

# Role of HSE on Successful ESG in Corporation and Sustainable Growth

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CCM : Climate Change Mitigation  
CEM : Sustainable Business Strategy



Climate Governance  
ESG in the Boardroom



**Board**

2024 - Present



**Board**

2024 - Present



**Board**

2024 - Present



**Board**

2024 - Present



**Board**

2024 - Present



**Secretary to**

**Minister of Energy**

2022-2023



**Board**

2019-2022



20-Year

National Strategy

**Committee**



**Professor Dr. Pisut Painmanakul**

Associate Dean (Sustainability and Social Engagement)

Faculty of Engineering,  
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**FM 101.5 MHz**

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**Green Planet**

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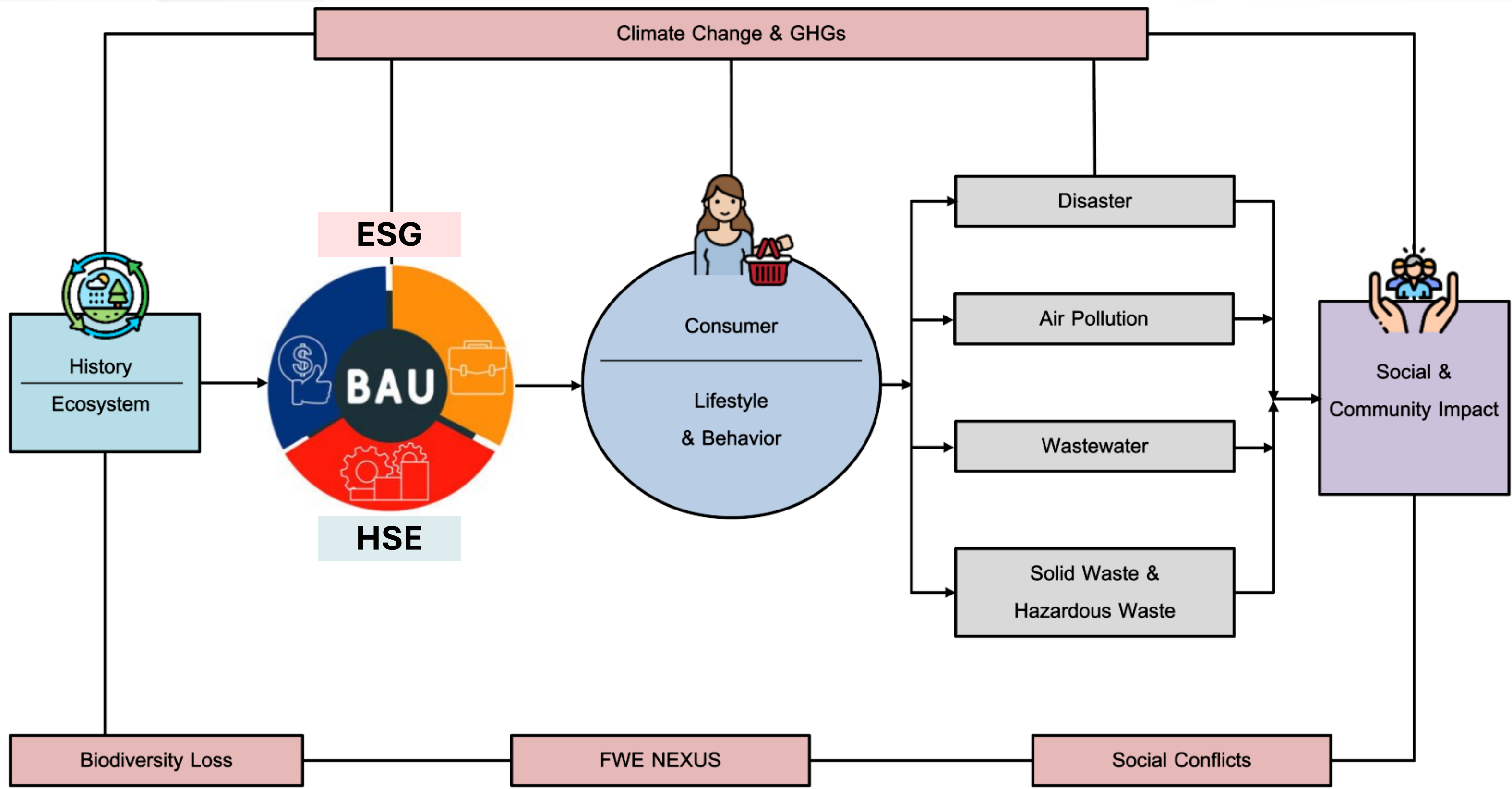
**Executive Advisor**



I disclose the followings conflicts of interest:

- Course Diagram
- Definition of **HSE**
- Definition of **ESG**
- The Role of HSE in Successful ESG Implementation
- How to Integrate **HSE** with **ESG**
- Case Study
- Conclusion

# Course Diagram



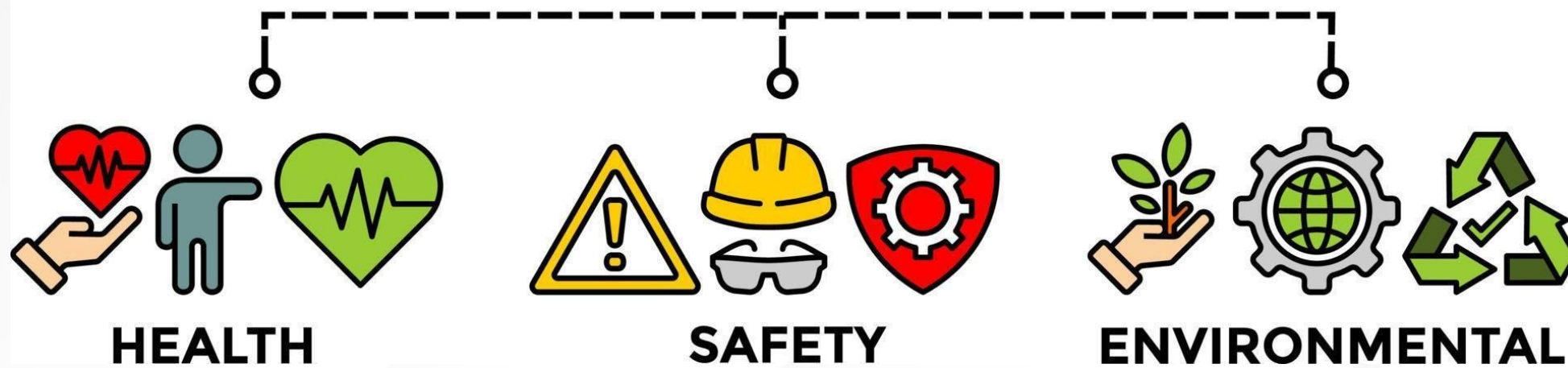
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# Definition of HSE

