



# Building Resilient Communities: Biofuel generators, High Strength Waste, and Public Outreach

CSWEA Resource Recovery and Energy Committee of the Future

Sam Lobby, with special thanks to Tracy Hodel, Chris Harrington, Jackie Strait, and Jim Postiglione

# Outline

- High Strength Waste and Community Resilience
- Strategic Communications and Developing a High Strength Waste Outreach Program
- Fostering Resilience through Collaboration



# High Strength Waste and Your Community

- What is “High Strength Waste”?
- How is it related to energy production?
- What is a High Strength Waste Outreach Program?
- How is community resilience related to High Strength Waste?



# Wastewater and Resilience

- Not clearly defined in Wastewater Industry
- Typically in context of design, operations, or engineering
  - Incomplete understanding
- What is it we want to be RESILIENT?
  - The Infrastructure itself?
  - The industry?
  - The water or environment?
  - *WE WANT THE COMMUNITY TO BE RESILIENT!*

## resilience:

“an ability to recover from or adjust easily to misfortune or change.”

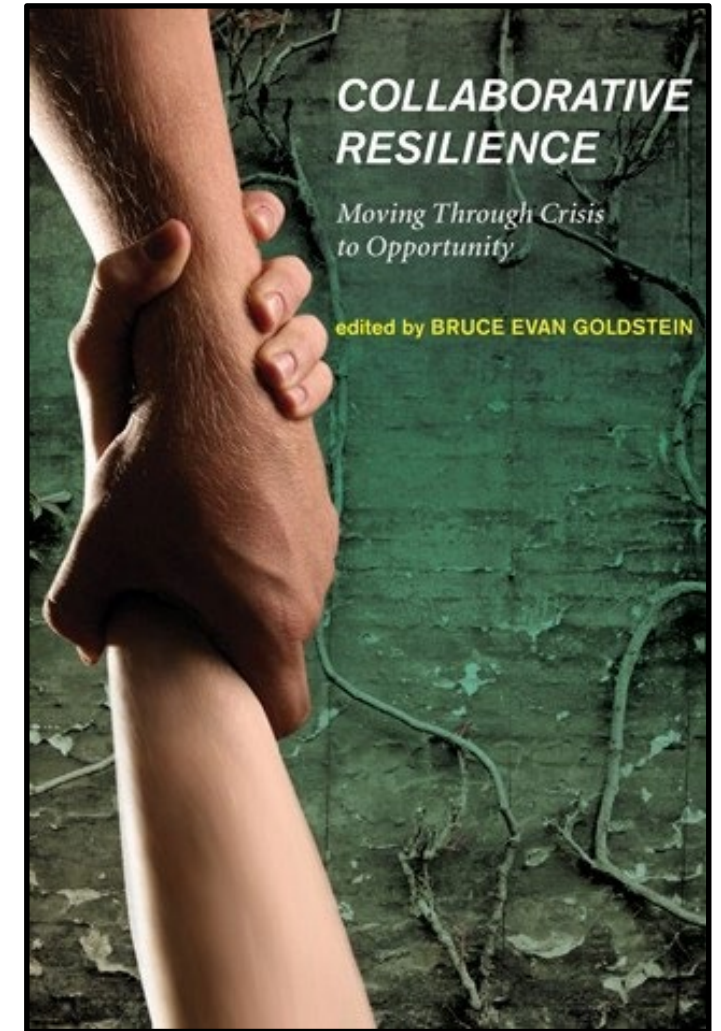
—Merriam-Webster Dictionary

# “Collaborative Resilience”

- “A resilient system is not just discovered through good science; it emerges as a community debates and defines ecological and social features of the system and appropriate scales of activity. Poised between collaborative practice and resilience analysis, collaborative resilience is both a process and an outcome of collective engagement with social-ecological complexity”

