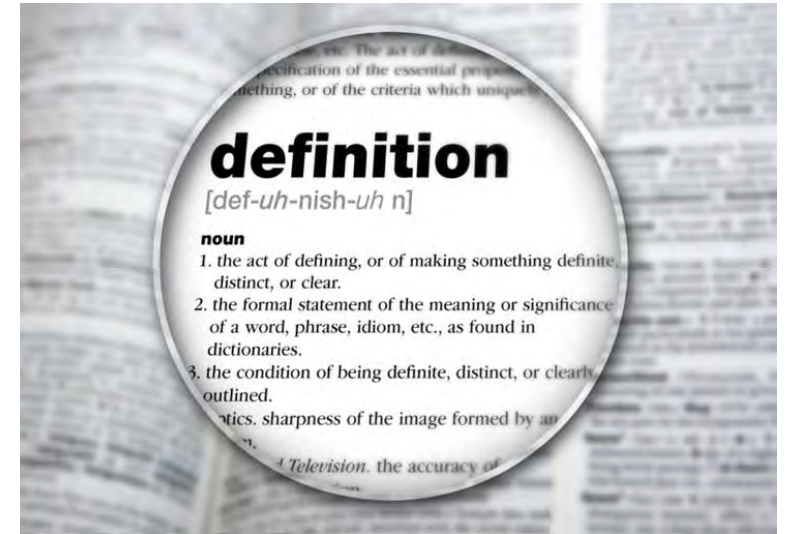




# AGENDA

- **Introductions**
  - NYWEA
  - NEWEA
  - Two Sessions
  - High level presentation
  - Panel discussion
- **Part 1 - The Meaning of Sustainability**
- **Part 2 - Measuring Sustainability**







# PART 1 - THE MEANING OF SUSTAINABILITY

An introduction and panel discussion

Wayne E. Bates, PhD, PE, ENV SP

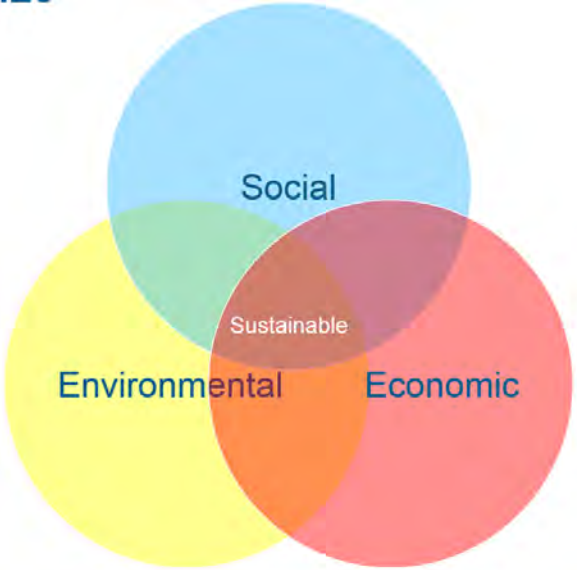




# DEFINING SUSTAINABILITY



**Journey**



**Responsibilities**



# DEFINING THE JOURNEY



*“In every walk with nature one receives far more than he seeks”*



*“When we try to pick out anything by itself, we find it hitched to everything else in the Universe”*

Quotes by John Muir

# DEFINING THE RESPONSIBILITIES

*"meeting the needs of the present generation without compromising the ability of future generations to meet their needs".*