## HSE



Set of principles, regulations, and practices aimed at ensuring the **well-being**, safety, and **health** of employees and minimizing the activities. **environmental** impact of a business's

### HSE in the context of ESG

Within an ESG framework, HSE helps organizations meet their environmental and social responsibilities by **focusing on workplace** health and safety, reducing environmental risks, and aligning operational practices with sustainable standards.

# Types of **HSE** Focus Areas

- Company's impact on the natural environment through operations and products. It covers resource use
- Emissions management, pollution control
- Implementing sustainable practices across the business.



- Ensuring employee health through preventative measures
- Wellness programs
- Occupational health assessments
- Mitigating risks related to workplace illnesses and stress.

- Involves identifying and reducing risks that may lead to accidents, injuries, and fatalities.
- Safety training, emergency preparedness, incident reporting systems
- Compliance with local, national, and international safety regulations.

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# Definition of ESG

ESG is the concept of sustainable corporate development. ESG is currently popular among investors around the world. Because it is a concept that investors use when considering investing. By giving importance to doing business that considers 3 main areas of responsibility: ENVIRONMENT, SOCIETY, and GOVERNANCE



Criteria for considering the company's environmental responsibility



Criteria used to measure how the company manages relationships and communicates with employees, suppliers, customers or stakeholders



Principles used to measure how the company manages governance relationships for effective, transparent, auditable and stakeholder-oriented management

# Table of **ESG** Component

## Examples of ESG Issues

### Environmental Issues

- Climate change and carbon emissions
- Air and water pollution
- Biodiversity
- Deforestation
- Energy efficiency
- Waste management
- Water scarcity

### Social Issues

- Customer satisfaction
- Data protection and privacy
- Gender and diversity
- Employee engagement
- Community relations
- Human rights
- Labor standards

### Governance Issues

- Board composition
- Audit committee structure
- Bribery and corruption
- Executive compensation
- Lobbying
- Political contributions
- Whistleblower schemes



# HSE Mapping with ESG



1. **Safety** usually involves enabling safe working conditions and practices for staff (workers in particular) and for people or groups who access the plant/factory/project
2. **Health** may be understood as Occupational Health since it pertains to the health and wellbeing of an organization's employees

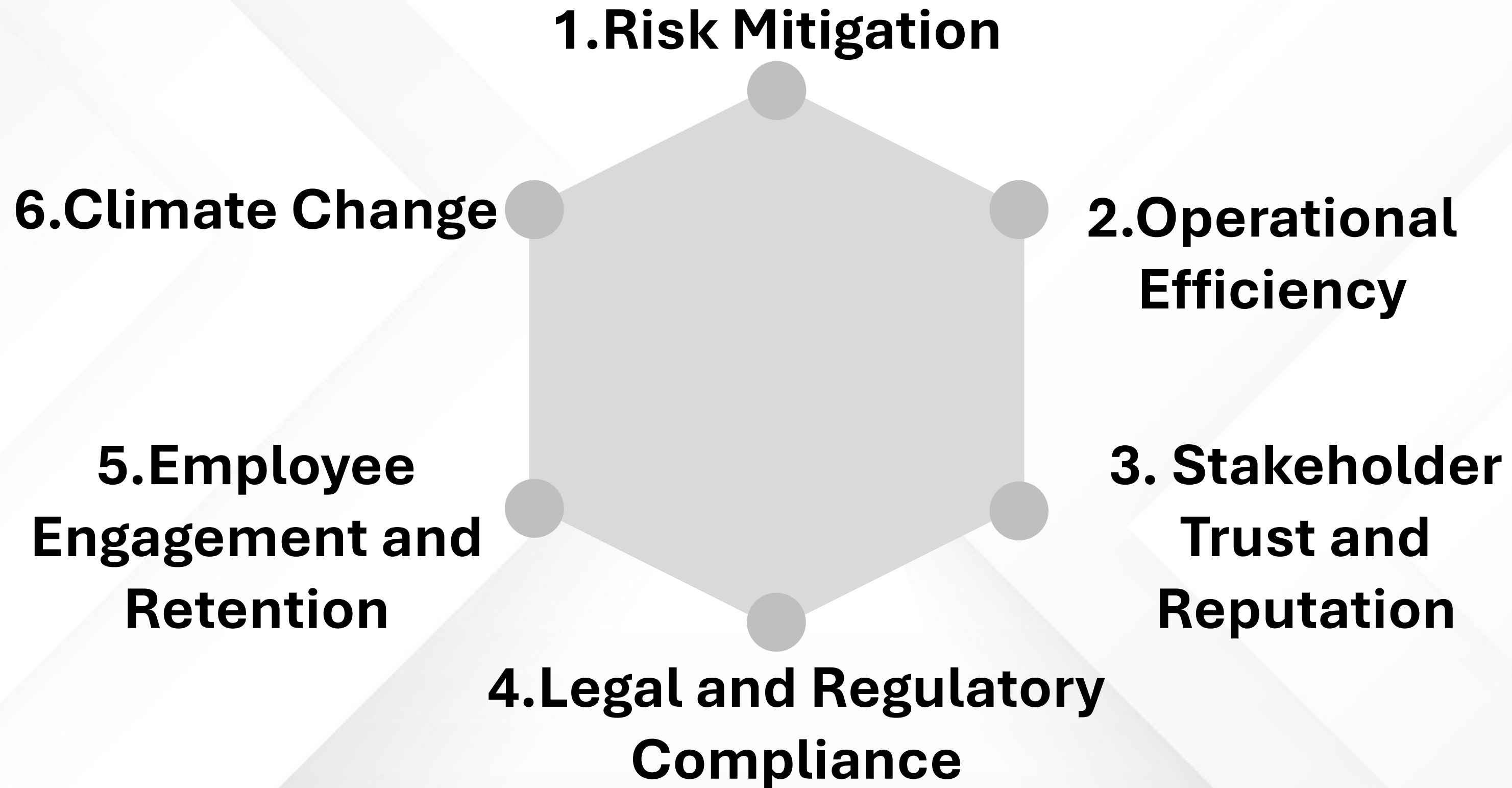
Phani Prasad Mandalaparthi | MBA (infrastructure management) | B.E. Civil | Construction Contracts

