



Hyperthermics™

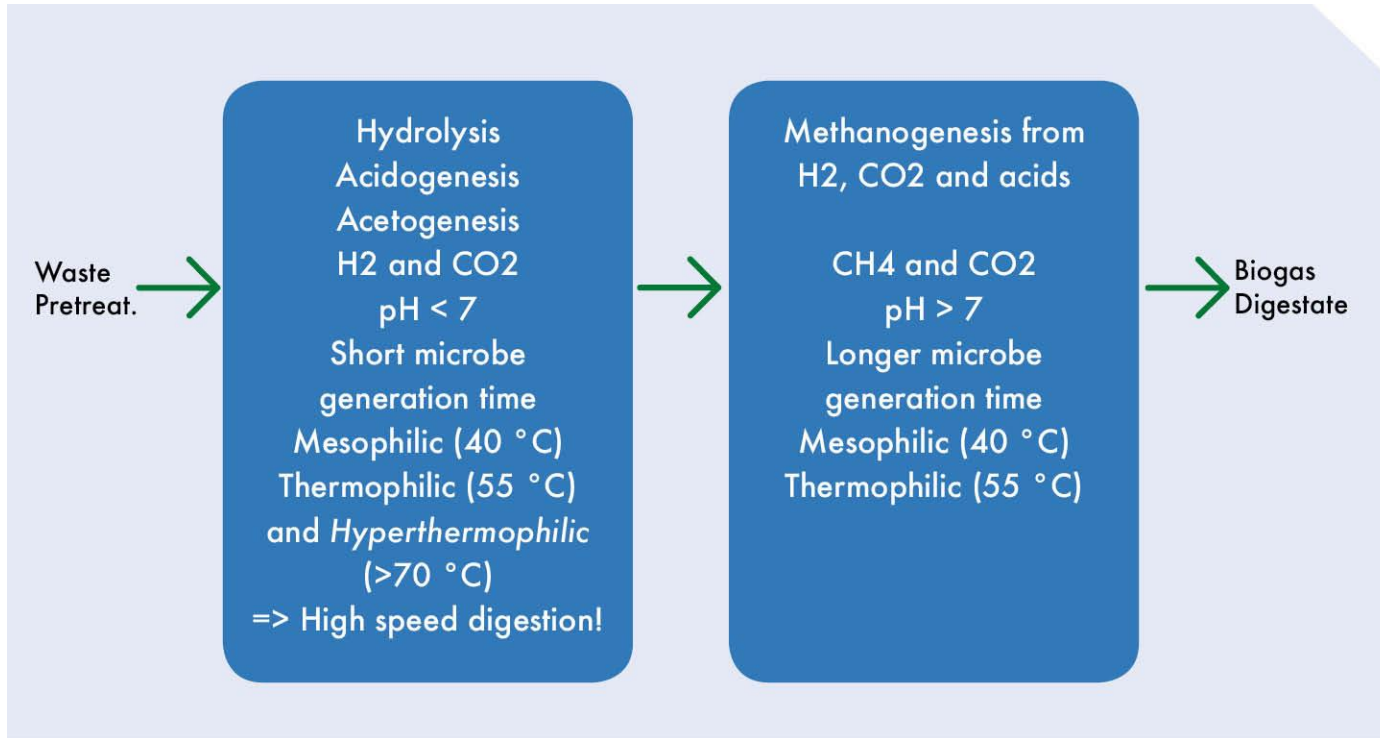
THE GREEN SHIFT REVOLUTION





**Increase your biogas
production with bioactive
pretreatment.**

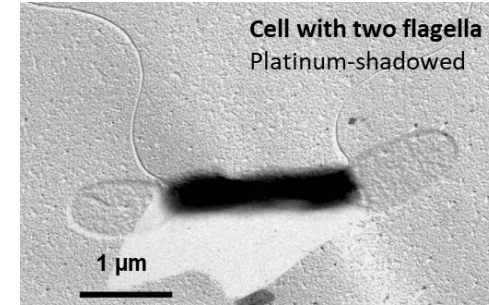
Staged biogas process



Thermotoga – why using Thermotoga?