1987 UN World Commission on Environment and Development



Social  
Well-Being

Economic  
Prosperity

Environmental  
Stewardship

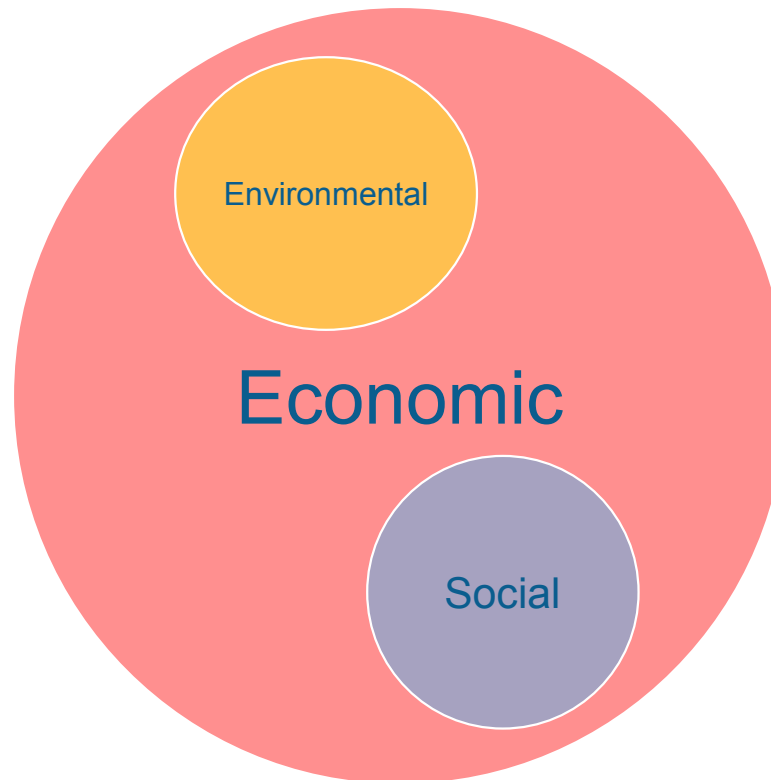
# DEFINING THE RESPONSIBILITIES – TRADEOFFS

