



GEOHERMAL FUELS PROSPERITY: FOOD FOR THOUGHT

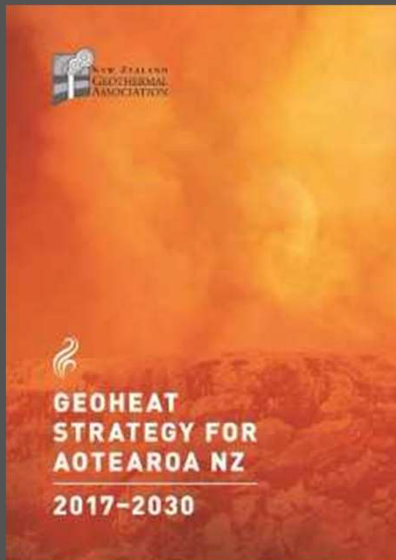
Andy Blair

andy.blair@upflow.nz

Direct Use Geothermal

GeoHeat Strategy target by 2030:

- 7.5 PJ/year additional geothermal direct use
- 500 new jobs in geothermal related businesses



nzgeoheat.org.nz



 Upflow



Direct Use Innovation: Miraka

- Established 2011
- 70,000 cows from 100 farms within 85km of plant
- 300ML of milk processed annually
- Exports milk powder and UHT products
- Geothermal steam for processing operations
- Waste solids go to worm farm and fluids are used for irrigation
- Product development: Whai Ora smoothies, Taupo Pure Powders



Feeding Methane to Cows

- Convert stranded gas emissions from oil/geothermal industrial waste gas streams into niche protein and carbohydrate biofeedstocks using NZ naturally sourced non-GM microorganisms
- Demonstrate that the biomass produced suits the nutritional requirements of livestock and other animals (e.g. aquaculture)
- Avoids scalability issues that have previously depressed the use of lignocellulosic biomass by using extremophilic microorganisms

