

# ***LIVING CREATURES***

Yutao Huang





An architectural drawing of a city street. A central green corridor, possibly a park or pedestrian walkway, runs vertically through the middle of the street. On either side of this corridor are rows of buildings. Some buildings are shown in a more detailed, colored style (orange, yellow, green, blue), while others are in a lighter, more schematic style. The drawing uses a combination of perspective and plan views to show the layout of the street and the placement of the buildings.

# LIVING CREATURES

Adoptable, Breathable, Walkable

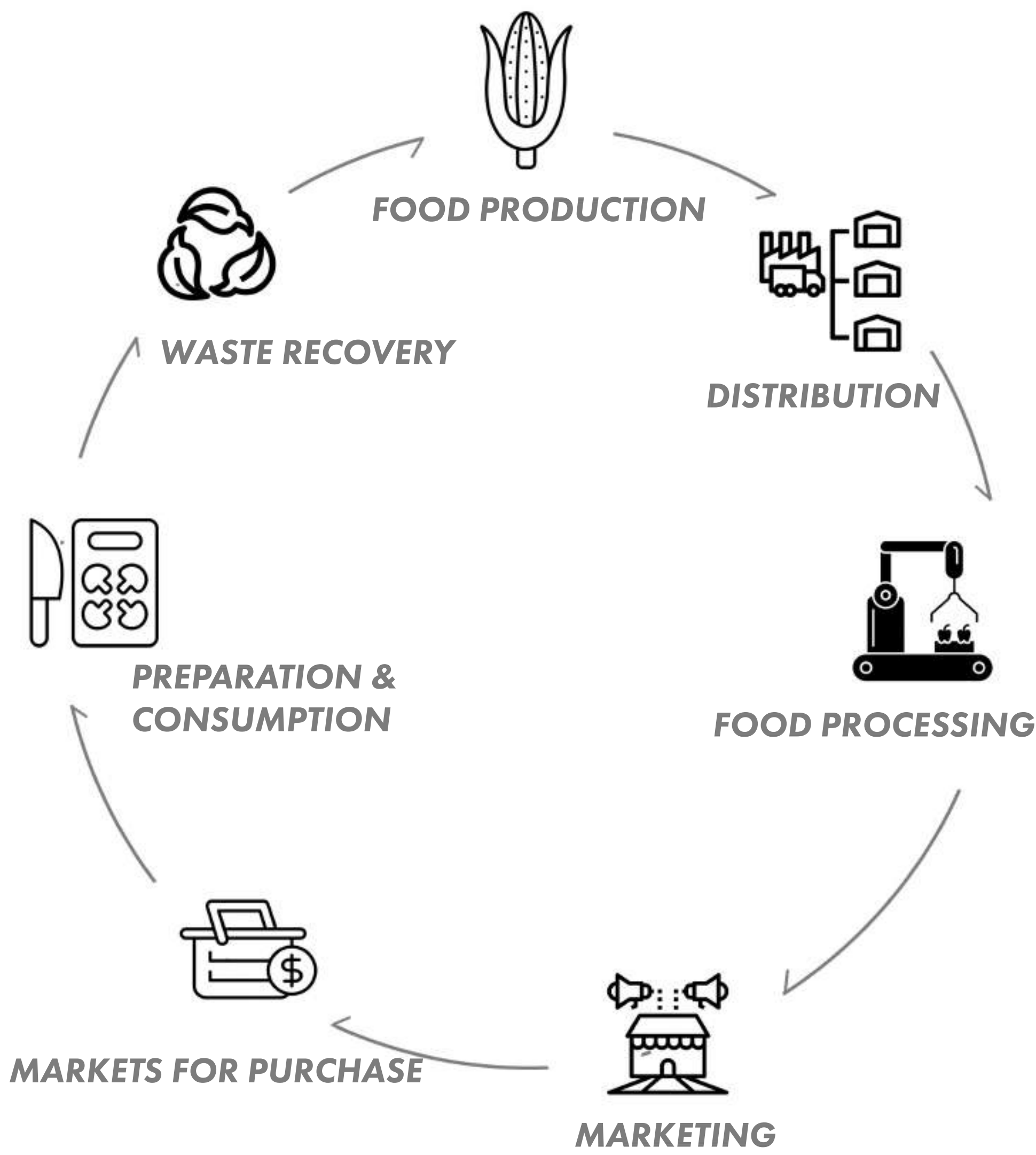
The demands for energy use increased along with the pace of the human race's development while the balance of our planet earth shakes with excessive Carbon dioxide, Methane, Nitrous Oxide, F-gases resulting in Global Warming. The Flood in Venice, the Australian bushfire, and many other signs are sound evidence that finding a solution to reduce carbon release is an urgent mission and responsibility of all architects.

Architecture is heavily responsible for GHG (Greenhouse Gas) Emissions. Building materials and construction waste produce 11% of annual global GHG emissions. 28% of GHG Emission is produced with Building Operations. Wasted materials from the construction of buildings are reusable. Greywater, cooking oil, and heat gain from the sun are reusable. The previous generation of architecture didn't offer the capacity of growing food- vertical farming, reusing rainfall- greywater or composing waste- biodiesel facilities to turn material into products.

The Urban Jungle, the title of a book by Upton Sinclair describes the lives and atrocities of the Chicago Union Stockyards producing food for the world but polluting the very source of water and land in which the stockyards were built and limiting the prosperity of the workers and their families. The Urban Jungle today refers to the life of the streets, the alleys, subway systems, and impoverished neighborhoods. It describes the densely packed living area with residential and commercial, civic and educational, recreational, and leisure activities of people without the opportunities to flourish. The urban jungle is not able to function on its own, requiring outsourcing of energy (from the US- three electrical grids; food, from global distributors, flying and shipping grapes and bananas and salmon to affluent neighborhoods without food deserts. Today's urban "jungle" lacks cohesiveness and connection between the underserved and the affluent and sustainable connectivity between human and ecological systems.

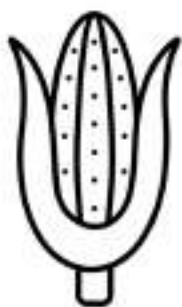
These Cube Cells reminds us of the source of our living on earth and asks architecture to be more responsive in its design. It's also a way to imagine how we can adapt to our existing architectural language. Reusing building waste, growing food, inviting social interactions are other ways effective ways nature reduces greenhouse emissions and so can humans. Perhaps the building shouldn't begin on the ground floor, but follow Corbusier's theory, raising the building on pilotis and allowing the prairie to grow freely.

