

Managerial Insights for Sustainable Real Estate Innovation

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Content

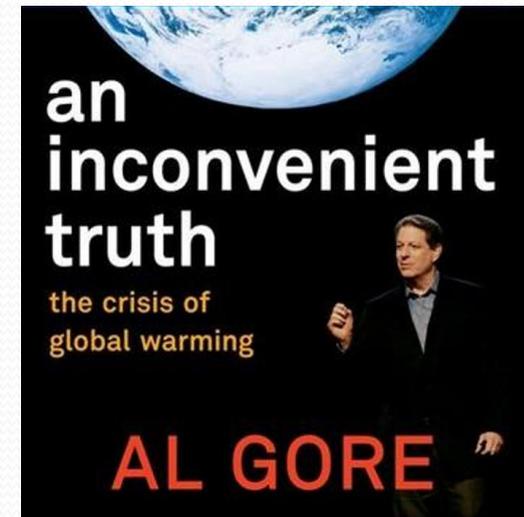
- Introduction to sustainability
- Sustainable Real Estate Development
 - Products
 - Processes
 - Chain
- Conclusion

Introduction

- Global warming:
 - Temperatures rising
 - Melting ice caps
 - Unpredictable weather patterns
 - Depleting water resources

→ Increased CO₂ Emissions

Solution: Sustainability decreases
CO₂ emissions



CLINTON
CLIMATE
INITIATIVE

Sustainability – definition

“Meet present needs without compromising the ability of future generations to meet their needs“

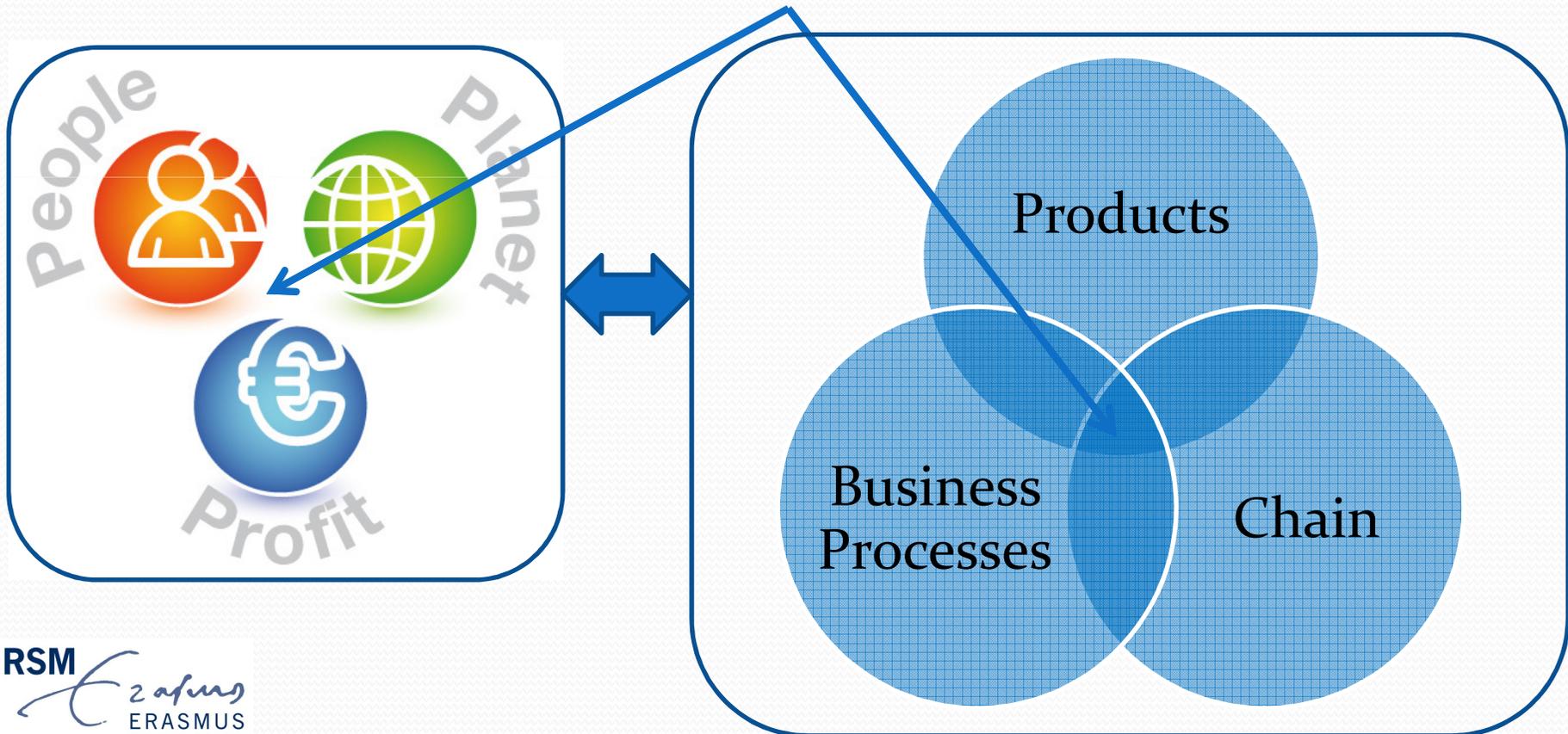
(UN Conference WECD, 1987).