*“The business of business is business”*

Milton Friedman

*“The economy, stupid”*

James Carville

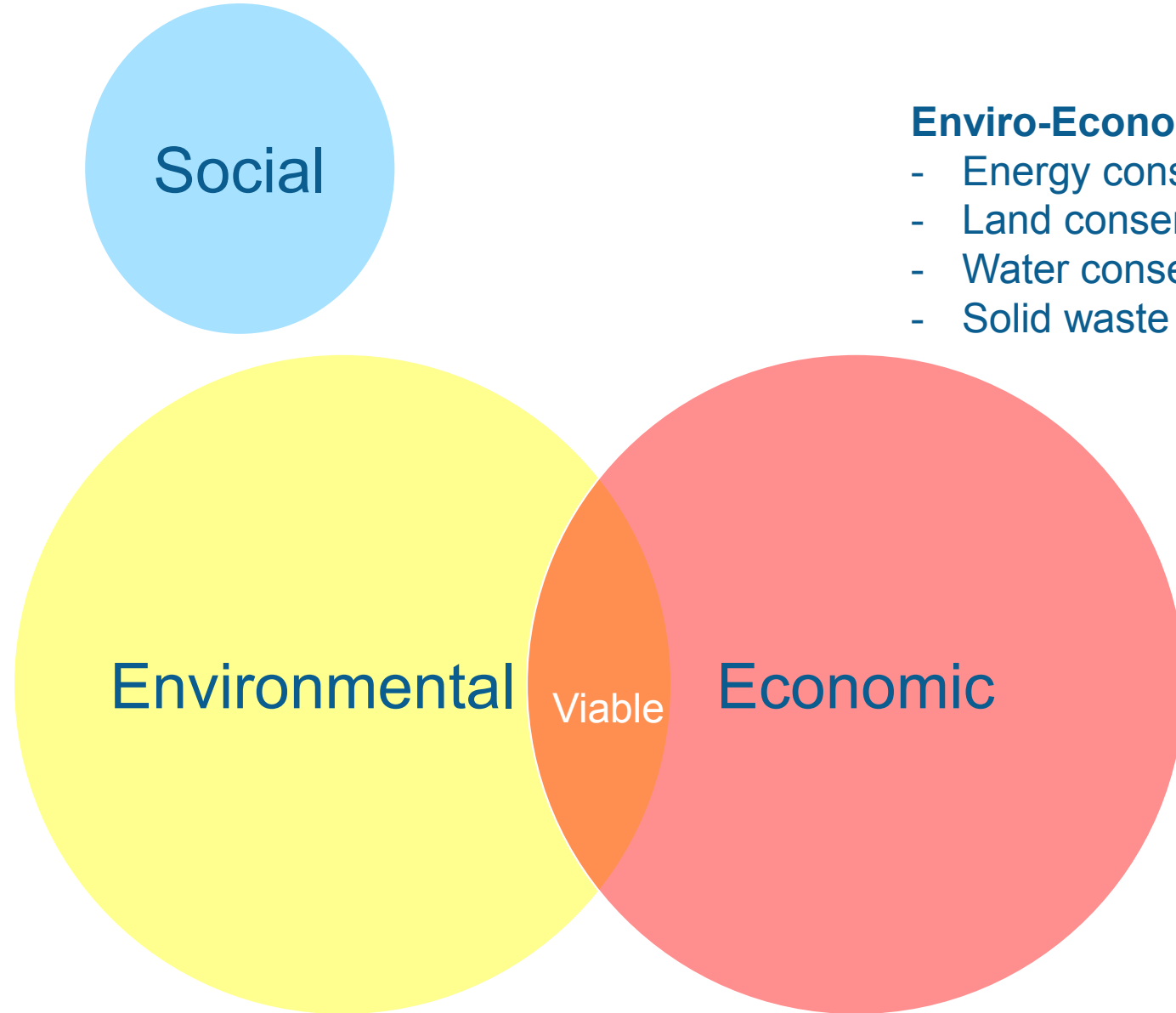


*Unintended outcomes*

- Asbestos Cement Pipe
- Combined sewer systems
- Chlorine gas for disinfection
- Interstate highway system



