

Industrial Symbiosis for Circular Economy (ISCE)

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Industrial Symbiosis

**Use of Waste of one entity as
resource by another entity**



ISCE

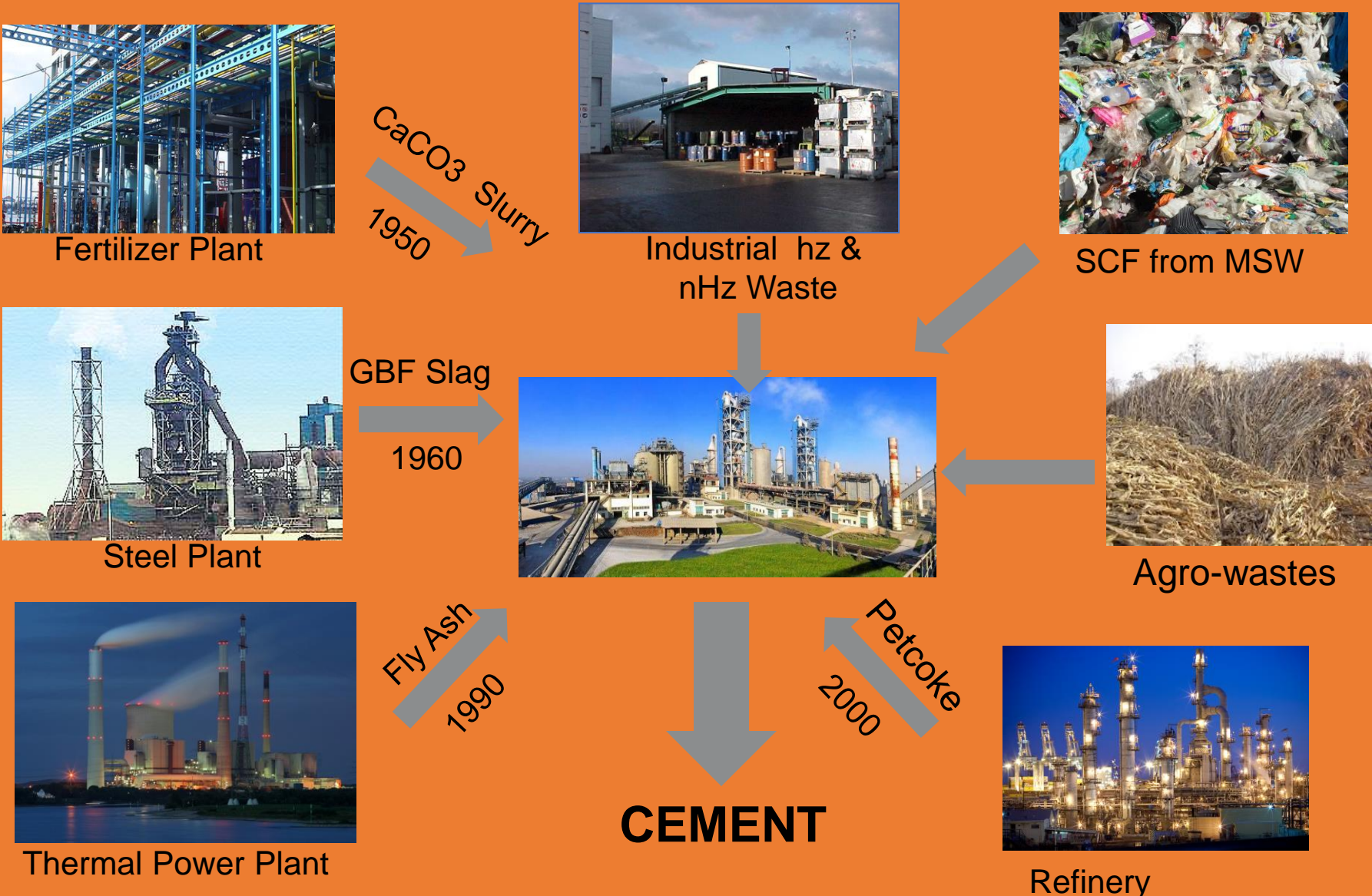
ISCE is a unique initiative based on Market Place and Innovation Hub for Developing Secondary Resources from Wastes.

There is a Donor and an Acceptor agency.