Sustainability and firms

- General attitude: Increased costs and governmental pressure
- Nidumolu, Prahalad, Rangaswami (2009) recently proposed sustainability as opportunity for competitive advantage
 - “Sustainability is the key driver of innovation”
- In practice observed at Heijmans N.V.
 - Large Dutch construction and infrastructure development organization.

Sustainability framework

Sustainable balance



Sustainable Real Estate Development

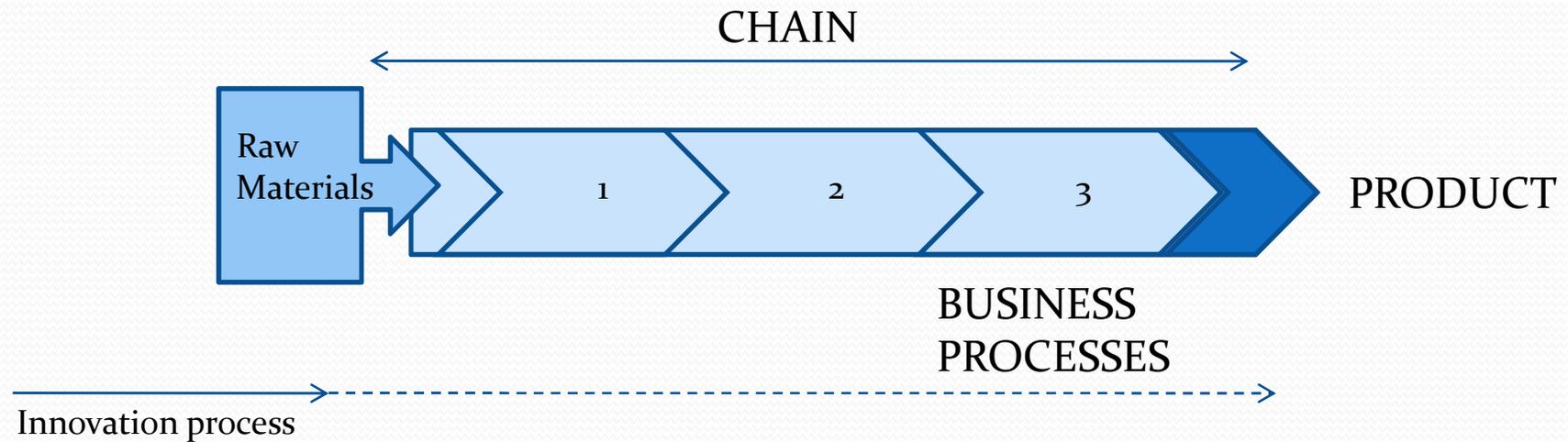
“The solution to the climate crisis isn’t far off in the future; it’s in the buildings we inhabit, our civic infrastructure and the way we organize our lives.”