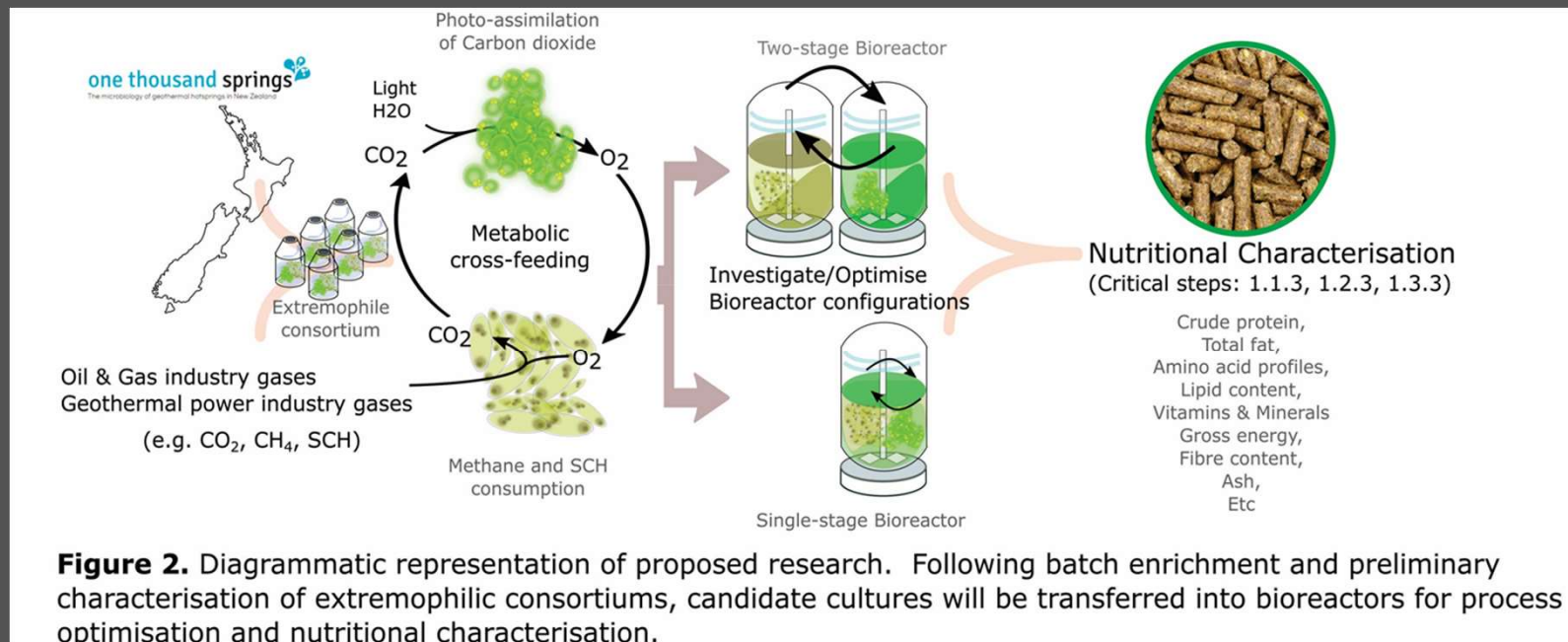
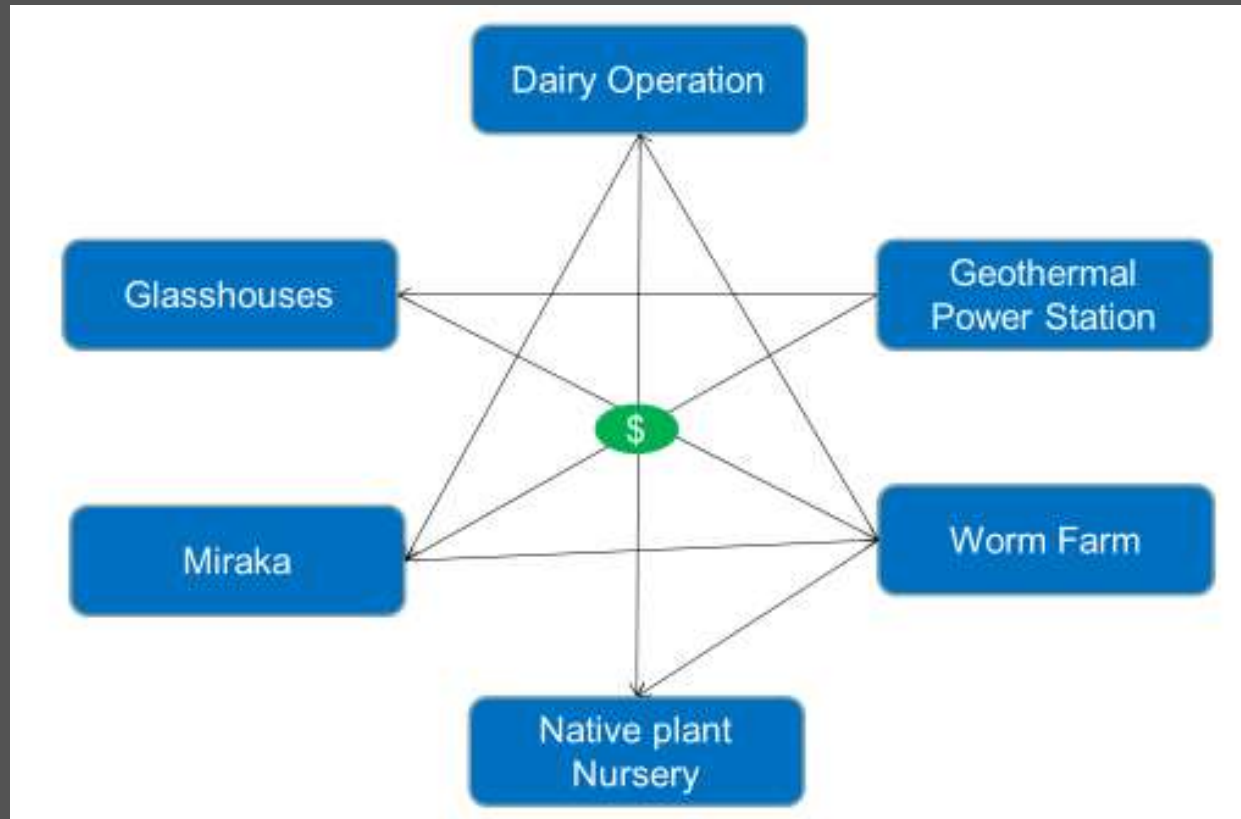


Figure 2. Diagrammatic representation of proposed research. Following batch enrichment and preliminary characterisation of extremophilic consortiums, candidate cultures will be transferred into bioreactors for process optimisation and nutritional characterisation.

Integrated Use





KIA ORA! QUESTIONS?

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