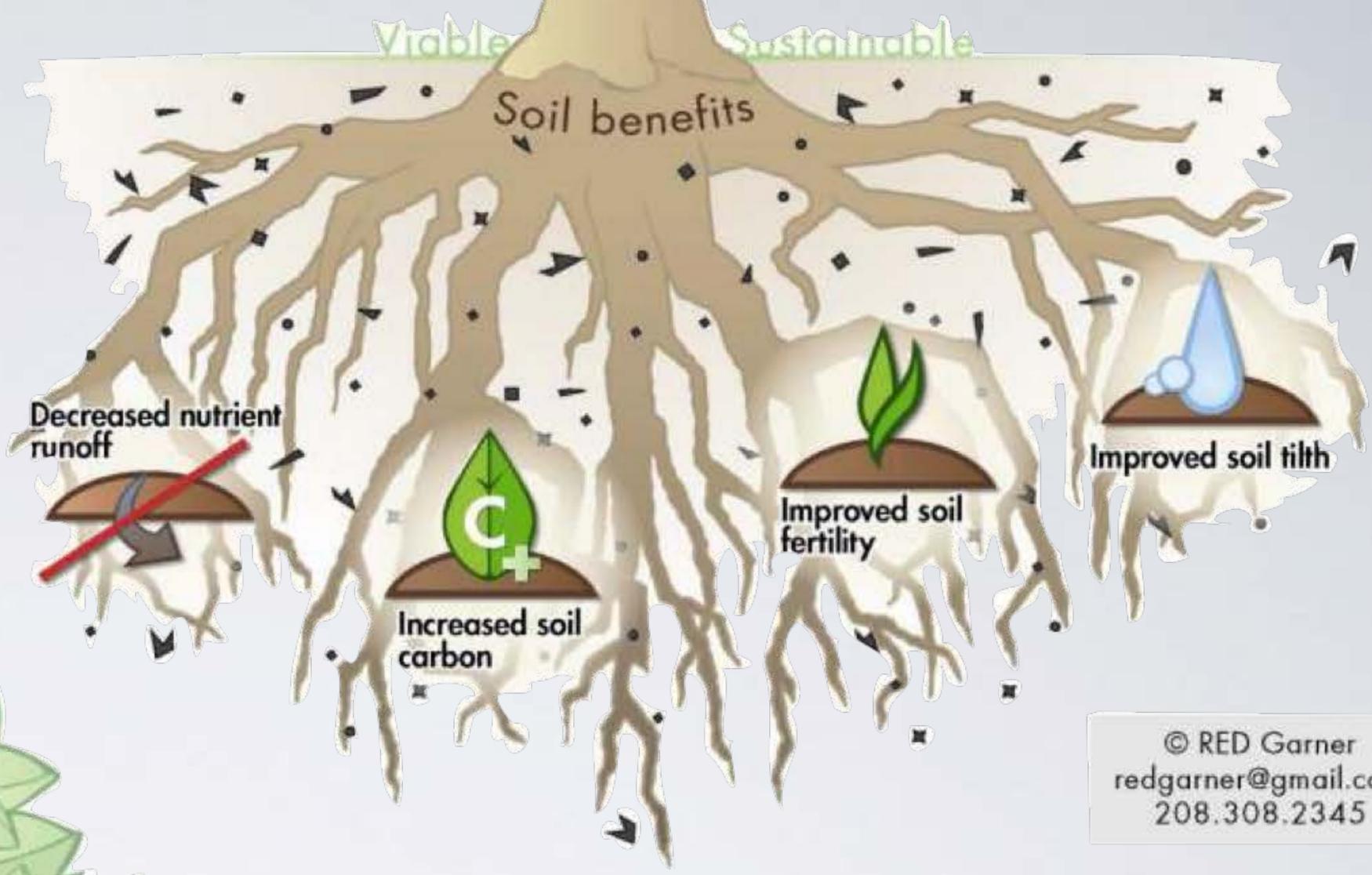