**EXISTING URBAN FOOD CHAIN**





**MICRO FOOD CHAIN**



**FOOD PRODUCTION**



**MARKETS FOR PURCHASE**

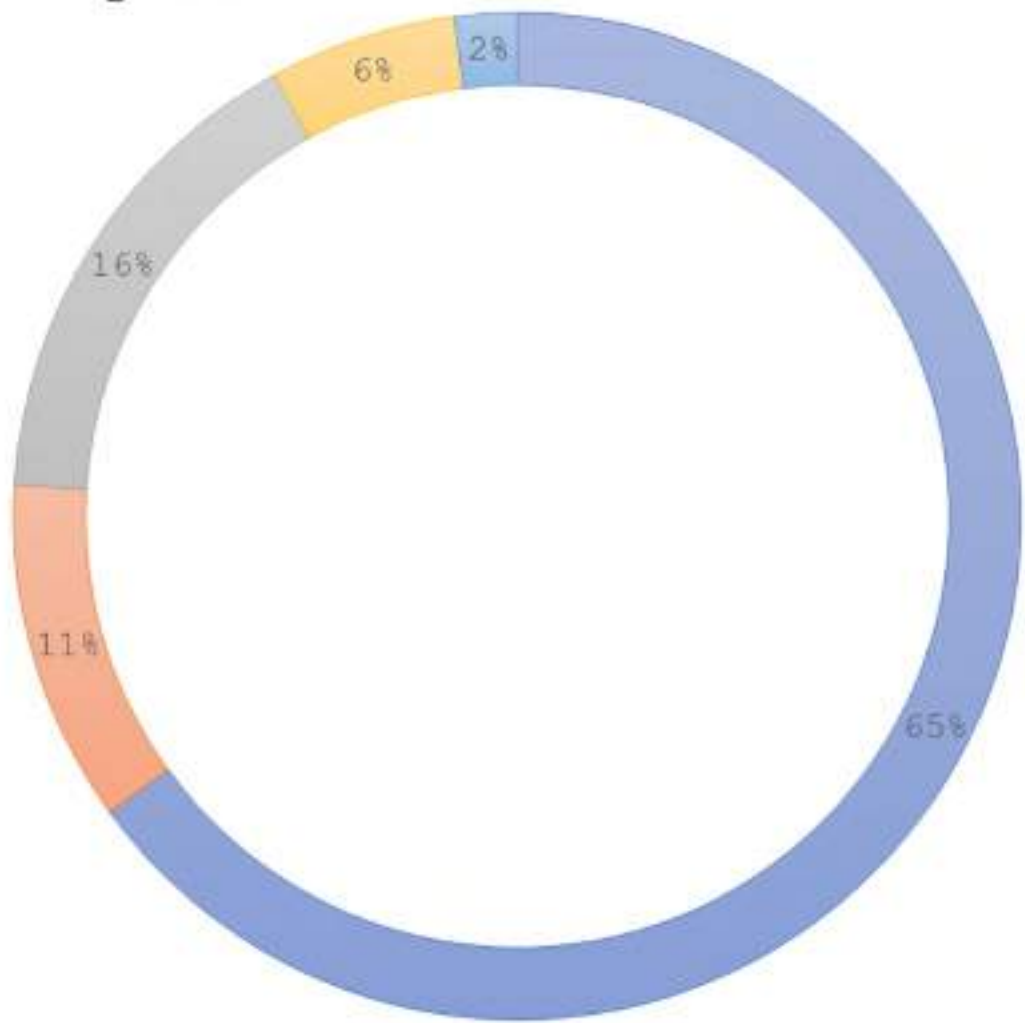


**PREPARATION &  
CONSUMPTION**



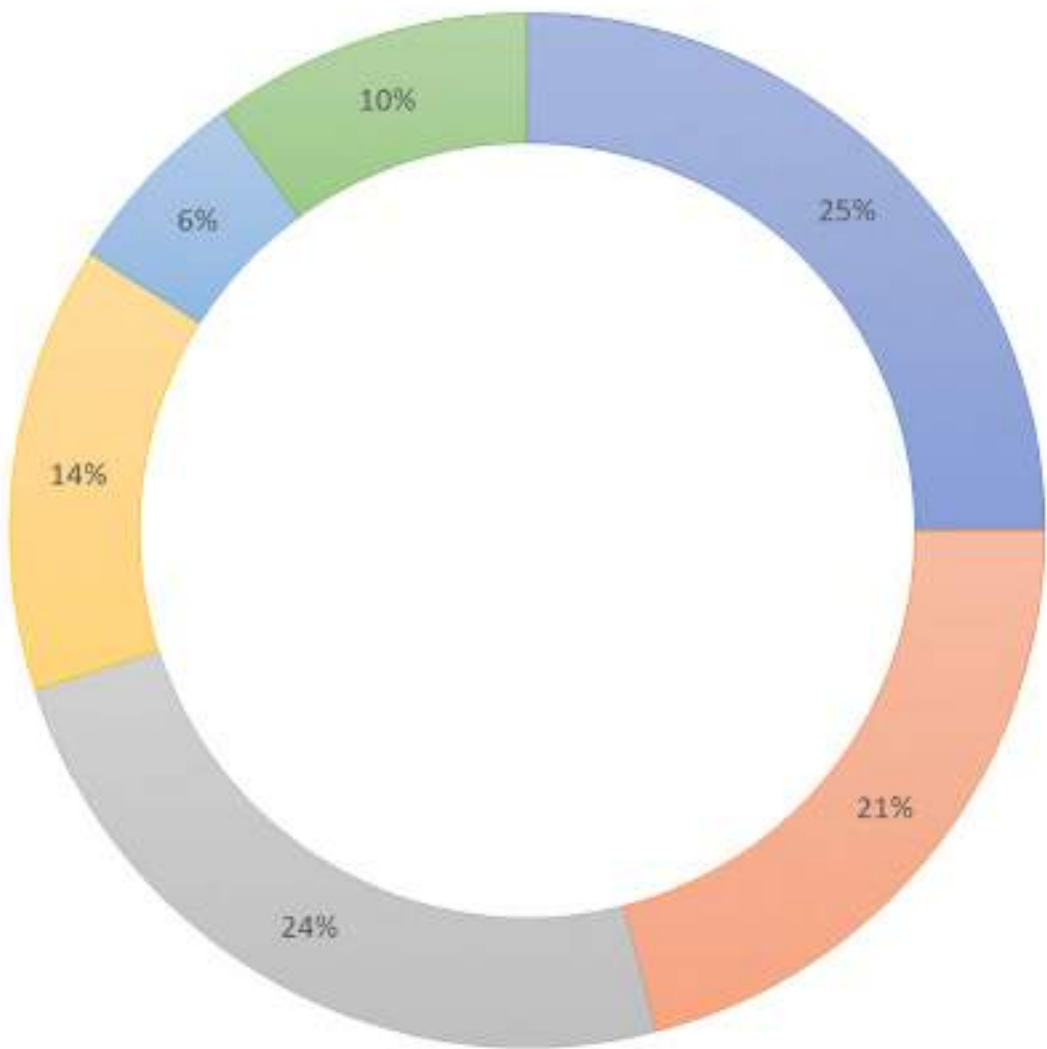
**WASTE RECOVERY**

Global Emission by Gas

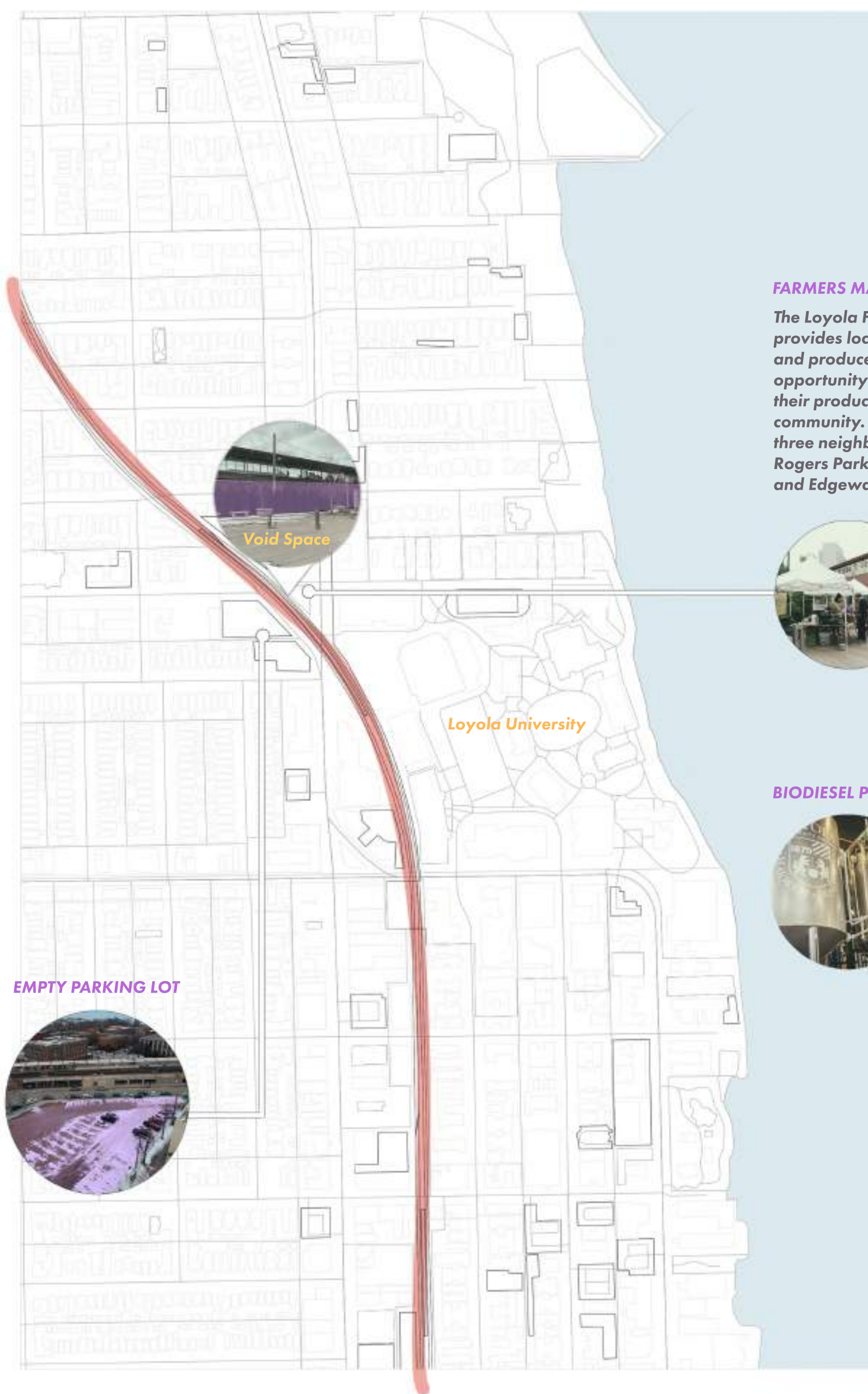


- Carbon Dioxide (Fossil Fuel & Industrial Proesses)
- Carbon Dioxide (Forestry and other land use)
- Methane
- Nitrous Oxide
- F-gases

Global Emissions by Economic Sector



- Electricity and Heat Production
- Industry
- Agriculture, Forestry, and other Land Use
- Transportation
- Buildings
- Other Energy



## FARMERS MARKET

*The Loyola Farmers Market provides local farmers and producers with the opportunity to share their products with the community. It serves three neighborhoods - Rogers Park, West Ridge, and Edgewater.*