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# The Role of HSE in Successful ESG Implementation



# The Role of HSE in Successful ESG Implementation

## 1. Risk Mitigation



### Reducing Workplace Hazards

- minimizes workplace incidents
- boosting employee productivity and morale



### Environmental Risks

- air emissions, waste disposal, water contamination
- ensures compliance with regulations reduces liabilities and enhances a company's reputation

### Data Example

Organizations with robust HSE policies report 70% fewer lost-time injuries (LTIs) than those without, enhancing productivity and employee satisfaction (source: OSHA).

### Example in Practice

Unilever's HSE initiatives focused on employee wellbeing, resulting in a 50% reduction in workplace injuries over 10 years and improved employee engagement scores.



# The Role of HSE in Successful ESG Implementation

## 2.Operational Efficiency



### Energy Efficiency Initiatives

Implementing energy conservation measures can reduce costs and lower a company's carbon footprint



### Waste Reduction

- reducing, reusing, and recycling waste
- minimizes operational costs and environmental impact

### Data Example

Companies with active HSE programs typically see 30-50% reductions in hazardous emissions and waste production compared to those without dedicated HSE efforts (source: McKinsey, 2022).

### Example in Practice

According to a CDP survey, 79% of companies with strong HSE initiatives achieve or exceed their carbon emissions targets.

# The Role of HSE in Successful ESG Implementation

## 3. Stakeholder Trust and Reputation



A commitment to high HSE standards demonstrates corporate responsibility, increasing stakeholder trust, and contributing to social license to operate.



This positive reputation, in turn, attracts customers, investors, and talent who value ESG practices.

### Data Example

A study by PwC found that 68% of investors consider HSE data as a critical component of ESG risk assessments when evaluating potential investments.

### Example in Practice

Companies that prioritize safety and environmental data in their ESG disclosures experience 30% higher investor trust and lower capital costs (source: Harvard Business Review).



# The Role of HSE in Successful ESG Implementation



## 4. Legal and Regulatory Compliance

Adhering to HSE regulations helps companies avoid fines and lawsuits, ensuring legal compliance while enhancing their ESG credentials.



## 5. Employee Engagement and Retention

Companies with strong HSE policies often enjoy higher employee engagement, retention, and satisfaction, reflecting positively in ESG ratings.

# Role of HSE in Climate Change Management



- **Public and Employee Health Risks:** Climate change increases health risks like heat stress and air pollution, which HSE practices can mitigate through monitoring and workplace adjustments.
- **Health Monitoring Programs:** Implementing health monitoring systems for employees, particularly those working in high-risk environments like construction or agriculture, ensures a healthy workforce, reducing the overall impact of climate change-related health issues.



- **Climate-Related Safety Hazards:** Extreme weather events, such as storms, floods, and heatwaves, can pose safety risks for employees and the public. Effective HSE practices assess and mitigate these hazards through risk assessments, emergency response plans, and resilient infrastructure.
- **Workplace Adaptation Strategies:** Safety protocols can be adapted to address climate-specific risks, such as developing heat stress prevention plans, managing flood risks in high-risk areas, and ensuring supply chain resilience.



