

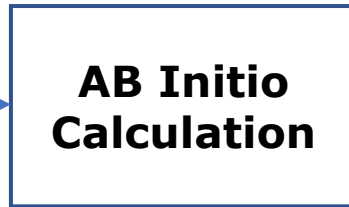
PhD Research Opportunity

Environmental LCA of Renewable Fuels/Chemicals

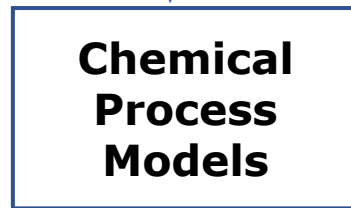
Model Construction

This project uses computational chemistry, thermodynamics & chemical reaction engineering to model the environmental impact of early stage **renewable** fuel/chemical synthesis to address **climate change, water** and **human health** impacts. A new method is developed and compared with machine learning approaches.

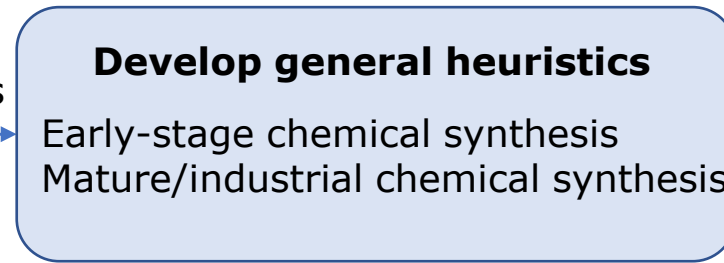
Experimental data:
• Reactants
• Products
• Molecular structure



Thermodynamic data
• Enthalpy of formation

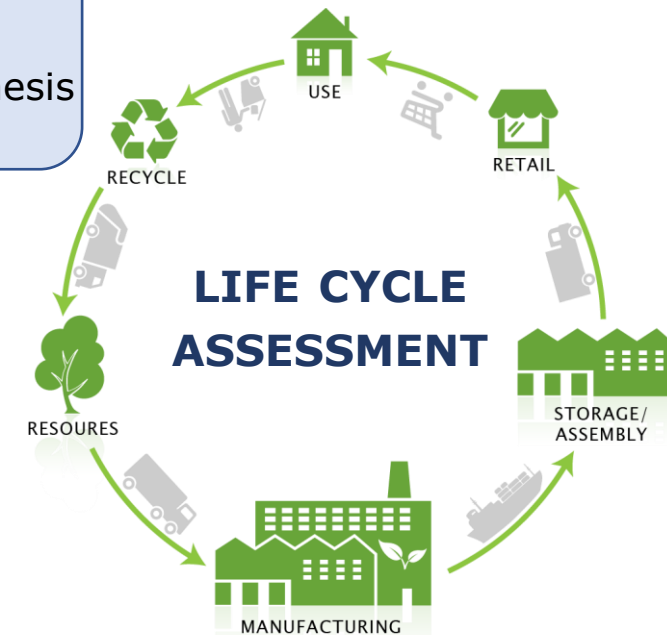


TEA metrics



LCI data
LCIA metrics

• Material, energy balance
• Capital and operating costs



Keywords: Life cycle Assessment (LCA), Techno-economic analysis (TEA), chemical process modeling/simulation, economics

Contact: Prof. Sabrina Spatari (ssabrina@technion.ac.il), Civil & Environmental Engineering