## BIODIESEL PROGRAM





CONNECTION POCKET TO FARMERS MARKET

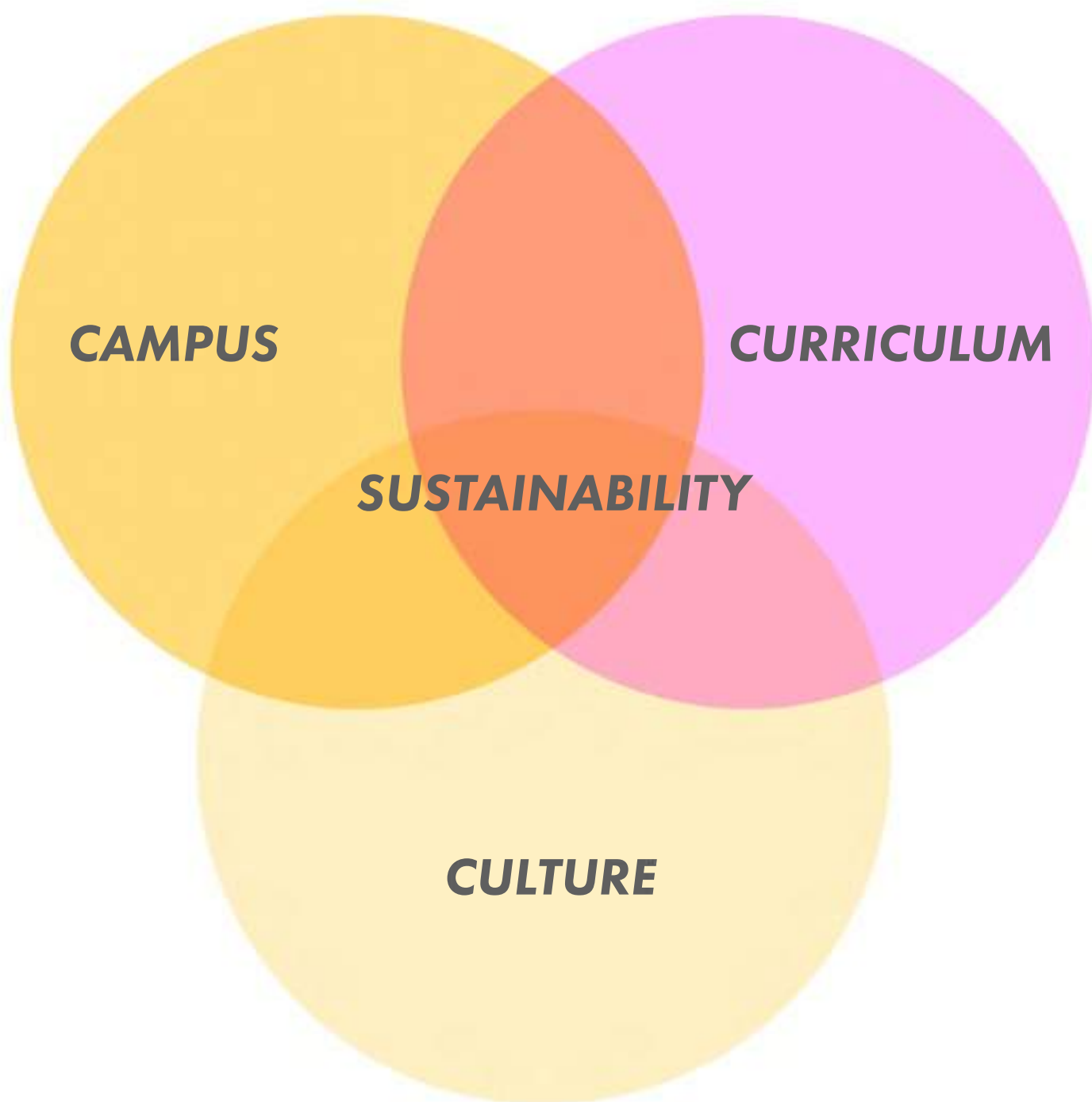


CONNECTION POCKET TO FARMERS MARKET





## **WHY LOYOLA UNIVERSITY AS TEST FIELD**



### ***Loyola's sustainability initiatives guiding principles***

- ***Support sustainability across the curriculum***
- ***Believe sustainability is about Social Justice***
- ***Facilitate the campus as a learning laboratory***
- ***Envision the campus as a community change-agent***