(Former USA President Bill Clinton)

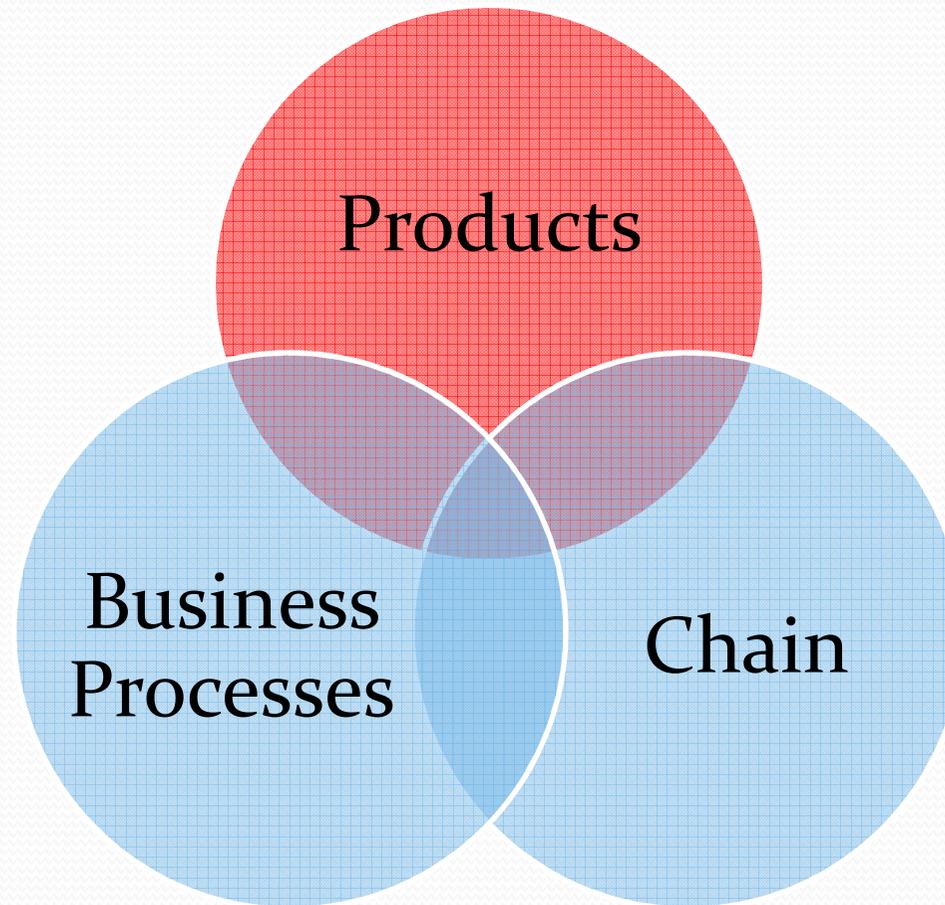


Real Estate Value Chain

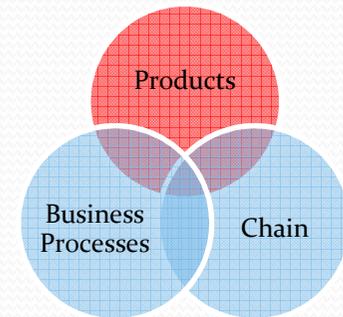
- Value chain:



Products



Case 1: Rabobank Headquarters

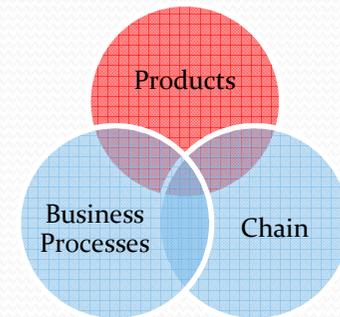


“The binoculars”

- 105 meters high
- 25 Floors
- 56.000 m² floor surface



Case 1: Rabobank Headquarters

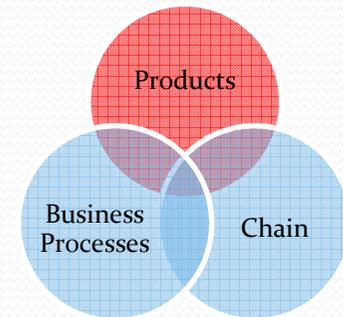


- Sustainable facts:
 - EPC = 0,567
 - 43% lower than standardized allowable energy consumption
 - FSC wood project certificate
 - Self providing energy system