– Dr. Bruce Goldstein

*Collaborative Resilience: Moving Through Crisis to Opportunity*





# “Collaborative Resilience” and High Strength Waste

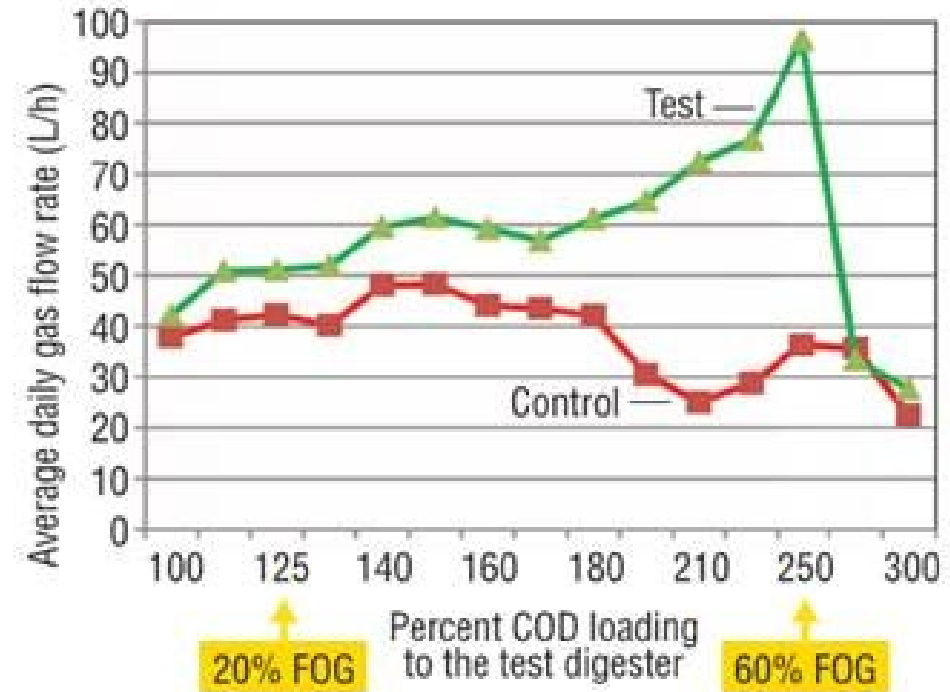
- Our industry is in a transitional phase
- Our industry impacts every community in the US
- High Strength Waste programs create opportunities for resilience through collaboration
- Establishing community resilience is a social process, can't be done through design or technology alone



# Getting Off the Ground...

- Visioning is critical
  - Don't just do it because it sounds cool....
- WHY get a biofuel generator?
  - How will it improve you facility? Community?
  - How will it create opportunities for outreach?
- Is it worth getting a biofuel generator without a High Strength Waste Outreach Program?

**Figure 4. Biogas production from the control and test digesters**



# Strategic Communications and HSW Outreach

- Four Step Process
  - Research/Analysis of the situation
  - Planning, goal/objective setting
  - Implementation, execution/communication
  - Evaluation





# Research and Analysis

- Think broadly
  - Who do we want to reach?
  - What do we want them to do?
  - What messages do we want to communicate to different groups?
  - Think of this as visioning stage
- Size Considerations
  - Facility flow?
  - Size of community?



# Research and Analysis

- Identify Stakeholders
  - Community Residents
  - Businesses (especially with HSW)
  - Consultants/engineers/contractors
  - Liquid Waste Haulers
  - Regulatory agencies
  - City Council/equivalent
  - Others?
- Identify potential HSW Sources
  - Who can you get HSW from?
  - Where do they currently dispose?
  - How much can they bring?



# Planning

- Establish:
  - Goals – Long term, what you will aspire to organizationally
  - Objectives – Short term, what you will need to do to move things along
  - Strategies – Roadmap for communication strategy
  - Tactics – Tools you will use, like public meetings, tours, or ads.



# Planning

- Other considerations:
  - Small vs Large HSW sources?
  - Determining “good” feedstock?
  - Establishing pricing/tracking mechanisms early on?
  - Market viability studies?
  - Staffing considerations?
  - Liability agreements with HSW sources/haulers?
  - Additional safety concerns?
  - Who should you hire?





# Implementation, Execution, and Communication





# Implementation, Execution, and Communication

- What messages will help you establish short-term buy in with stakeholders?
  - POTW – Internal considerations?
    - “Co-Digestion will benefit the facility and employees, and will involve specialized training and professional development that will be positive for employees”
    - “You are helping to make the facility, and by association the community, more resilient, which improves your job security”
    - “This is a cool place to work, we are protecting our local environment”



# Implementation, Execution, and Communication

- What messages will help you establish short-term buy in with stakeholders?
  - High Strength Waste Sources – If you build it, will they come?
    - “Disposal of your HSW presents an opportunity for Public-Private Partnership – businesses could advertise ‘Our Waste Cleans Your Water’ in local establishments”
    - “Depending on your current disposal methods, we may be able to save you lots of money on your waste disposal bill”
    - Potential rebranding? “High Energy Byproduct”??