**BIODIESEL MIND MAP**

*Local Restaurants*

*Nighborhood*

*Cafeterias*



**WASTE VEGETABLE OIL (WVO)**



**FILTRATION**



**OFF-SITE  
ANAEROBIC  
DIGESTER**

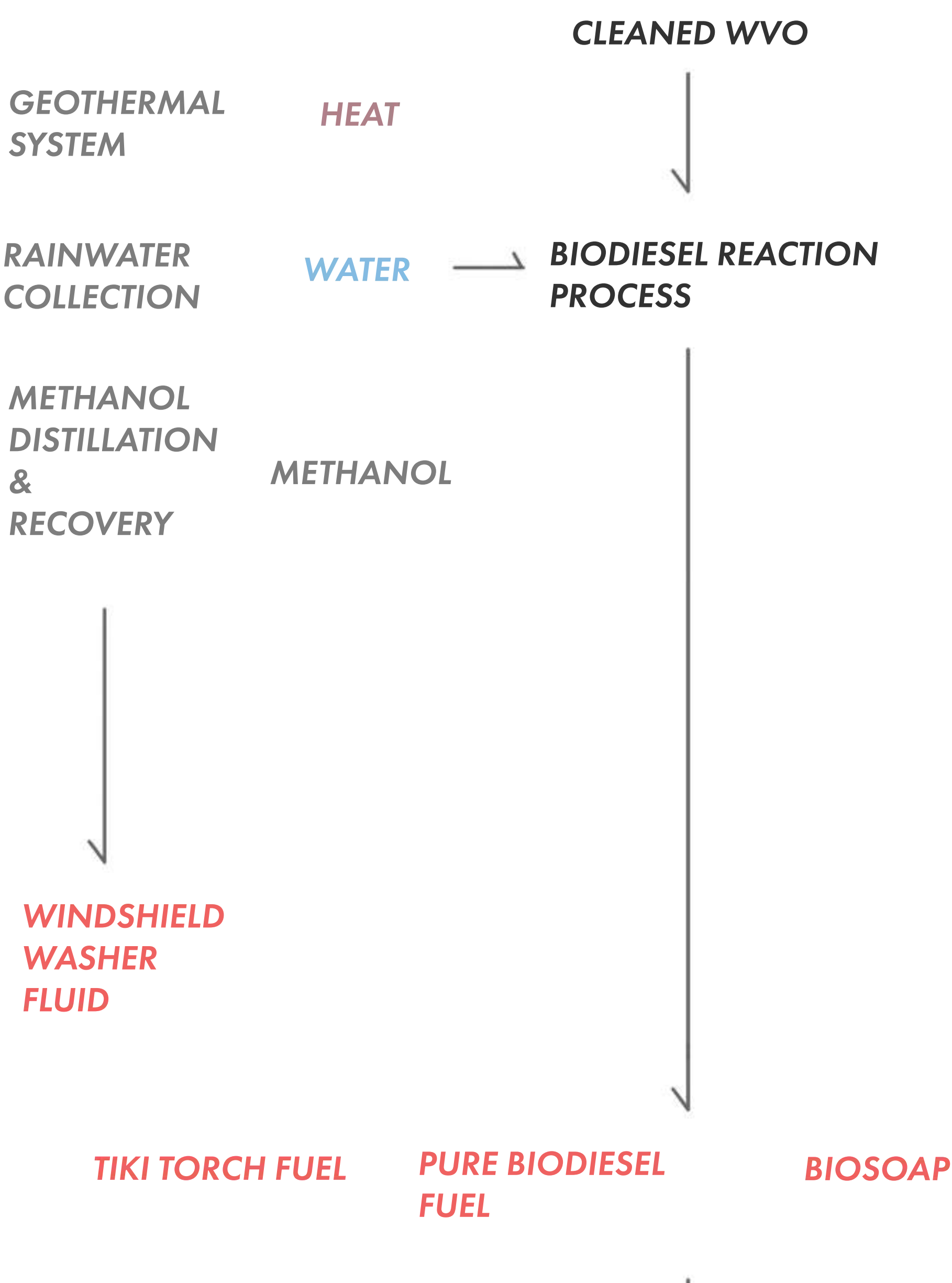


**COMPOST  
FERTILIZER**

**METHANE GAS**



**BIODIESEL PRODUCTION**







**PINK LIGHT**

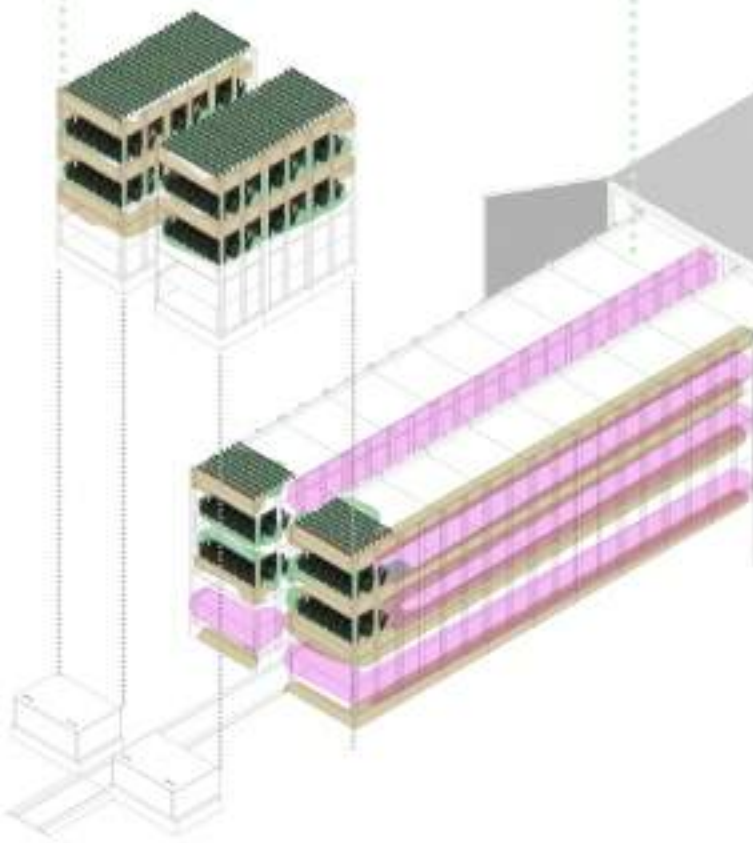
**FERTILIZER WATER**



**VERTICAL FARMING**



**AEROFARMS**



**MODULAR FARMING**





**GROUND LEVEL**



**TRAIN LEVEL**





PROGRAM

LOCAL  
PRODUCE

VERTICAL FARMING

PINK LIGHT FARMING

ROOFTOP GARDENS

LIVESTOCK PRODUCTION

BIODIESEL PRODUCT

LOCAL  
CONSUME

FARMERS MARKET

RESTAURANT

CAFETERIA

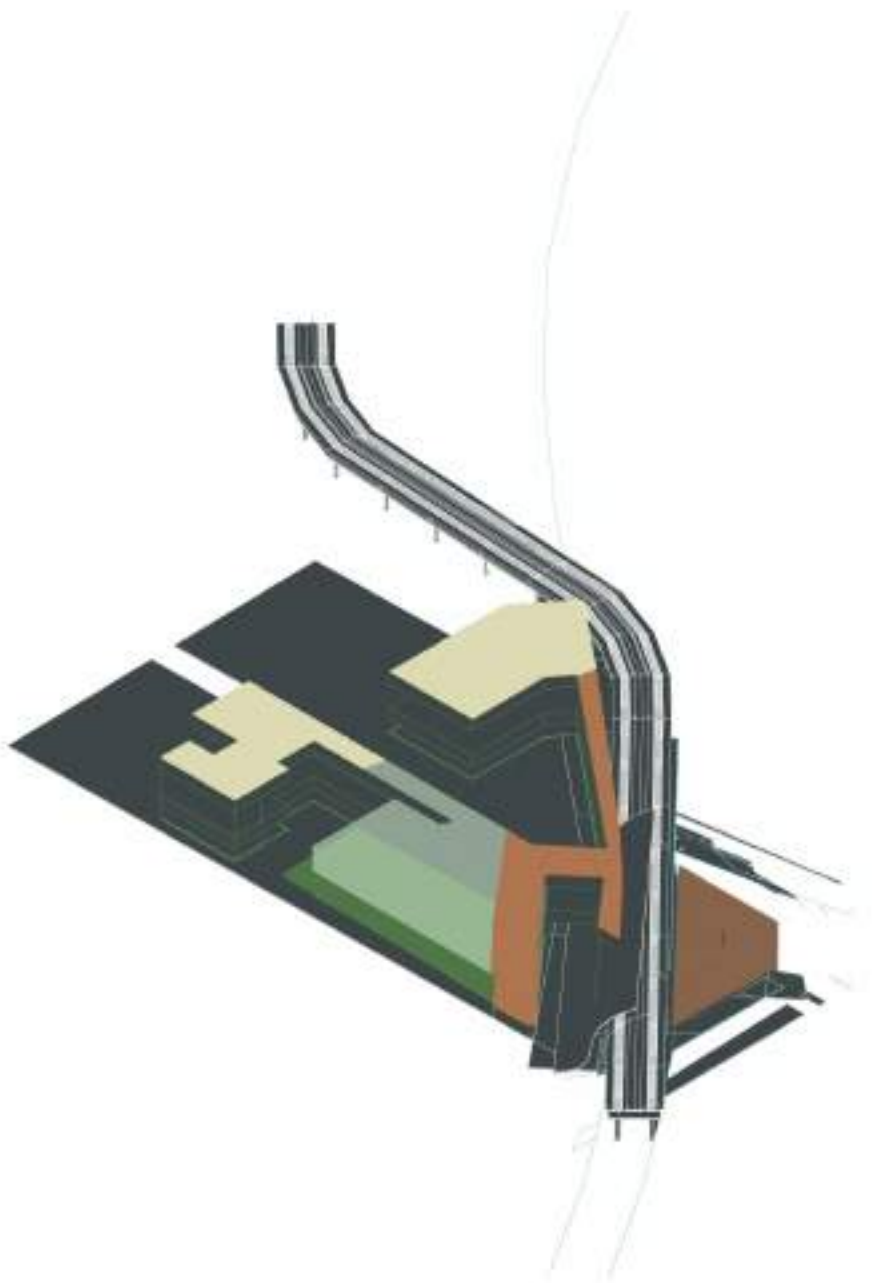
EDUCATION

LAB

LIBRARY

INTIMATE BOX

STUDENT HOUSING



WATER

GREYWATER RECYCLING

RAIN WATER REUSE

BLACK WATER TREATMENT

COMMUNITY

GATHERING SPACE

RETAIL SPACE

PLAZA

ARTIST MARKET

PLAYGROUND

ENERGY

ENERGY STORAGE  
(Battery Bank)