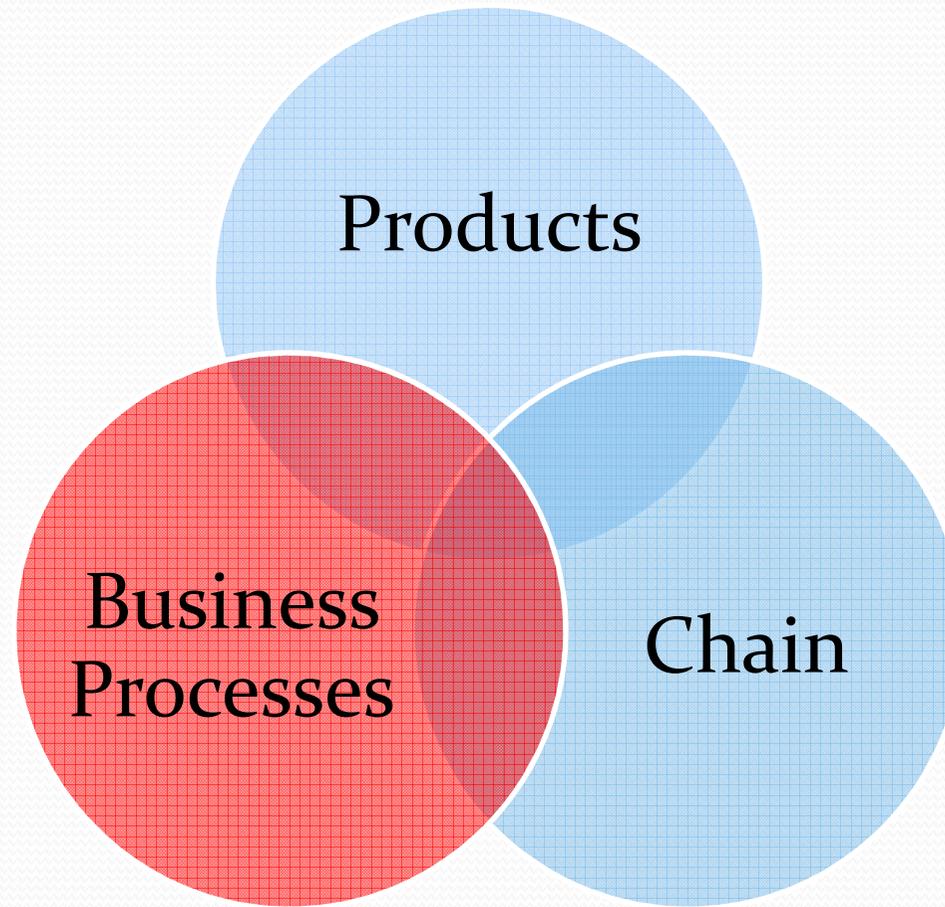


Products

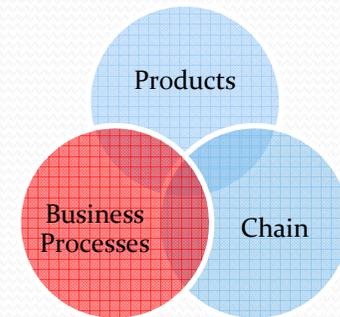
- Relevant goals:
 - Reduction of CO₂ emission
 - Reduction of energy consumption
 - Waste reduction & separation
 - Purchase of sustainable raw materials



Business Processes



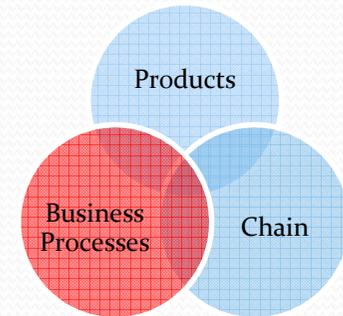
Case 2: Mobile Asphalt Production Factory



- Infrastructure:
 - Mobile asphalt plants
 - Production on each designated location
 - Less CO₂ emission