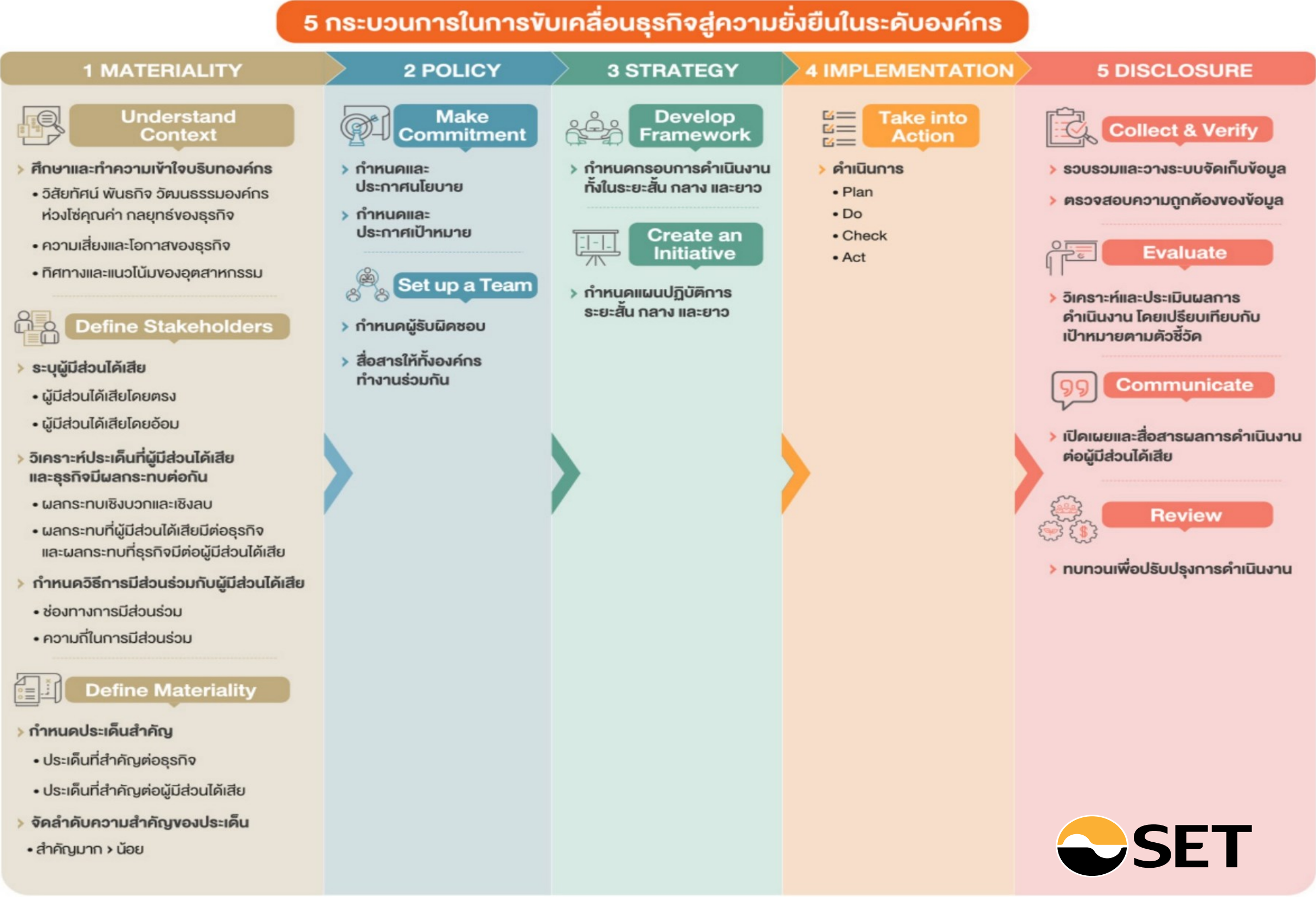
- **Carbon Footprint Reduction:** HSE programs focus on reducing greenhouse gas emissions through energy efficiency, renewable energy, and waste reduction to meet climate targets and regulatory standards.
- **Resource Management:** Effective HSE policies promote the efficient use of resources such as water, energy, and raw materials, minimizing environmental impact and reducing stress on ecosystems affected by climate change.
- **Pollution Control:** HSE practices focus on reducing pollution and emissions from industries and vehicles to combat global warming.



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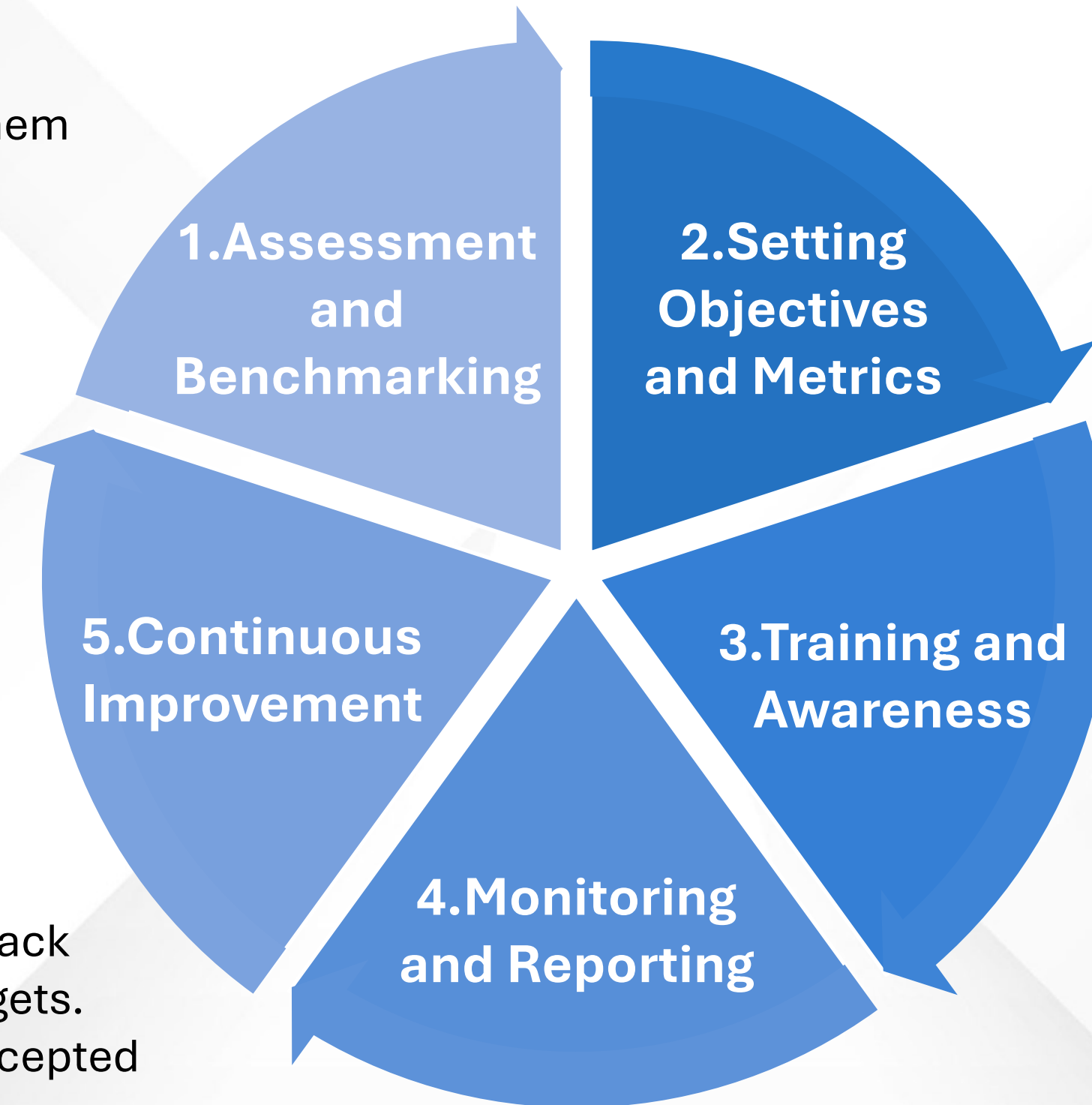
# How to Integrate **HSE** with **ESG**