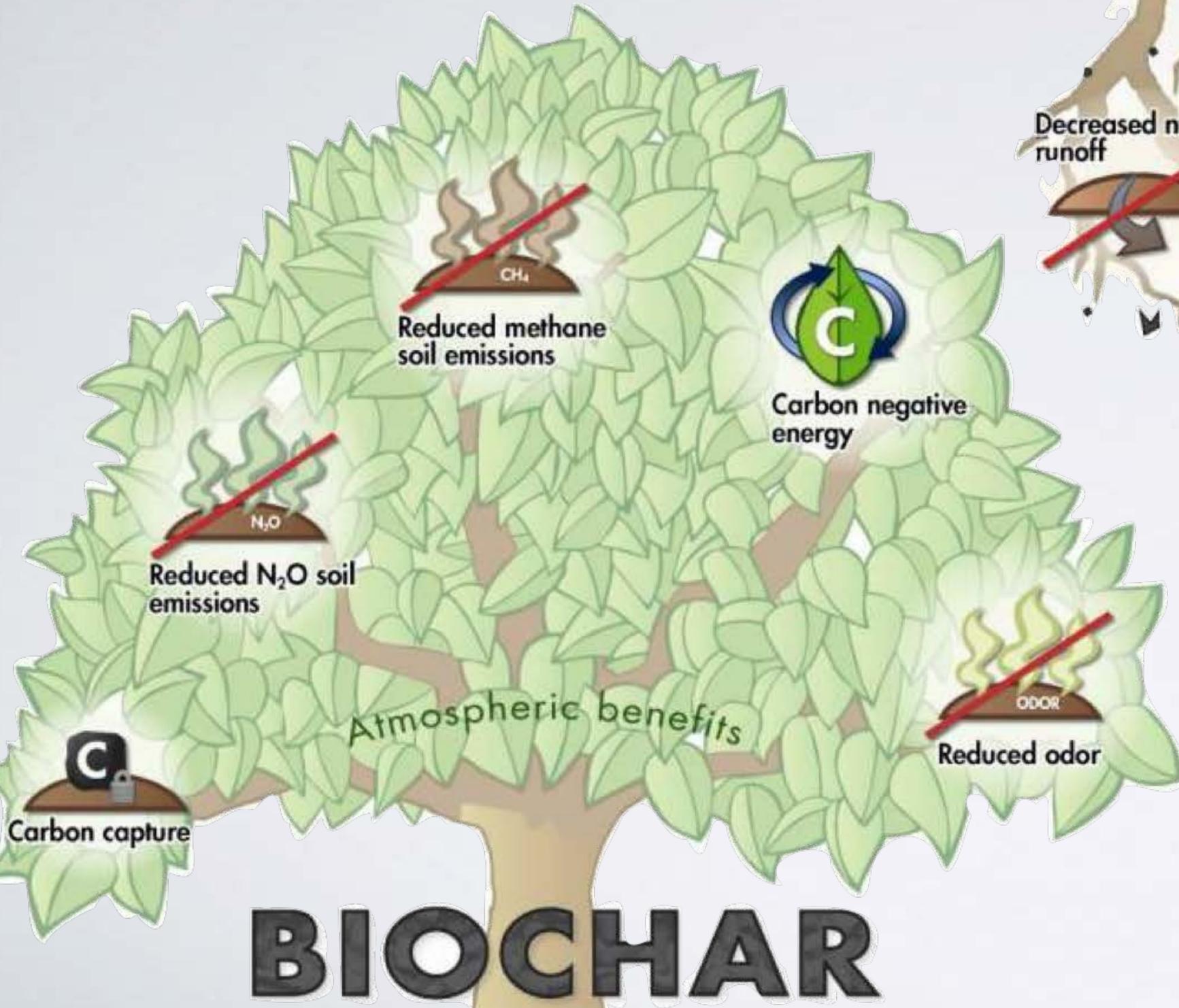
PRODUCE CLEAN ENERGY : PYROLYSIS