RENEWABLE ENERGY

PASSIVE HOUSE BUILD





**GROUND LEVEL**



**TRAIN LEVEL**



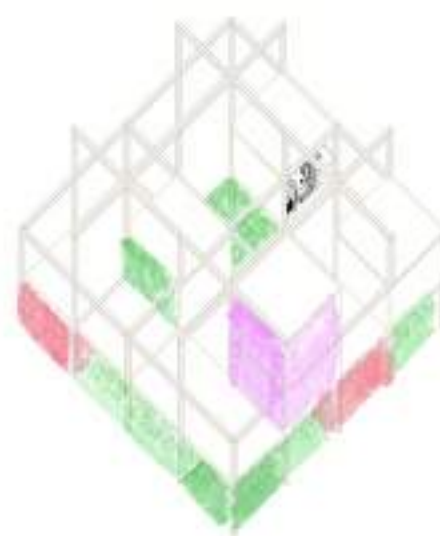
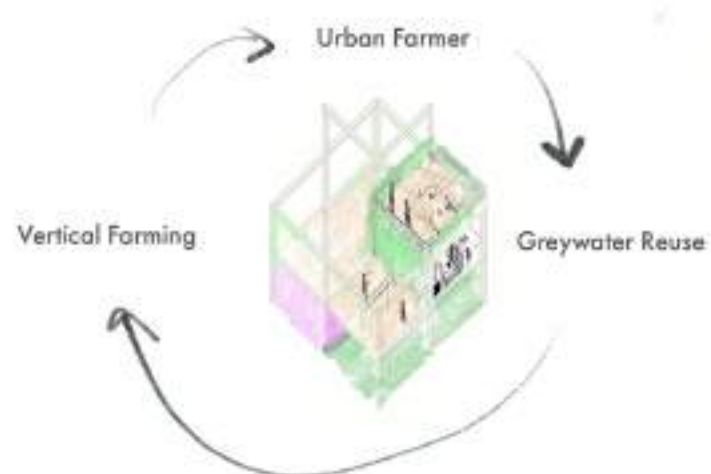
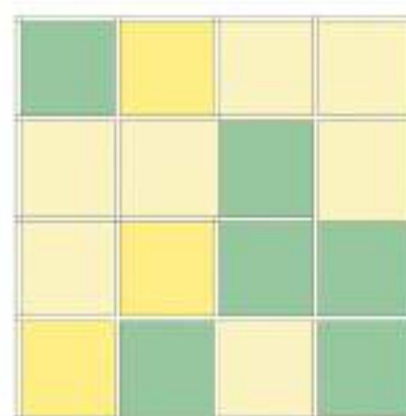
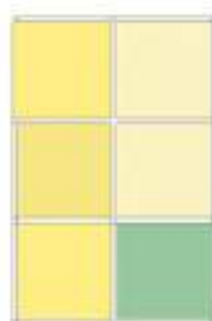
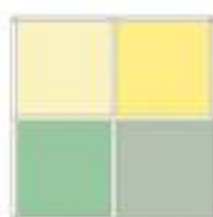
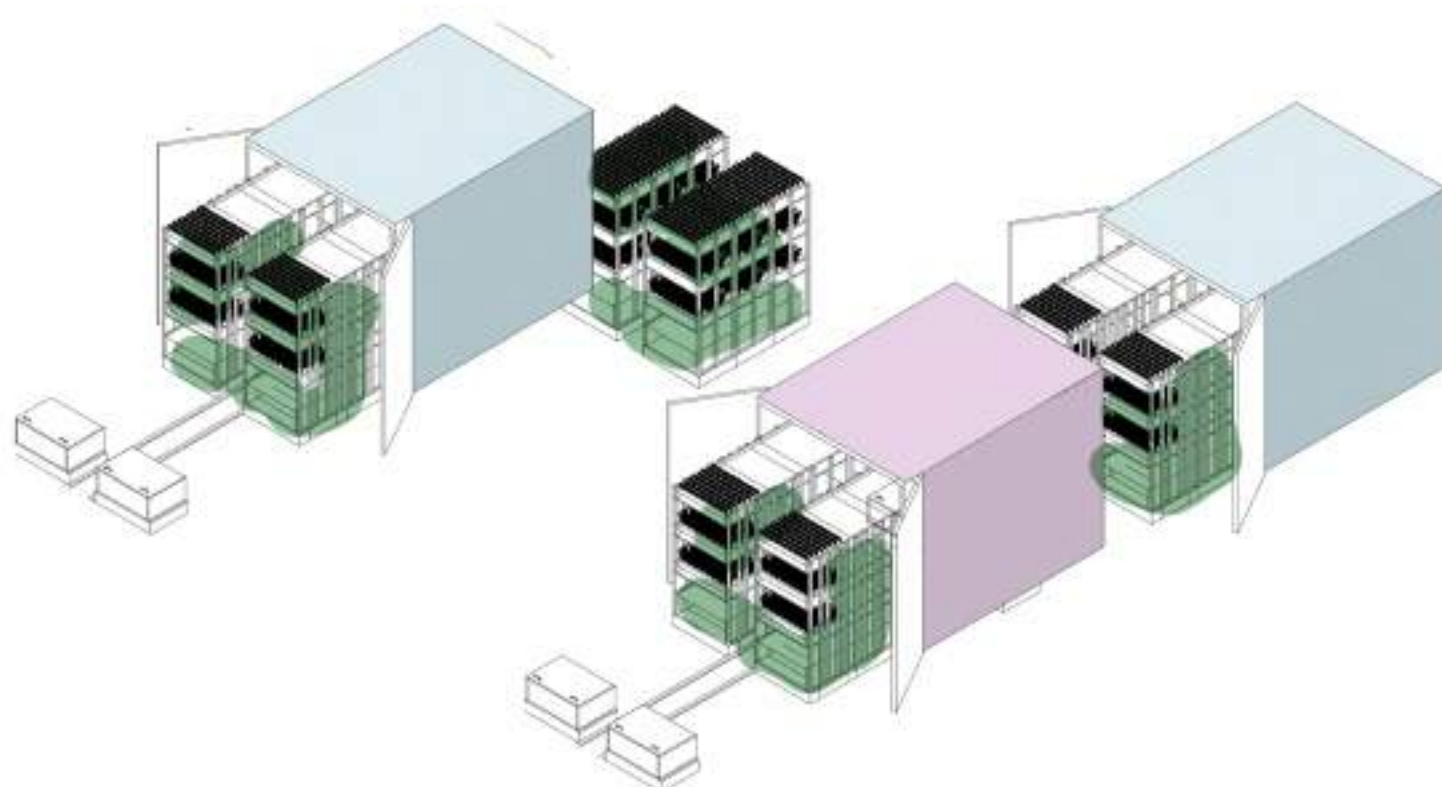
CONNECTION POCKET TO FARMERS MARKET



