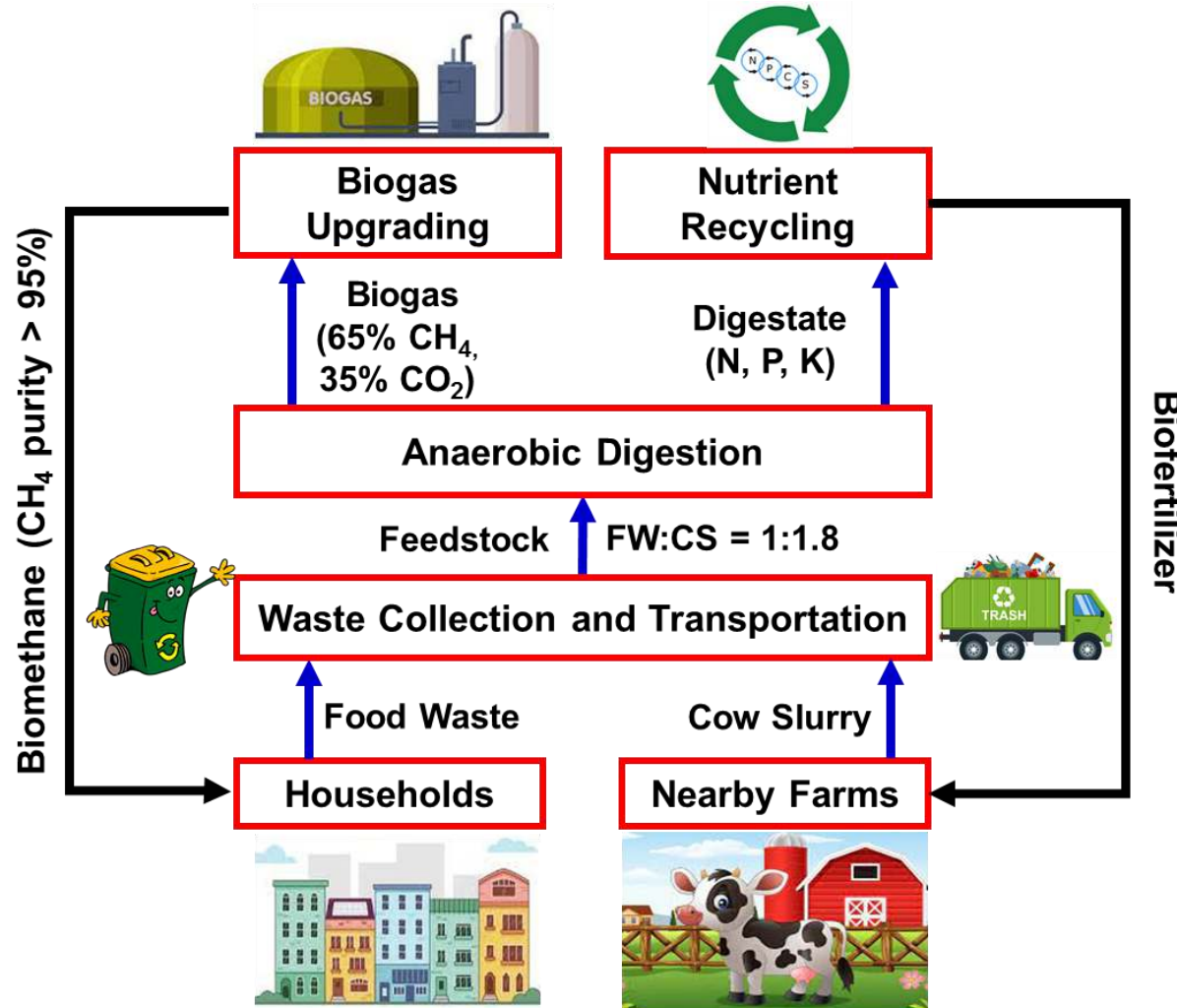
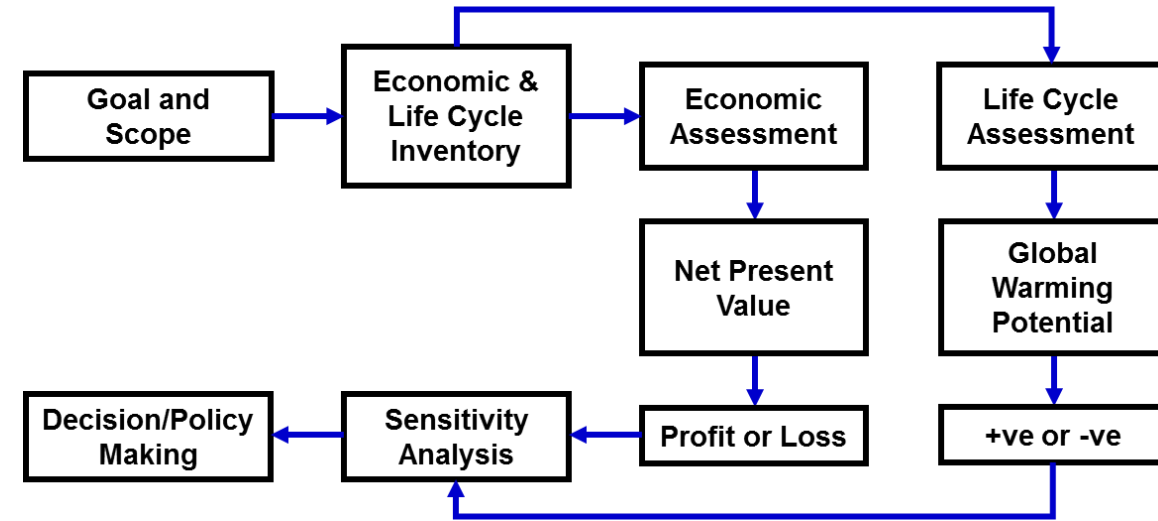


Economic and Environmental Assessment of Organic Waste-to-Biomethane Conversion

Circular Chain of Waste-Biomethane-Biofertilizer



Methodology



Findings

- Coverage of 0.8% of annual domestic natural gas demand in Glasgow, UK.
- Avoidance of 264 kg CO_{2-eq} carbon emissions.
- The membrane separation-based technology has the best economics (highest efficiency (83%))
- PSA has the worst carbon abatement potential
- Investment is economically infeasible under current government schemes
- Carbon tax £31.30 /tCO₂ is required to generate profit.

Implications

- Decentralised systems co-digesting food waste and sewage sludge