# Implementation, Execution, and Communication

- What messages will help you establish short-term buy in with stakeholders?
  - Liquid Waste Haulers –
    - “High Strength Waste is a potentially new revenue stream as more and more POTW’s accept these materials”



# Implementation, Execution, and Communication

- What messages will help you establish short-term buy in with stakeholders?
  - City Council or equivalent –
    - “A generator can help us to stabilize or potentially reduce utility rates”
    - “This project allows us to accept new forms of waste that may potentially be challenging to dispose of responsibly otherwise”



# Implementation, Execution, and Communication

- What messages will help you establish short-term buy in with stakeholders?
  - General Public
    - “Turning waste into energy keeps your rates stable!”
    - “Generator programs help create jobs in our community!”
    - “We are protecting your drinking water with this technology!”
    - This is a new opportunity to educate the public and get them in the door





# Implementation, Execution, and Communication

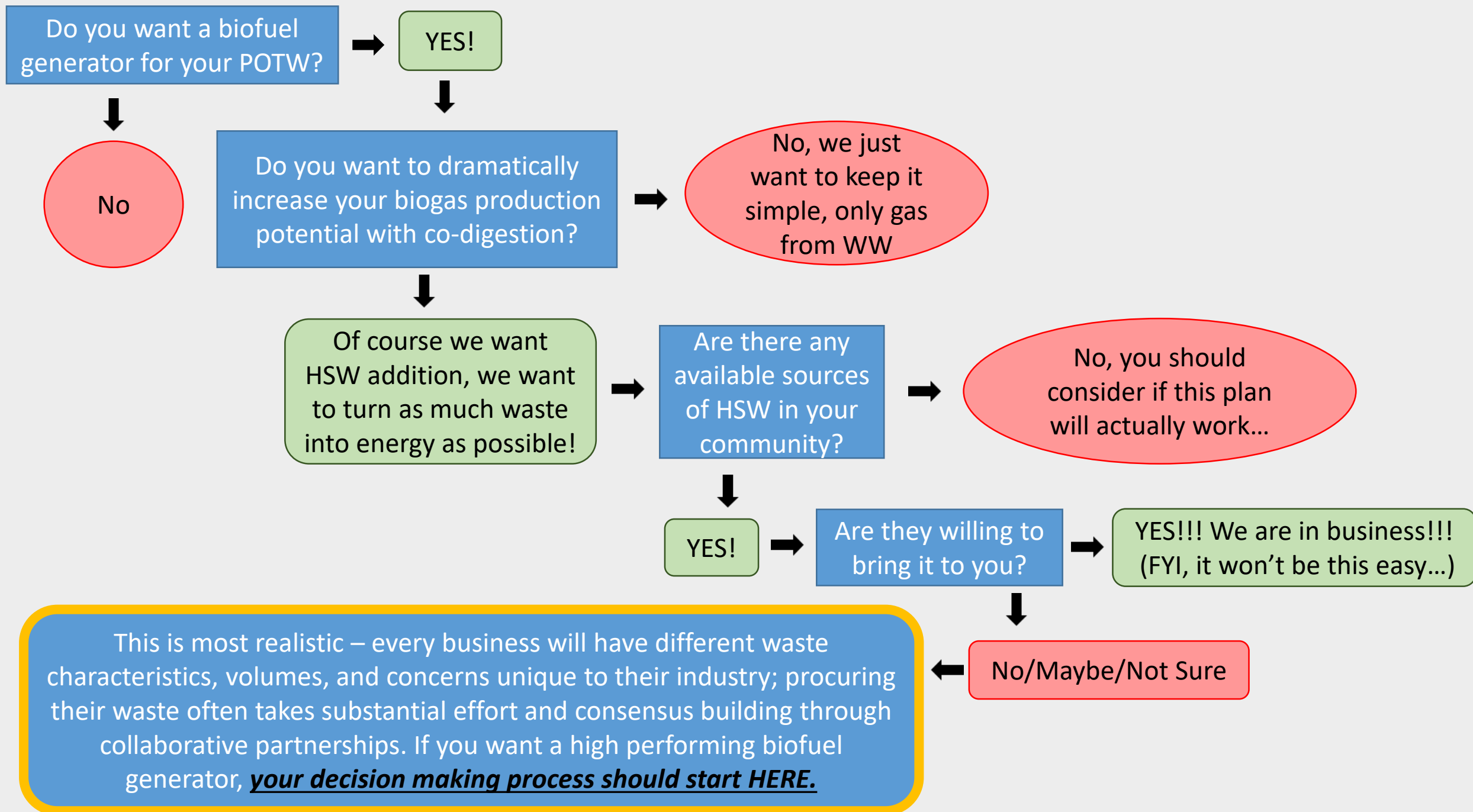
- What messages will help you establish short-term buy in with stakeholders?
  - Contractors and Consultants
    - “This is an opportunity for your local business to help build community resilience by facilitating our sustainable efforts and employing people in your firm”