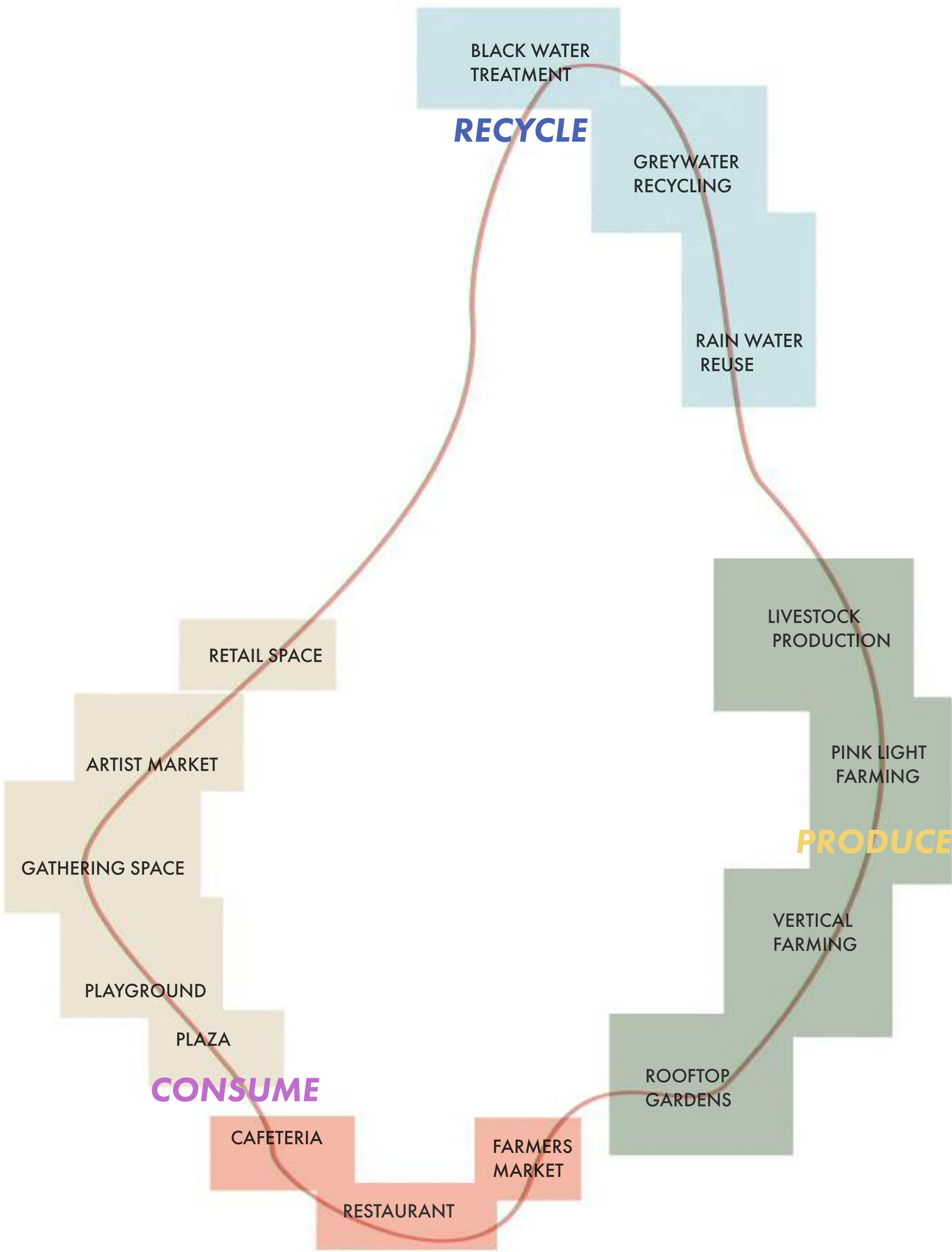
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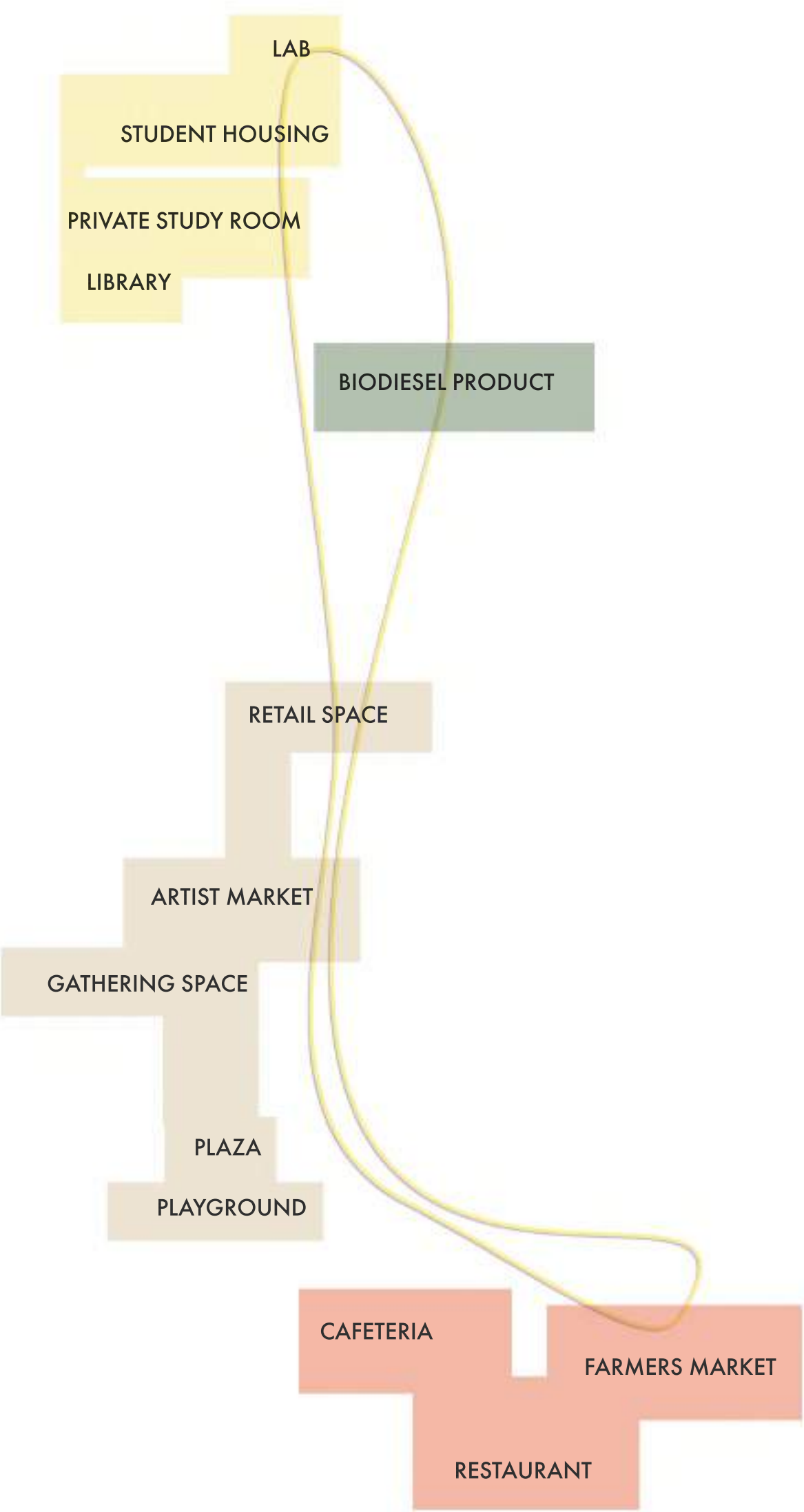