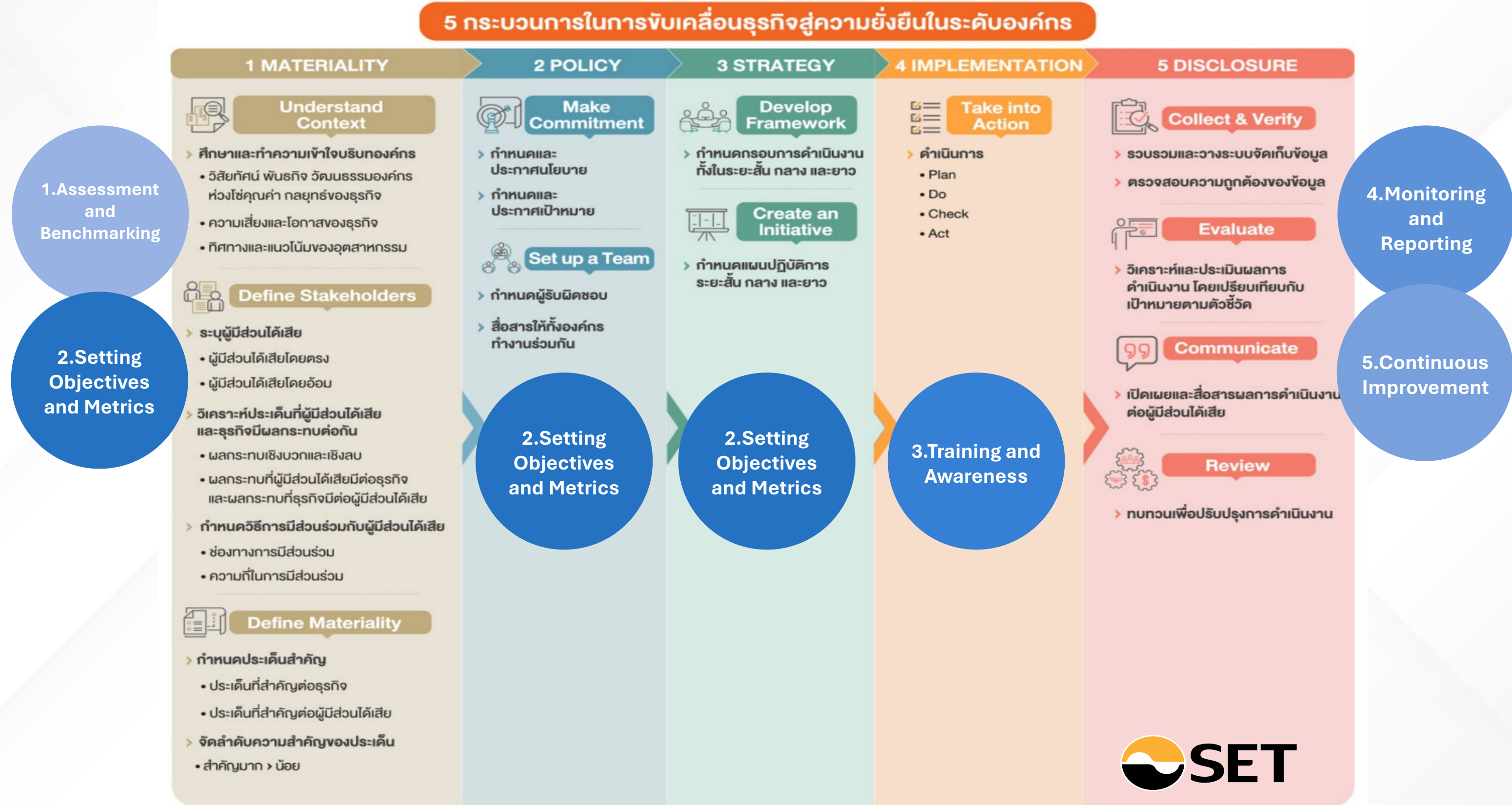
# Framework Example for Integrating **HSE** with **ESG**

- Conduct an initial assessment of existing HSE practices and align them with ESG goals.
- Identify gaps and areas for improvement.
- Foster a culture of continuous improvement where feedback and data-driven decision-making enhance HSE and ESG performance.
- Establish monitoring systems to track HSE performance against ESG targets.
- Report progress regularly using accepted reporting standards (e.g., GRI).



- Develop measurable HSE objectives that support the company's ESG strategy.
- Examples include setting targets for accident-free days, reducing water consumption, or cutting greenhouse gas emissions.
- Provide training on HSE and ESG topics to employees, ensuring understanding of the importance of sustainable business practices.

# How to Integrate **HSE** with **ESG**





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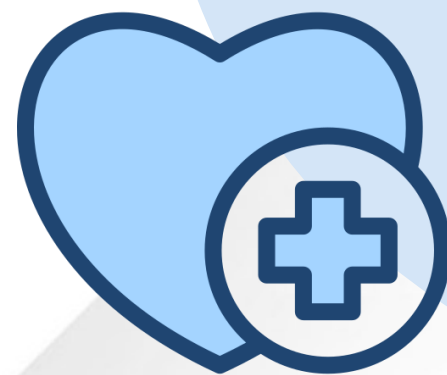
# Case Study: Unilever

Unilever's sustainable business practices focus on reducing environmental impact, improving health and safety, and enhancing social impact, aligning with their Unilever Sustainable Living Plan (USLP).

## Social and Governance Impact

### Health Initiatives

Reached over 1 billion people with health and hygiene products through awareness campaigns by 2022.