“Pyrolysis is a thermochemical decomposition of organic material at elevated temperatures in the absence of oxygen”

PYROLYSIS REACTOR

- Self-sustained process
- Additive-free
- Reactor temperature - 1100°F
- Conversion efficiency : 85%
- Process time : 30 min ca.
- Clean emissions
- NON-HAZARDOUS Ash

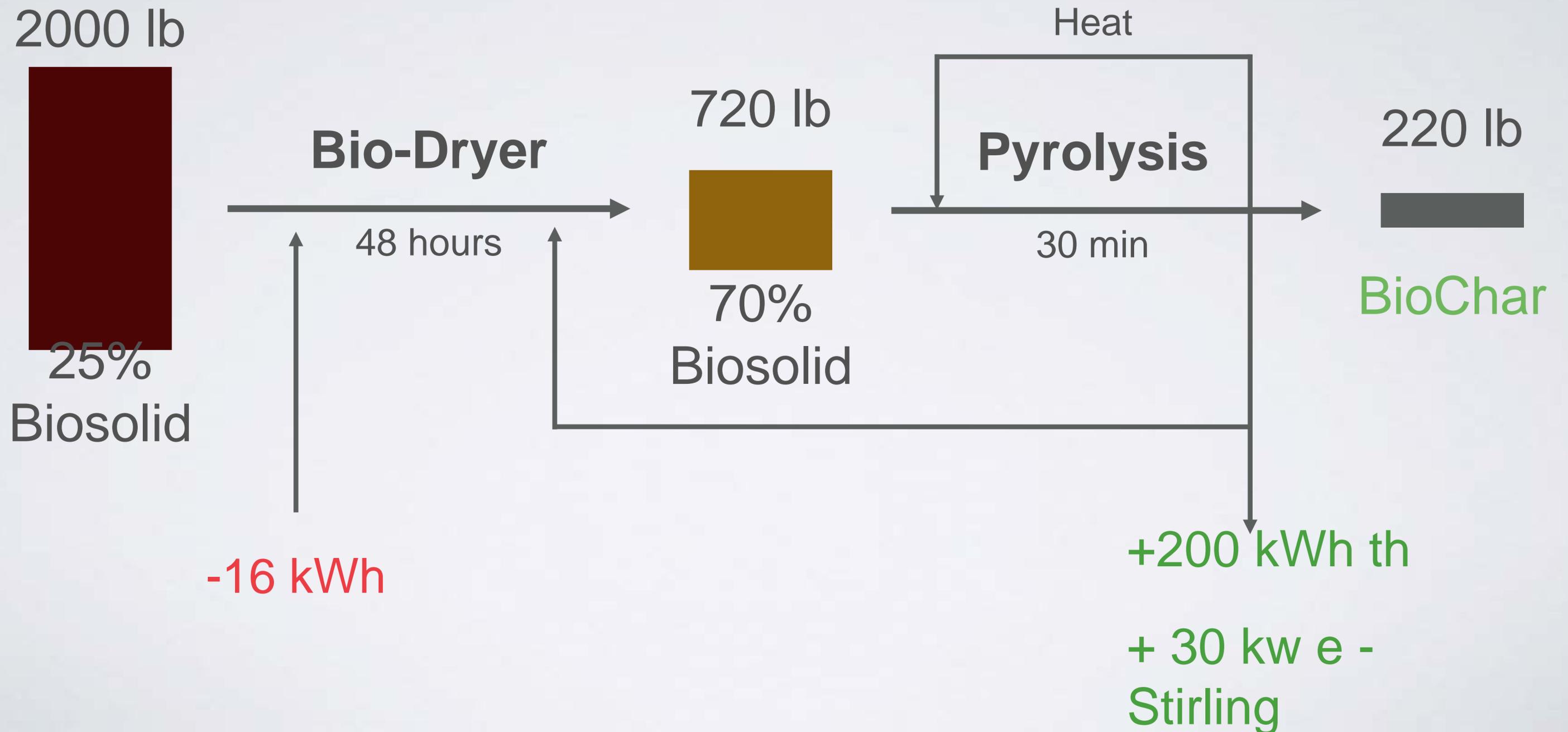




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redgarner@gmail.com
208.308.2345

- Macquarie University - Australia
- Rice University - Houston TX, USA
- Madrid University - Spain
- Beijing University - China

ENERGY & MASS BALANCE



2000 LB OF BIOSOLIDS



**+ 230 kWh
(carbon negative)**

**+ 220 lb
(useful byproduct)**

**-90%
(transportation)**

**fixed price
(15 years)**

Additive free

Operators free



**FULL SCALE BIO-DRYER
MAY 2014**

FULL SCALE BFT-DRYER

- Dryer Capacity : 9 ton
- Length : 40 feet
- Fully automated by AI
- Quality :
 - Stainless Steel
 - Made in Italy 
 - 60 years of experience
 - fully recyclable (PVC free)