Cost reduction, Revenue generation and Environmentally sustainable Management of Wastes are the BENEFITS of building Industrial Symbiosis while moving towards Zero Waste Circular Economy

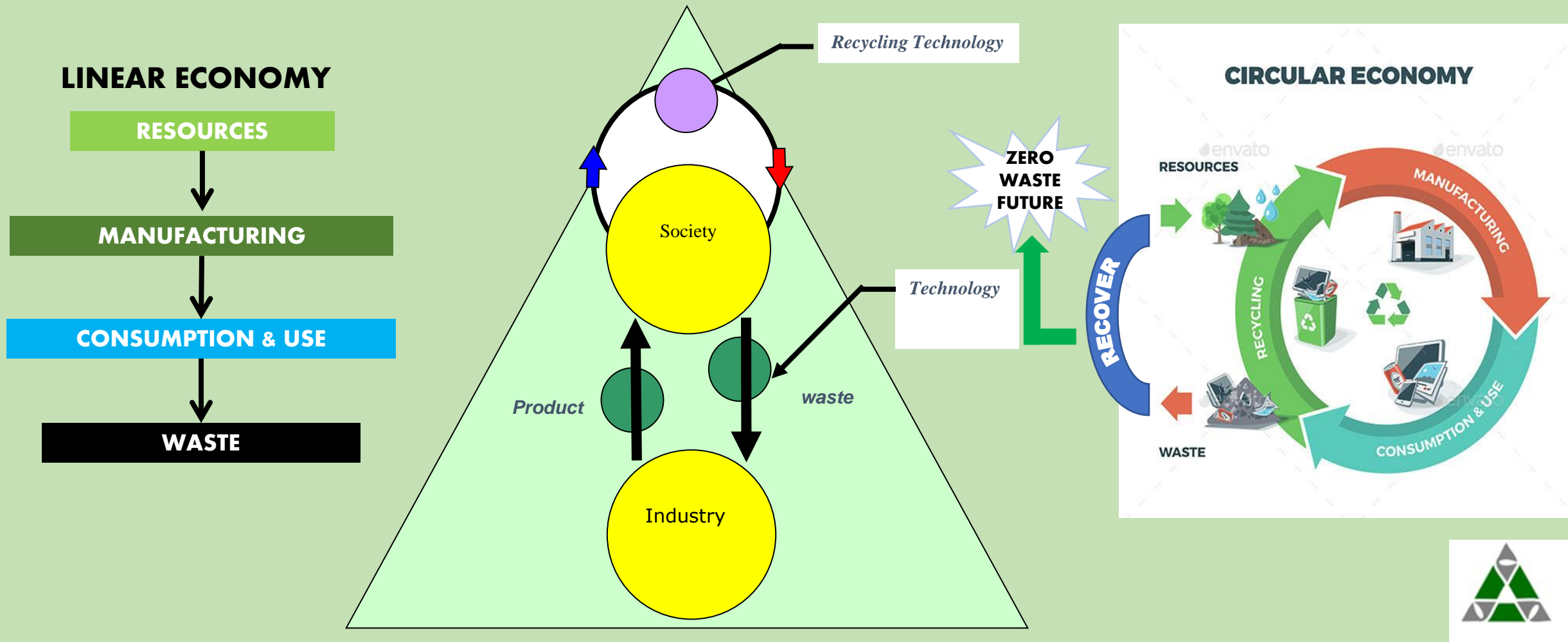


Cement Industry & Industrial Symbiosis!



Industrial Symbiosis → Circular Economy

Reject of one entity becomes an appropriate economical input of another entity and we avoid environment becoming a sink for polluting rejects