### Fairness and Inclusion

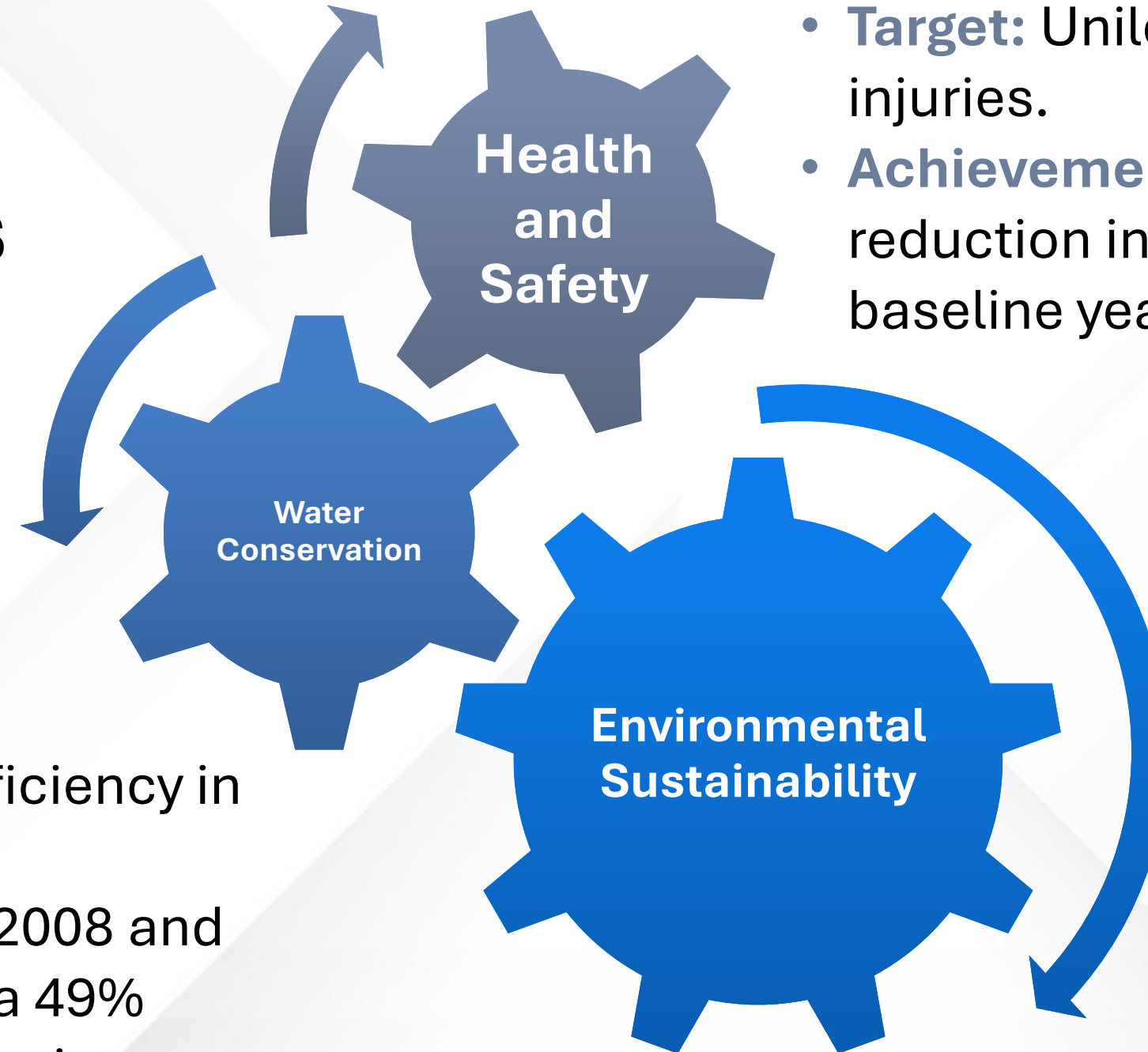
Unilever achieved 50% gender balance in managerial roles globally.





# Case Study: Unilever

## HSE & ESG Data Points



- **Target:** Improve water efficiency in manufacturing sites.
- **Achievement:** Between 2008 and 2021, Unilever achieved a 49% reduction in water abstraction per ton of production.

- **Target:** Unilever sought to achieve zero workplace injuries.
- **Achievement:** In 2021, they achieved a 30% reduction in workplace injuries compared to the baseline year of 2018.

- **Plastic Reduction Target:** Reduce virgin plastic packaging use by 50% by 2025.
- **Progress:** As of 2022, Unilever reduced its virgin plastic packaging by 18%.
- **Carbon Reduction**
- **Goal:** Achieve net-zero emissions across their entire value chain by 2039.
- **Data:** In 2022, their operational greenhouse gas emissions by 64% compared to the 2010 baseline.

# Case Study: Samsung Electronics (South Korea)

## SAMSUNG



**Samsung implemented comprehensive safety management systems, resulting in a Total Recordable Injury Rate (TRIR) of 0.15 in 2022.**



Samsung's commitment to transparency and ethical practices has earned it a place in the Dow Jones Sustainability Indices (DJSI) for several consecutive years.



- The company achieved a 20% reduction in greenhouse gas emissions intensity from 2015 levels by 2022.
- Samsung invested in renewable energy projects, contributing to 700 MW of installed capacity by 2022.



# Case Study: PTT Public Company Limited (Thailand)



**PTT has implemented comprehensive safety management systems, resulting in a Total Recordable Injury Rate (TRIR) of 0.14 in 2022, significantly below the industry average.**



PTT's commitment to transparency and ethical practices has earned it a place in the Dow Jones Sustainability Indices (DJSI) for several consecutive years.