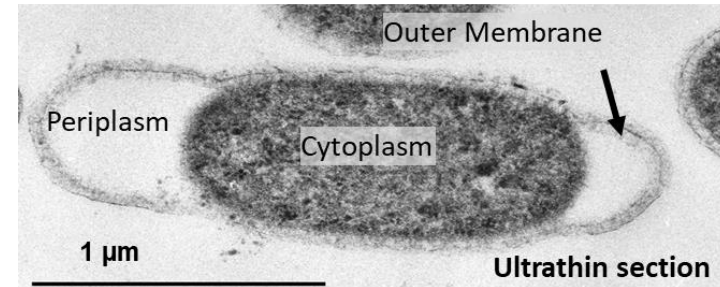
Thermotoga spec.

- Domain; Bacteria
- T; 55 - 90°C
- T_{opt}; 80°C
- Biosafety level 1
- No danger to AD microbial communities

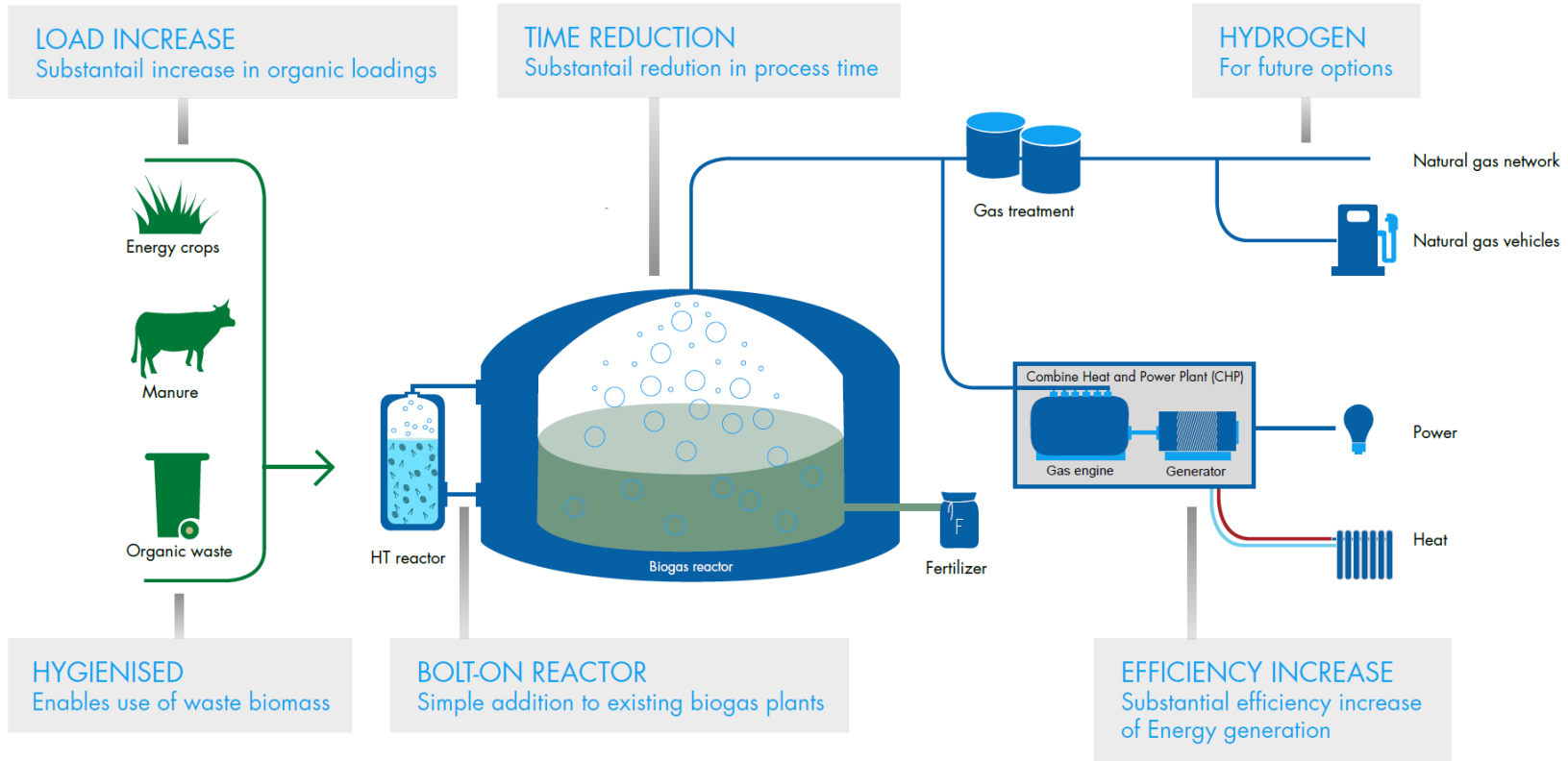


Thermotoga compared to other bacteria or archea tested, shows good heterotrophic cultivation in the laboratory on various polysaccharides