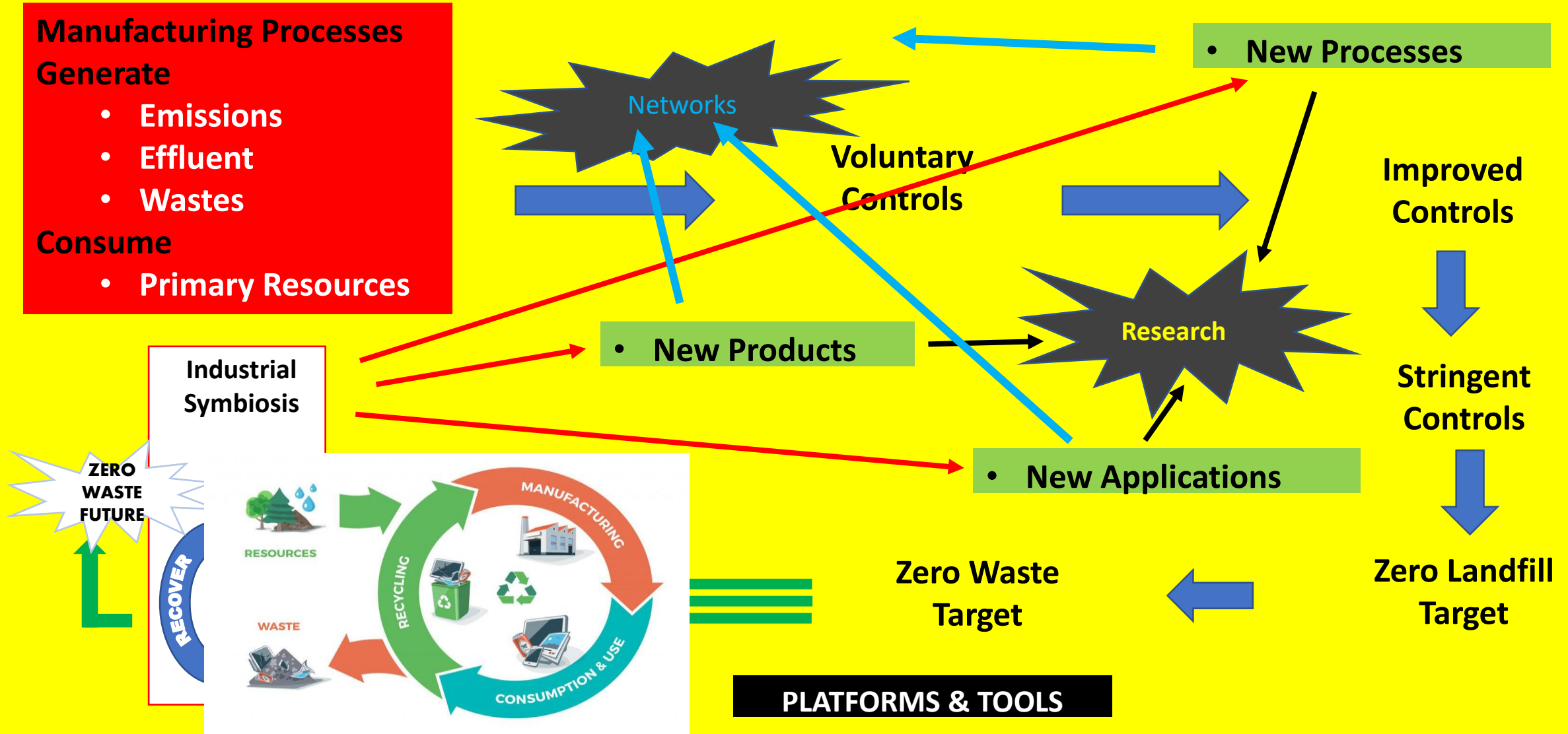
Need for Building ISCE

Manufacturing Processes Generate

- Emissions
- Effluent
- Wastes

Consume

- Primary Resources



Fundamental Principles of Industrial Symbiosis

Industry 1 – Earns Money

Waste Generator

- Waste is a liability
- It needs to be sustainably managed
- Waste Management is an expensive proposition.
- Waste can be converted into secondary resources.
- A processing facility is required to convert wastes into a secondary resource.
- Secondary resource can be sold to earn revenue

WIN – WIN BOND



Industry 2 – Saves Money

Secondary Material User

- Natural resources are getting exhausted.
- Natural materials are expensive and likely to become more expensive
- Use of secondary resource is a desired sustainably initiative.
- Secondary resources are priced lesser than natural materials and hence money can be saved.



What needs to be done for building Industrial Symbiosis?

Target “WASTE” as a “RESOURCE”



Convert “WASTE” into a “RESOURCE”