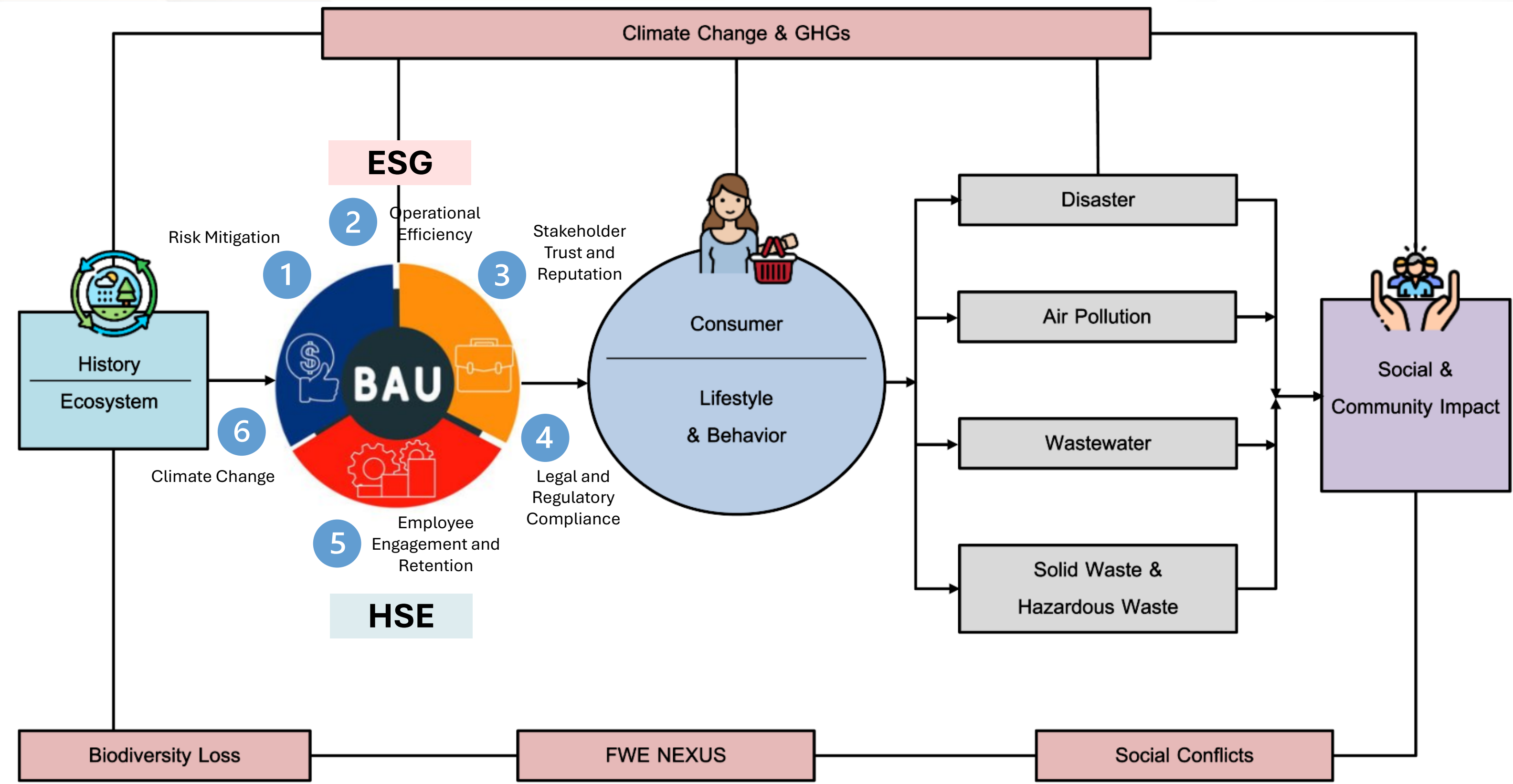
- The company achieved a 15% reduction in greenhouse gas emissions intensity from 2015 levels by 2022.
- PTT invested in renewable energy projects, contributing to 500 MW of installed capacity by 2022.

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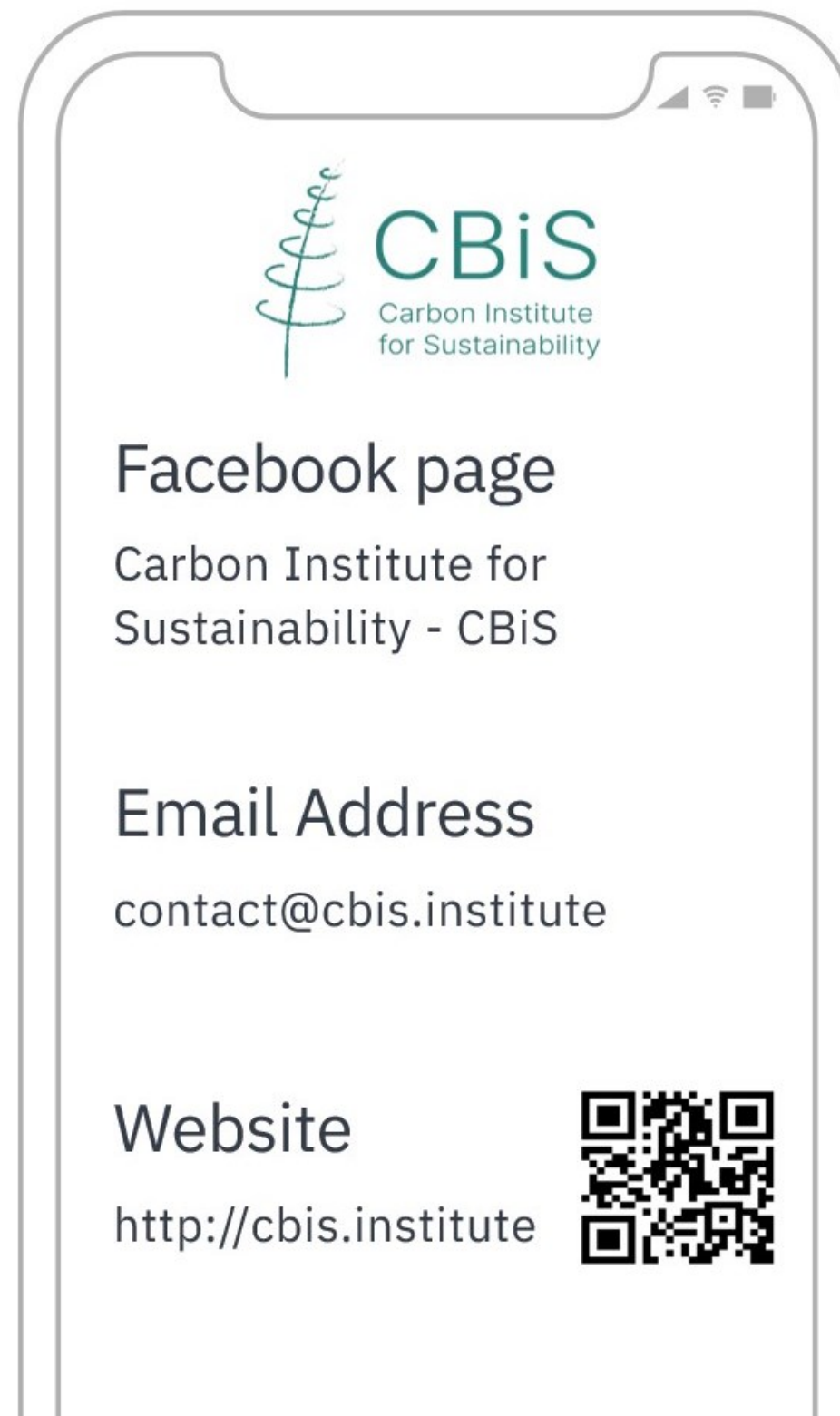
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# Course Diagram