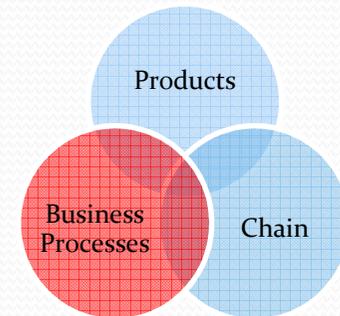
Gaining competitive advantage



- Carbon Disclosure Project
 - Independent not-for-profit organization
- ISO 14001: 2004
 - Environmental management system standards

Business Processes

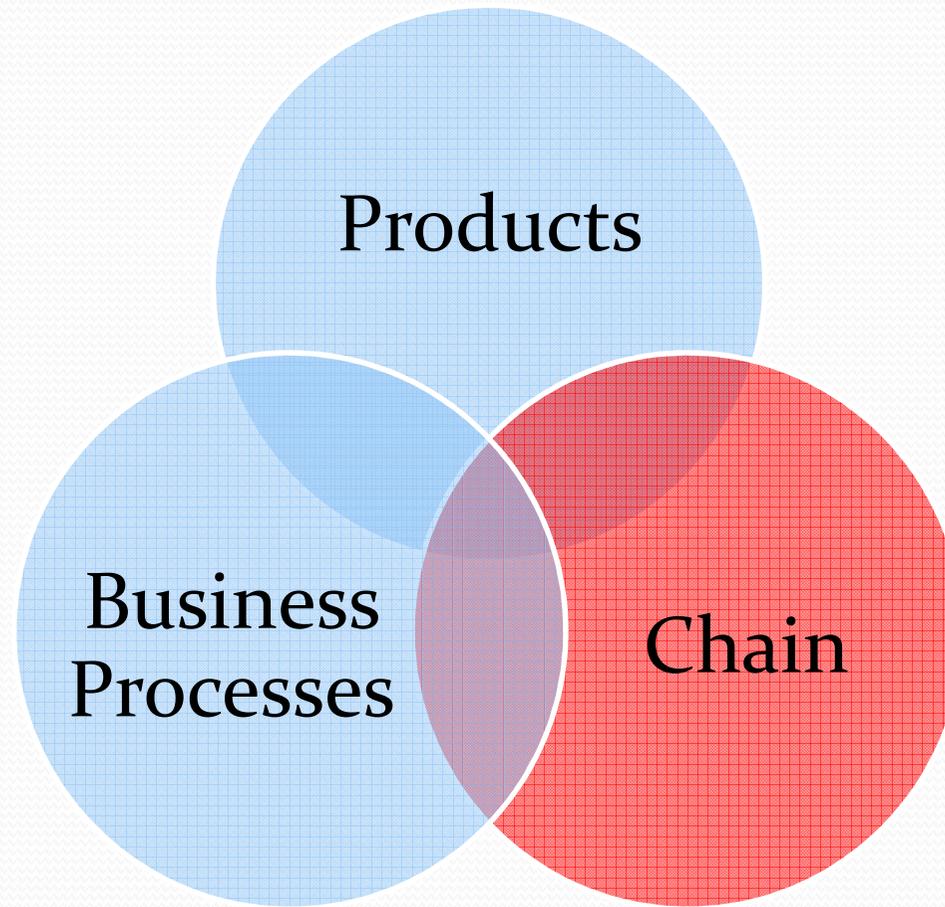
- Relevant Goals:
 - Reduction of CO₂ emission
 - Reduction energy consumption
 - Waste reduction & separation
 - Quality certificates



