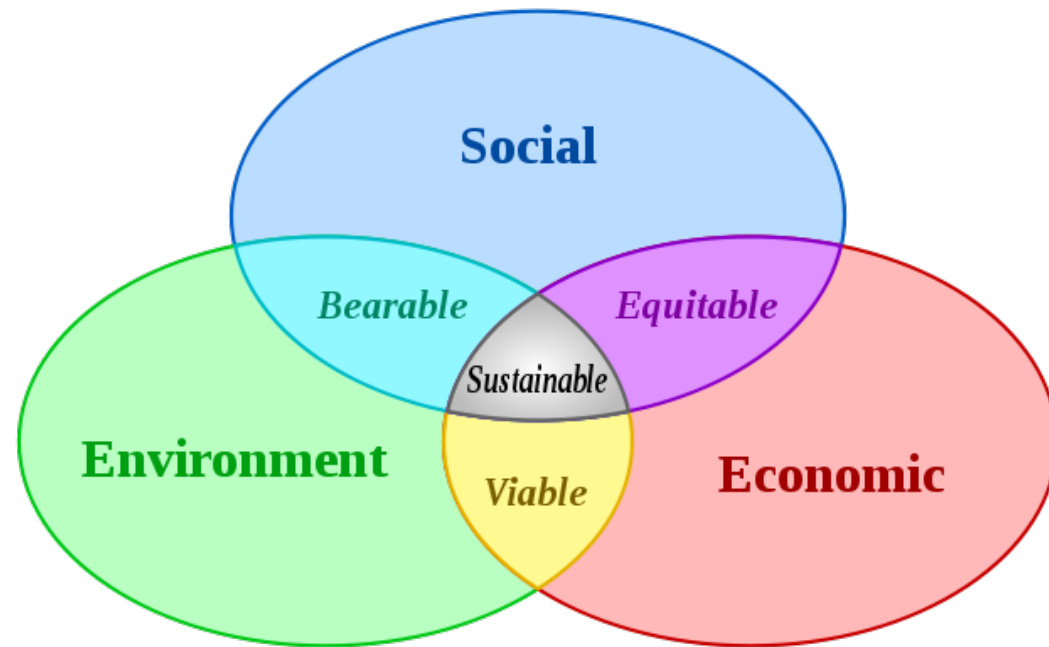


## SUBJECT: STEPS WE MUST TAKE

- Materials
- Waste recycling
- Energy efficiency
- Transport
- Urban regeneration
- Refurbishment of existing buildings
- Urban energy production
- Education

- SUBJECT: Individual and social factors
- Gender and age
- education
- ethnicity
- geography
- vulnerability
- capacity to adapt



- SUBJECT: UNDERSTANDING
- engineers and politics
- Infrastructure
- Water and sanitation
- Air quality
- Resilience
- planning

- SUBJECT: Vulnerability PLANNING
- Hurricane Katrina's impact on oil extraction in the Gulf of Mexico
- It destroyed 126 oil and gas platforms and damaged 183 more.

- SUBJECT: 80% IN 2050
- Reducing the amount of energy use allows cutting operational costs
- It also gives an opportunity to share ideas and best practice
- Integrating urban planting is part of the solution

- SUBJECT: INVEST IN CITIES
- American Insurance Journal predicted that "catastrophe losses expected to double roughly every 10 years
- Association of British Insurers say limiting carbon emissions would avoid 80% projected additional annual cost of cyclones

- SUBJECT: HOLISTIC THINKING
- innovations in district energy, water and waste water infrastructure
- financing, incentives, policies and programs
- Advance innovative neighborhood design
- redevelopment with significantly higher performance targets.

- SUBJECT: Specific targets
- performance indicators
- shaping community plans
- Policies and investments
- reduce community wide energy, water use
- Increase community recycling



- SUBJECT: ENGINEERING PROCESS
- Systems engineering
- Vision
- Collaboration
- Whole life approach
- Urban ecosystems

- SUBJECT: continuous improvement
- constantly seeking energy efficiency.
- Tangible steps toward making business more sustainable.
- upgrading building management systems,
- moving to automatic metering
- installing light sensors
- increasing the amount of low-energy lighting.

- SUBJECT: climate change and urbanization
- infrastructures that are susceptible to damage
- extreme weather events or sea level rise
- infrastructures that are already close to being inadequate.

- SUBJECT: population health
- clean air and water
- sufficient food
- constraints on infectious disease agents
- adequacy and security of shelter and power

- SUBJECT: VUNERABLE ENERGY
- Power plants shut down or reducing output
- Barges carrying coal and oil being delayed
- Floods and storm surges inundating ports, refineries, pipelines and rail yards

- SUBJECT: POLICY
  - Without policy intervention, carbon emissions will continue to rise
- weigh up -
- the consequences of projected increase in carbon emissions
  - the costs of policy actions to reduce CO<sub>2</sub> emissions.

- SUBJECT: ACTION - CIBSE
- CIC GREEN COUNCIL
- TREES & DESIGN ACTION GROUP
- ADAPTIVE CITIES GROUP
- SUSTAINABILITY LEADER