# Carbon institute for sustainability



## Mission



**Evaluate carbon footprint, assemble a database, and develop platforms** for comprehensive management of greenhouse gases that can serve as a benchmark



**Research, development and innovation** for greenhouse gas management strategies utilizing engineering principles



**Develop personnel's capacity** to encourage collaboration towards a sustainable organization



**Manage knowledge and innovation** to support the environment, society and governance (ESG) strategy in organization management



**Raise public awareness** about environmental issues and government policies on sustainability



# Innovative Engineering for Sustainability : IES

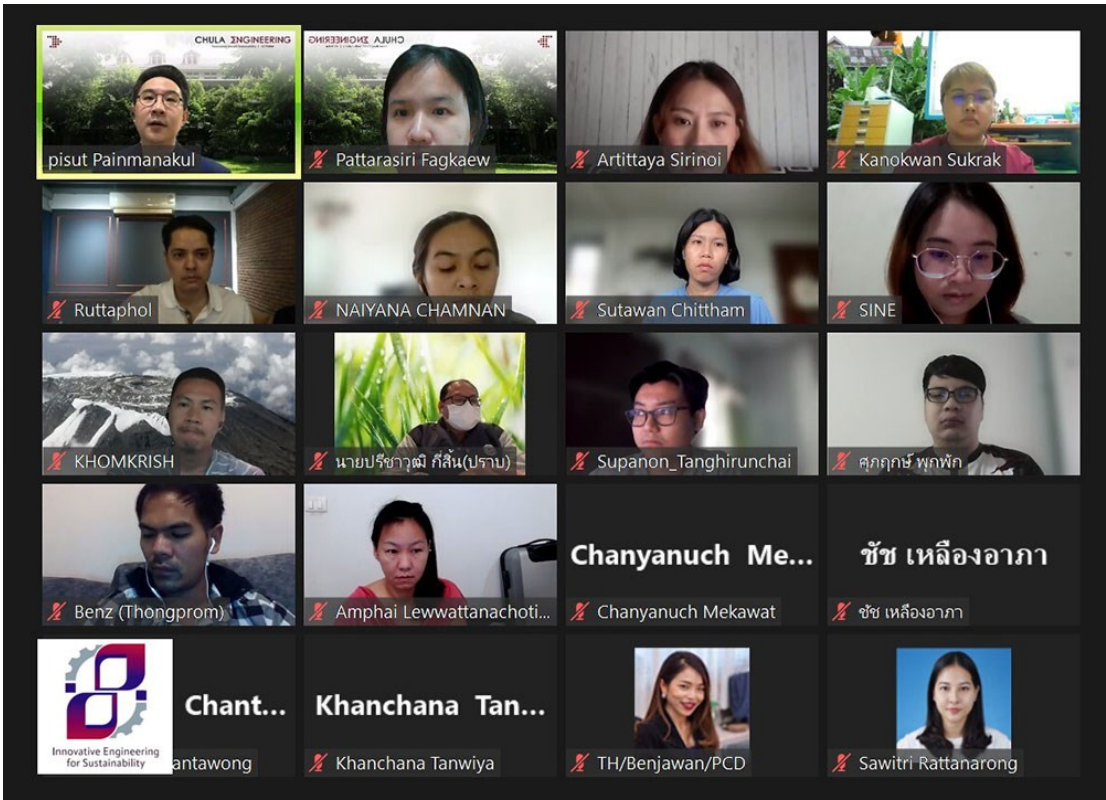




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Innovative Engineering  
for Sustainability

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INNOVATIVE ENGINEERING FOR SUSTAINABILITY



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การศึกษารวม 4 ภาคการศึกษา  
(ไม่เกิน 8 ภาคการศึกษา)
- จำนวนหน่วยกิตรวม  
ตลอดหลักสูตร 36 หน่วยกิต
- รับจำนวนจำกัด 20 ท่าน  
ต่อภาคการศึกษา

**คุณสมบัติผู้สมัคร**

- สำเร็จการศึกษาปริญญาบัณฑิตหรือเทียบเท่าทุกสาขาวิชา  
ที่คณะกรรมการบริหารหลักสูตรพิจารณาแล้วเห็นสมควรให้มี  
สิทธิ์สมัครเข้าศึกษาได้
- คะแนนการทดสอบความรู้ความสามารถทางภาษาอังกฤษ  
ผ่านเกณฑ์ที่กำหนดตามแบบก่ายประกาศรับสมัคร

**กำหนดการรับสมัคร**

ตั้งแต่วันที่ 15 พฤษภาคม 2567

- ประกาศรายชื่อผู้มีสิทธิ์สอบ :  
วันอังคารที่ 21 พฤษภาคม 2567

**สอบสัมภาษณ์**

วันที่ 24 พฤษภาคม 2567 เวลา 09.00 - 12.00 น.  
(รายละเอียดเพิ่มเติมจะแจ้งให้ทราบภายหลัง)

- ประกาศผลการสอบคัดเลือก :  
วันพฤหัสบดีที่ 30 พฤษภาคม 2567

หมายเหตุ: หากมีการปรับเปลี่ยนกำหนดการ จะแจ้งให้ทราบล่วงหน้า



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