# DEFINING THE RESPONSIBILITIES – TWO IS NOT ENOUGH

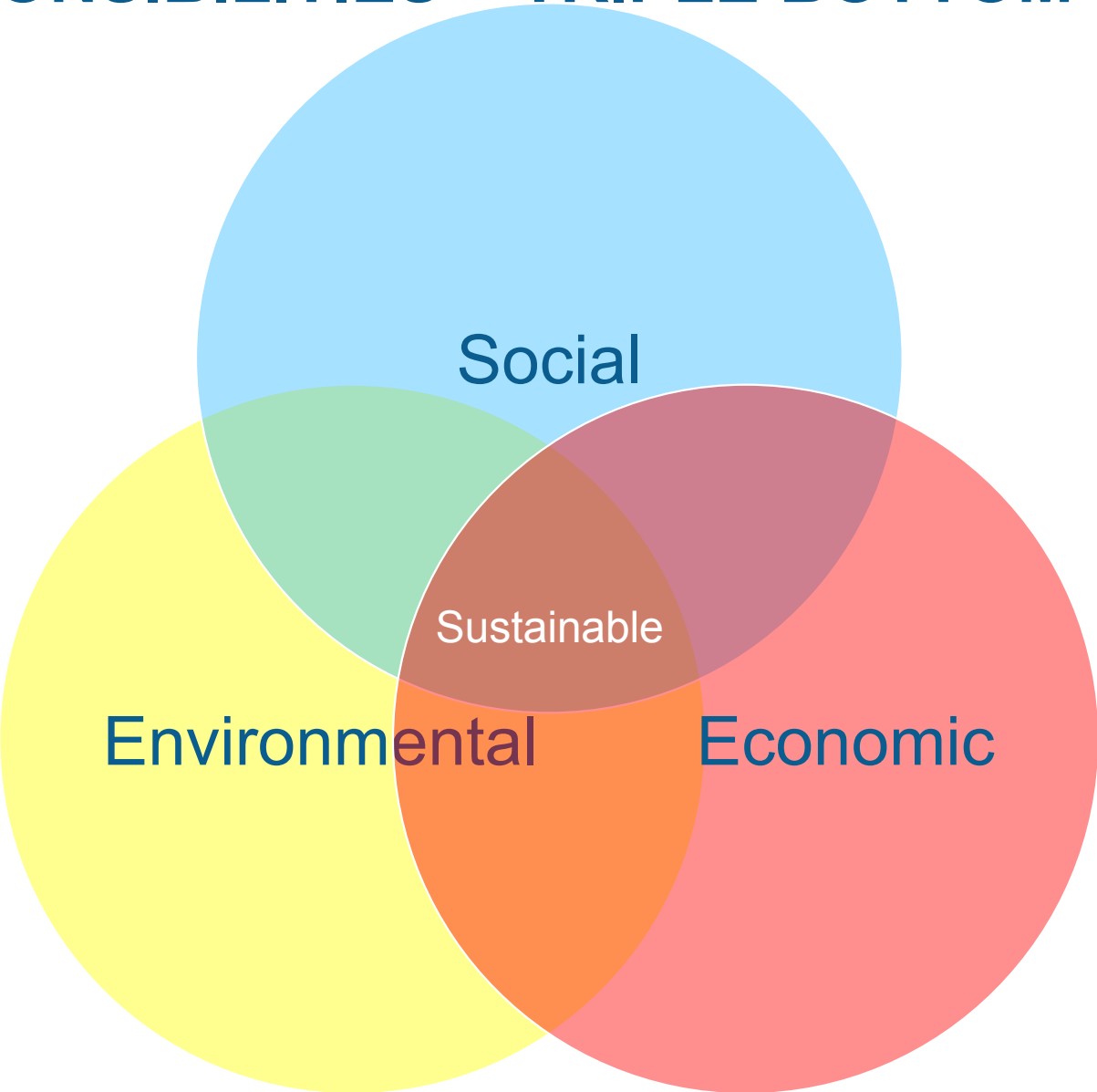


## **Enviro-Economic**

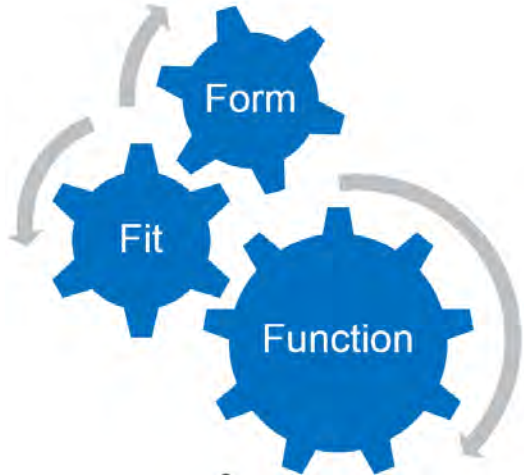
- Energy conservation
- Land conservation
- Water conservation
- Solid waste



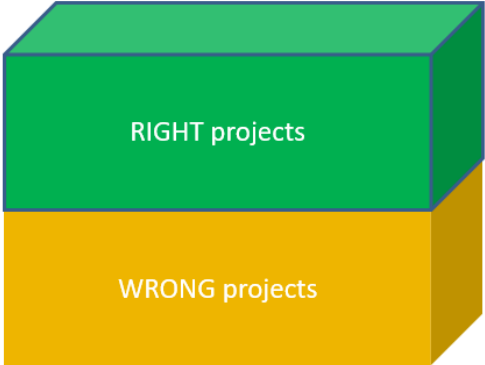
# DEFINING THE RESPONSIBILITIES – TRIPLE BOTTOM LINE



# APPLYING SUSTAINABILITY – PROJECT FUNDAMENTALS

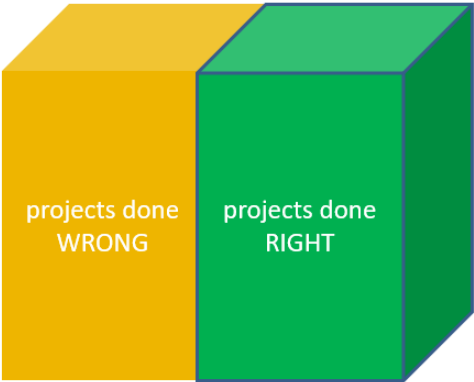


*Eco-effective*



↑  
What we DO

*Eco-efficient*



→  
How we DO it





# APPLYING SUSTAINABILITY - EXAMPLE

- **Wastewater Pump Station – Saxonville Village Framingham MA**



# Jim's Summary

- Sustainable concepts can (and should) be applied to all aspects of civil engineering to **create** infrastructure that is in **harmony** with its surroundings and **improves the quality of life**.
- Key to success
  - Understanding the **stakeholders**
  - Understanding the **environment**
  - **Relevant** objectives
  - **Public support**

# CHALLENGES APPLYING SUSTAINABILITY

- **Resources**
- **Stakeholder engagement**
- **Comparing options**
- **Showing the business case**
- **Gaining consensus**
- **Finding the funding**





# PANEL DISCUSSION

Still needs formatting

- Send different photo? (these are from LinkedIn)
- Confirm title
- Any questions want planted?



**Howard Carter - Director**  
Saco Water Resource Recovery Dept.



**Anastasia Rudenko**  
NEWEA Water Reuse - Chair



**Steven King**  
NEWEA – DEI Chair  
Town of Danvers



**James Plummer**  
NEWEA Title ?????  
NEWIPCC



# QUESTIONS FOR PANELISTS

- **Who is driving sustainability within your organization?**
  - **Can you talk about stakeholder engagement? Who are they? How and when do you engage them?**
  - **When do you identify project-specific challenges and how do you get out ahead of them?**
  - **How do you approach projects differently today than you may have approached them 10-20 years ago?**
  - **What advice do you have for others about applying sustainable solutions into infrastructure projects?**
-



**Tighe&Bond**