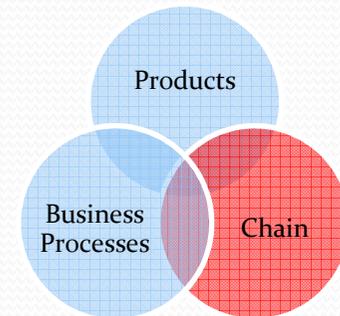
For own footprint reduction



Chain

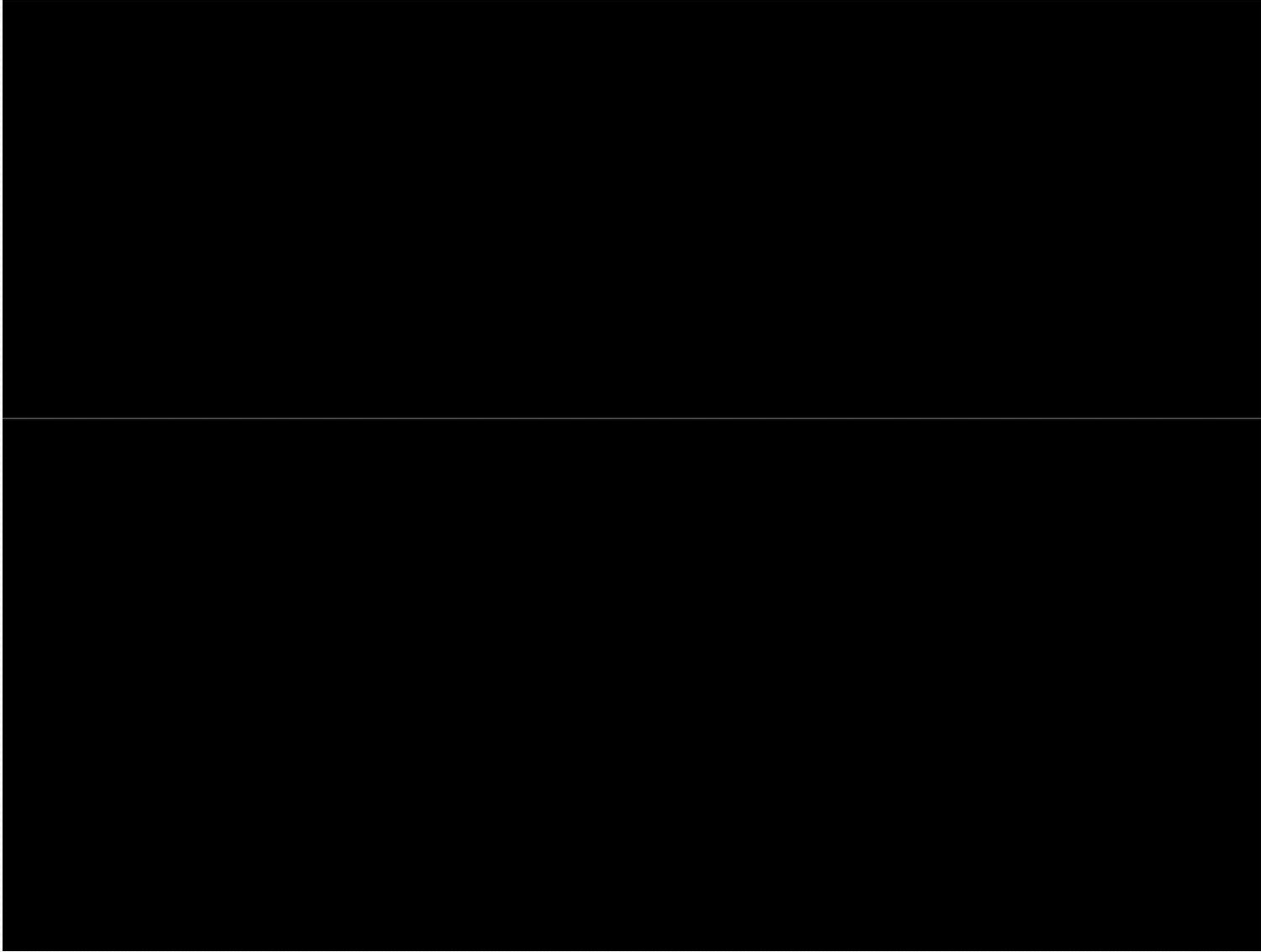


Rotterdam Climate Initiative

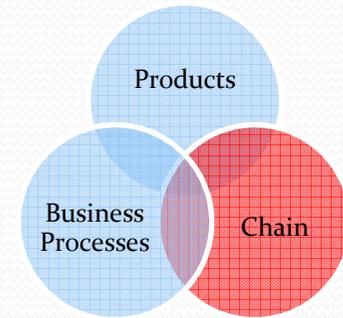


