





MSAD: Methanosarcina detection and addition for optimised anaerobic digestion

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## Summarv

Anaerobic digestion (AD) is a complex biological process whereby organic waste is broken down to produce biogas. This project will demonstrate the potential of Methanosarcina as an inoculant for the AD industry and develop an optimised method for detection.

## Aims

- Trial the use of . *Methanosarcina*, a promising methane producing microbe, as an inoculant for AD improvement.
- Determine an assay for simple measurement of Methanosarcina as an indicator of AD health.

## Outcomes

- Identified that the presence of Methanosarcina, a methane producing archaea, has correlated with higher biogas vield within AD systems.
- Demonstrated that Methanosarcina can remain colonised within the system and contribute to methane production from the breakdown of the waste.



"The funding allowed us to test a theory and further develop our relationship with industry. As a result we've secured follow on funding to put practice" Caroline Orr.

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our findings into **Teesside University** This proof-of-concept project was awarded by the Biomass Biorefinery Network and funded by BBSRC. For more information visit<u>bbnet-nibb.co.uk</u>.