# Evaluation

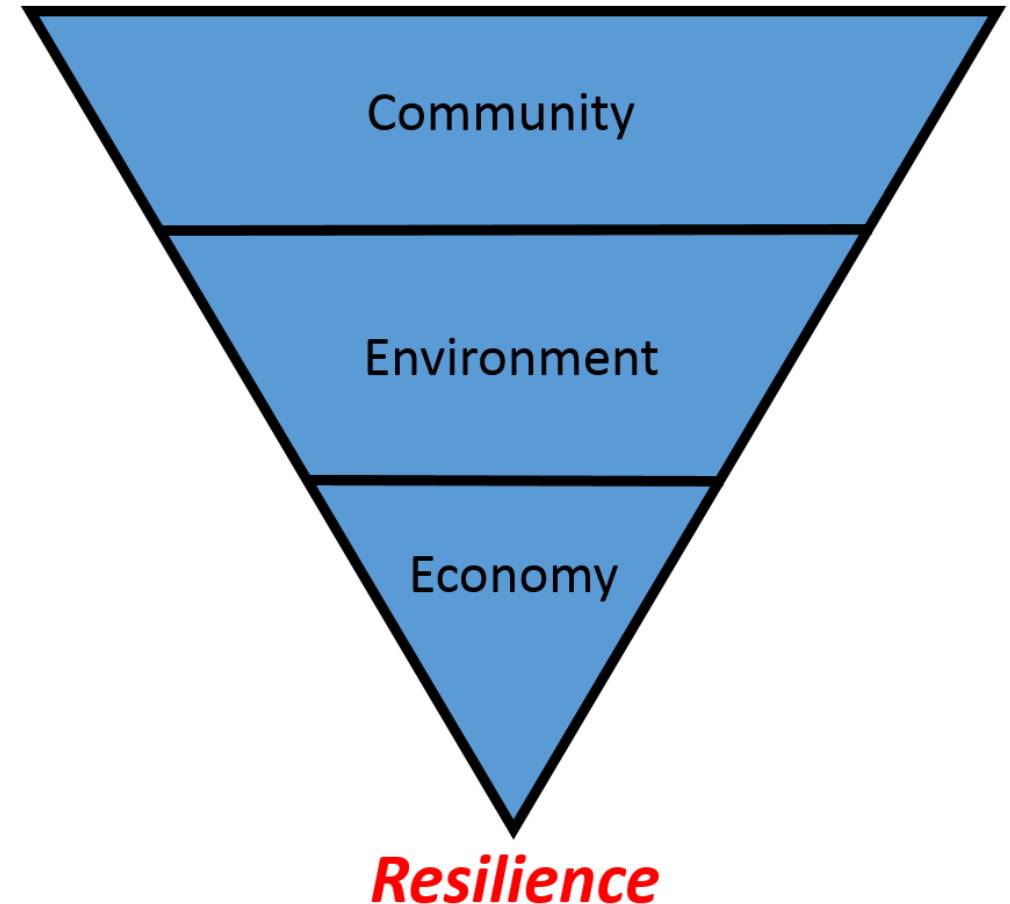
- “You can’t manage what you don’t measure”
  - Track loads
  - Track lab results
  - Test individual HSW and Mixed
  - Use data to help inform pricing
- Establishing data collection helps:
  - Maintain buy in from community
  - Save money on O&M
  - Plan for future projects