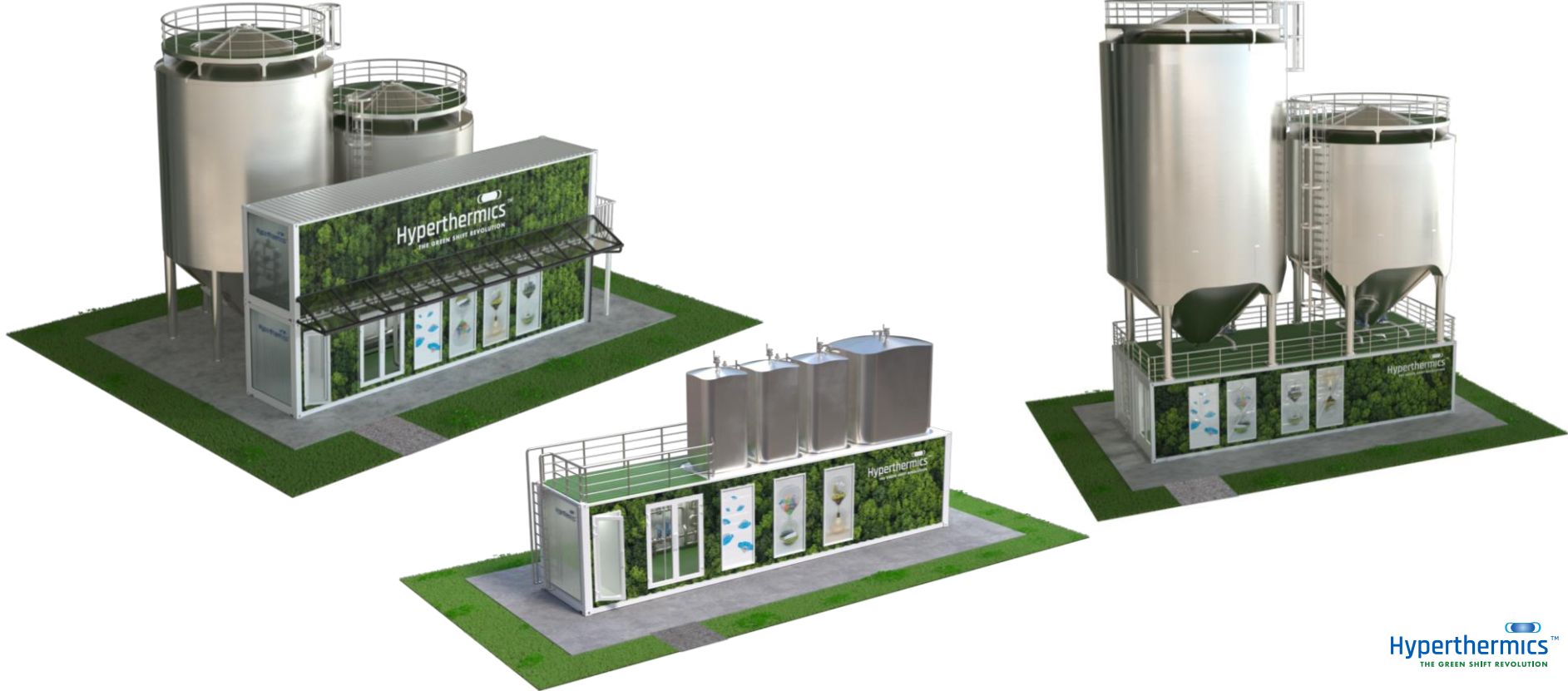
- Starch
- Hemicellulose (cellulose)
- Xylose and other C5 – sugars
- Glucose
- Various waste materials