Industrial Symbiosis needs Conversion of Wastes into Resources



Pre-Processing of Waste into Product

Combustible Waste from
MSW



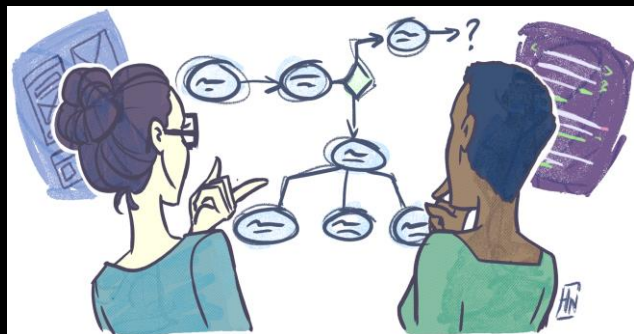
Pre-Processing
Facility



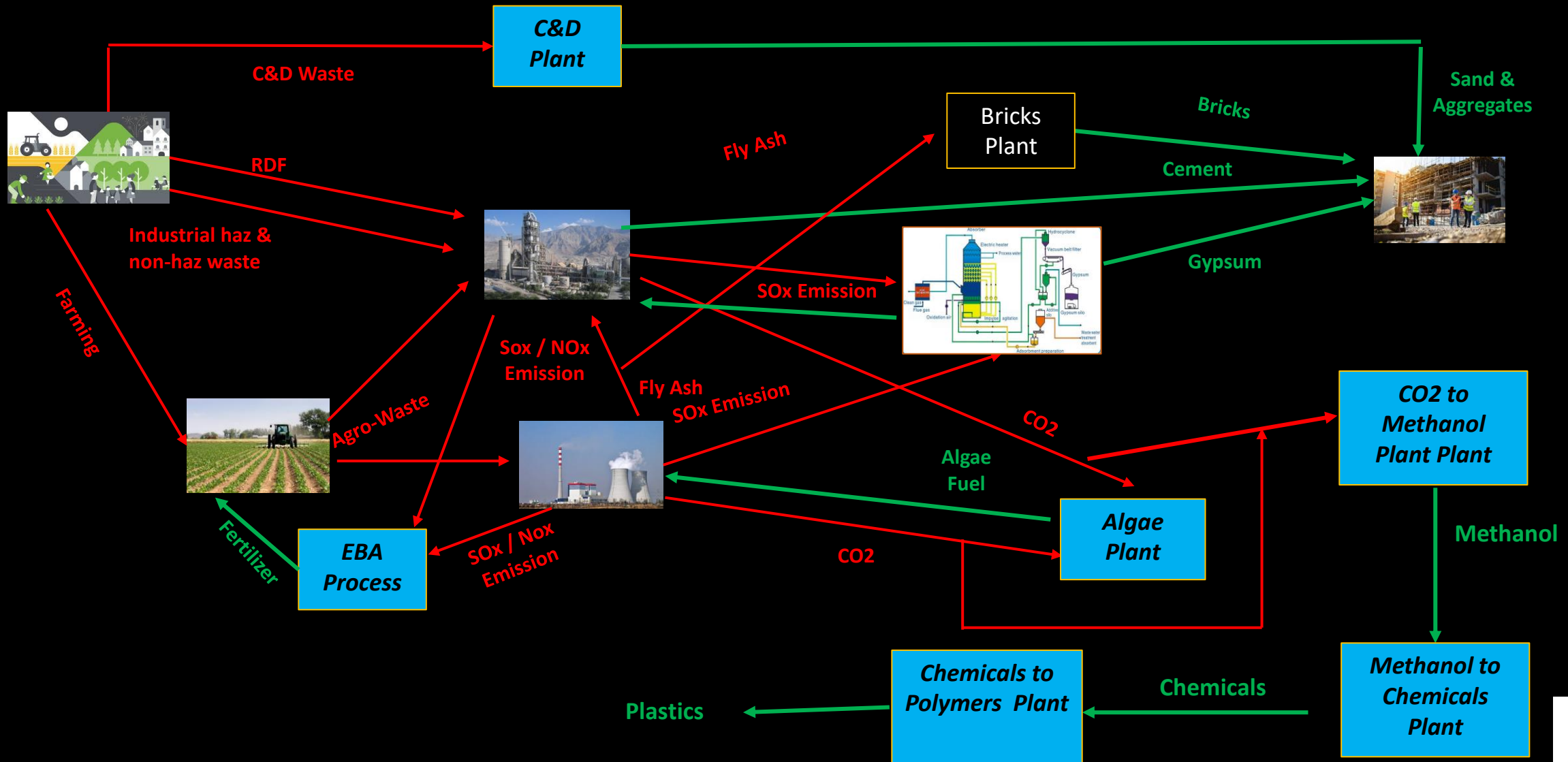
Refuse Derived
Fuel (RDF)



A Well Laid Out Approach Is Required For Utilizing Wastes As Resources



Industrial Symbiosis – Building Eco-Parks



Business Model For Dump-yard Management

Case Study - Prayagraj



Digital Interventions to facilitate Industrial Symbiosis

- Waste Data Banks
 - Pollution Control Boards / Municipalities / Institutions
- GPS enabled movement of wastes / Resources
 - Logistics Companies
- Waste Exchange Banks
 - CII / Other institutions
- Industrial Symbiosis Platforms
 - Recykal / Cerclex / Industrial Synergy
- AI Powered wastes segregation aids
 - Ishitva : It uses the picture / colour of the packaging to segregate
 - META BINS : It uses the QR code to segregate the plastic and other materials.



Thanks!



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