PROGRAM NODES

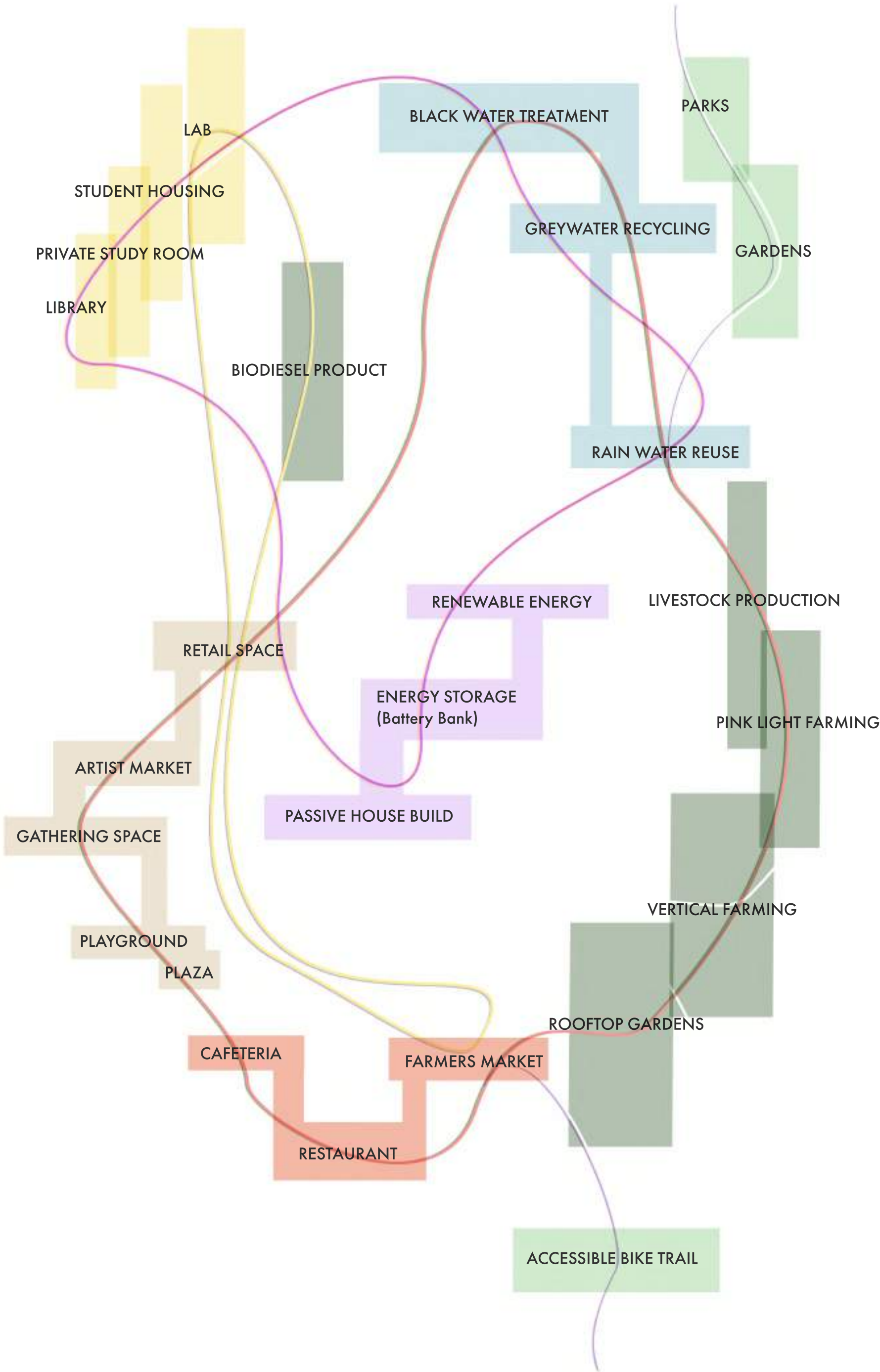


PROGRAM NODES



*Working with  
existing School  
infrastructure*





# ***LIVING CREATURES***