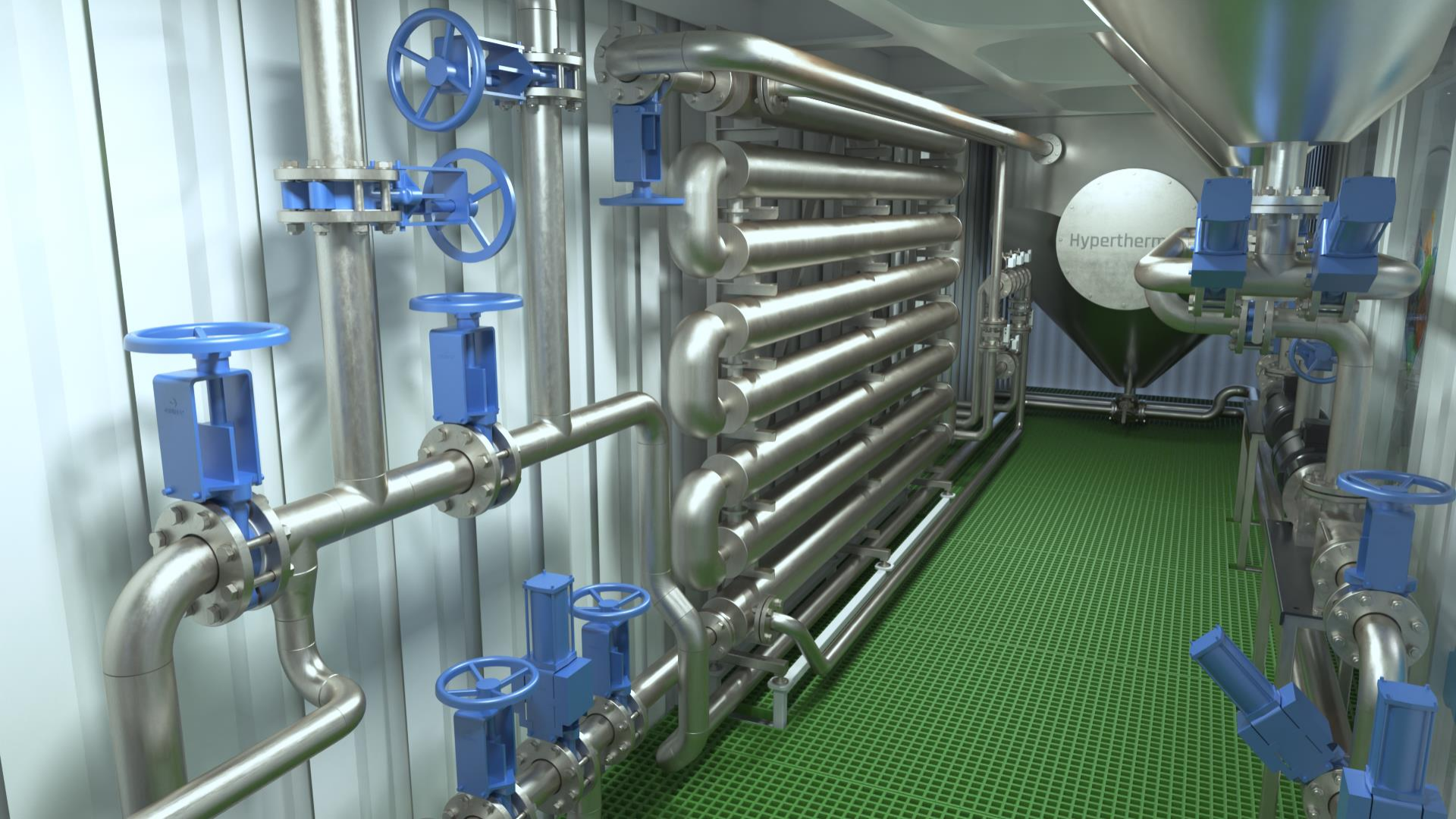
Bioactive pretreatment plant from Hyperthermics



Product range, from 10.000 to 400.000 ton a year



















The world's only full scale plant with hyperthermophilic organisms



Hyperthermics at Lindum has been operating on;

- Food waste
- Sewage sludge
- Pulper sludge



Full scale operation;

- Robust process.
- Active biofilms.
- In all biology it is an advantage with stable conditions.
- From 70% pulper sludge and 30% food waste, significant increased methane production.
- Proven scale up from lab.



Hyperthermics offers a faster, smarter and more sustainable way to contribute in the green shift.

The Green Shift Revolution



**See you at the excursion
tomorrow**

Thanks for your attention



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production with bioactive
pretreatment.**