NEXT WEEK

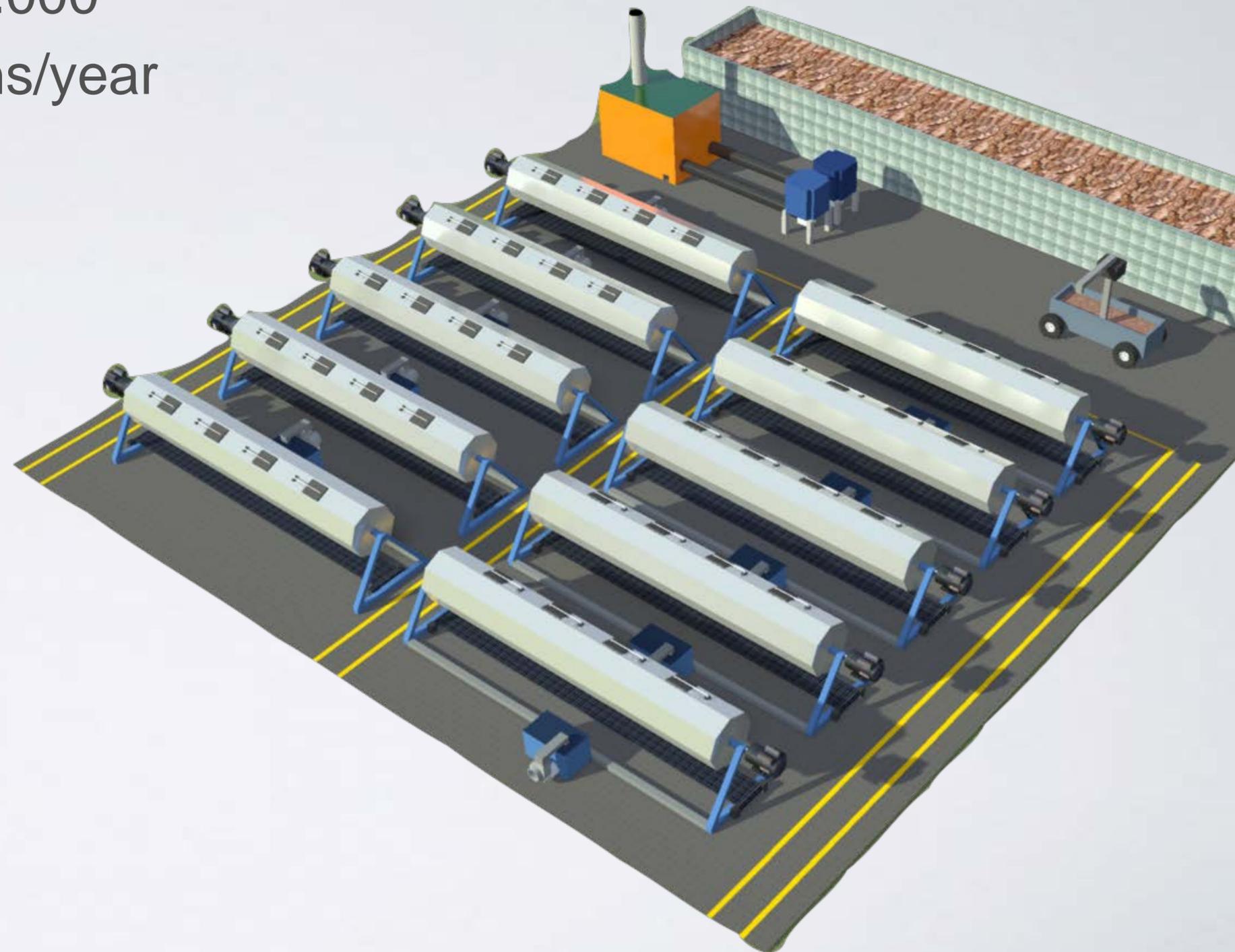
Visitors are
welcome ;)

FULL SCALE BFT- PLANT



13.000
tons/year

- 8 to 10 full scale Dryers
- 100 feet x 100 feet
- Fully automated : no operators
- Pyrolysis : 1000 lb/h
- electricity : 40 kWh (stirling)
- Output : 300 kWh & 330lb BioChar



Let's make it
green
FOR REAL