# Fostering Resilience through Collaboration

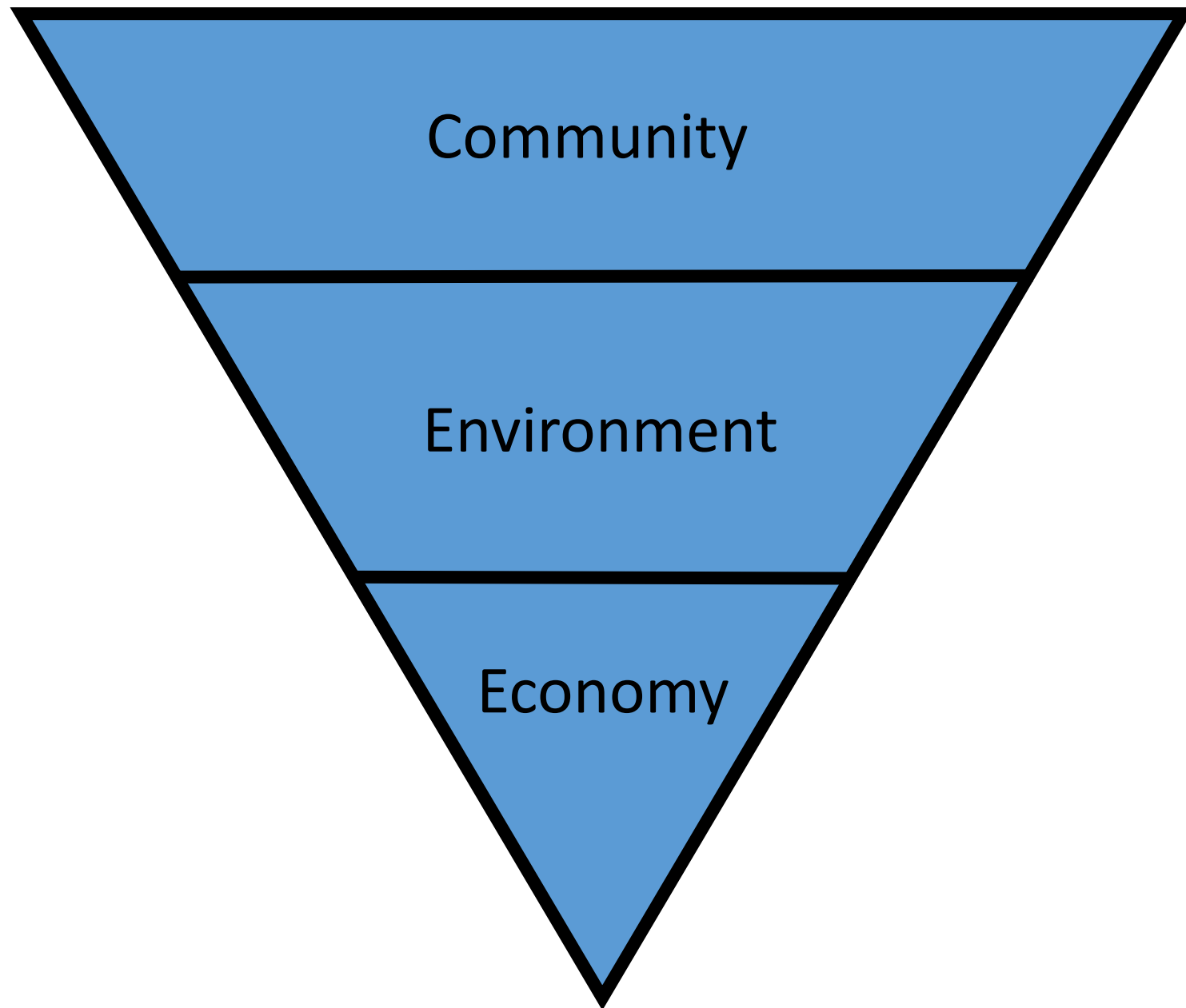
- High Strength Waste should be focus over biofuel generator
- High Strength Waste Outreach creates new opportunities to engage stakeholders
- Collaborating with diverse community stakeholders makes the community more resilient
- Resilience comes from REACHING OUT to our community!



Thank you!!!







***Resilience***