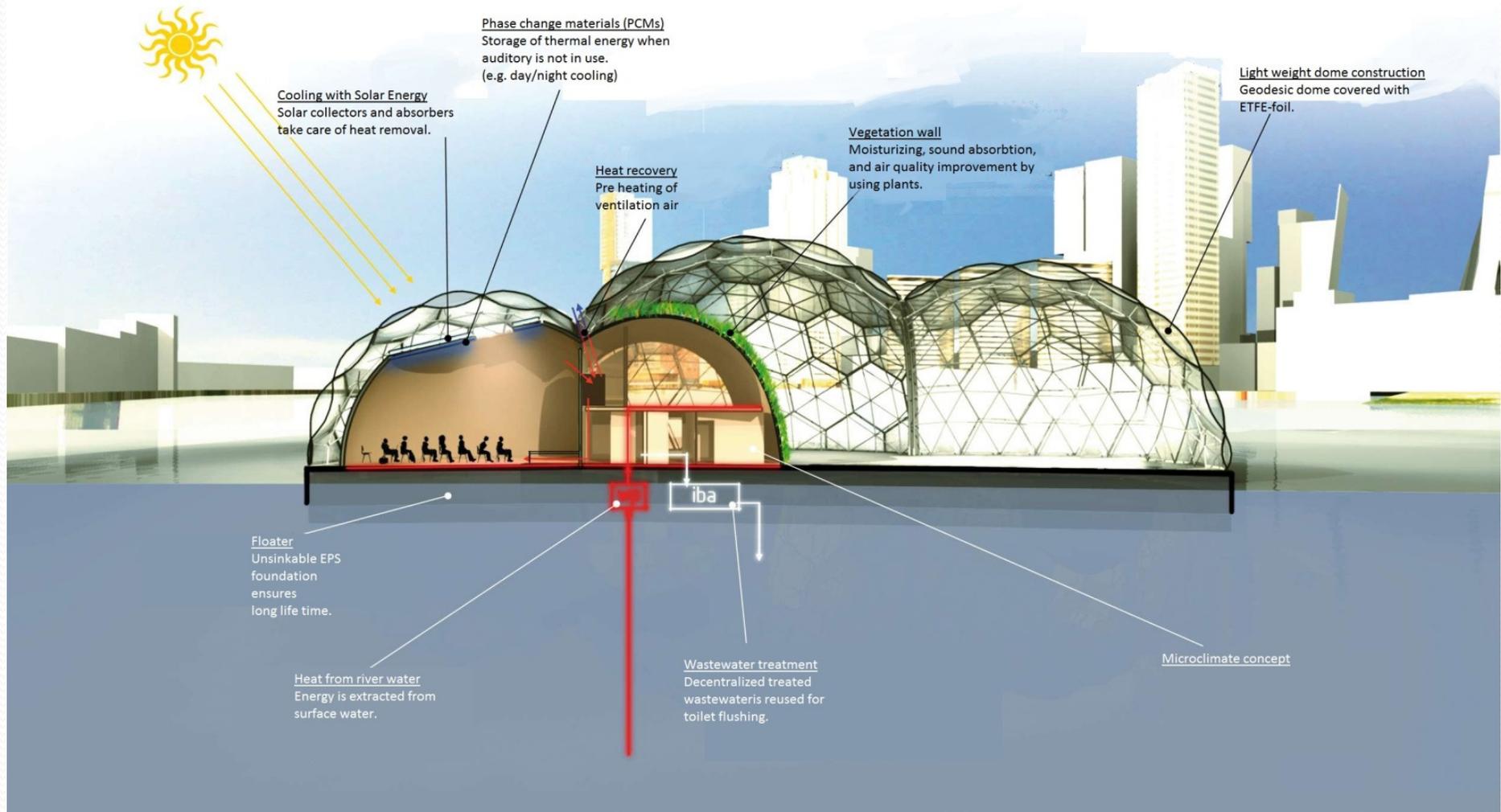
- 50% less CO₂ emission in 2025 compared to 1990
- Climate change program
- Enhance economic climate Rotterdam





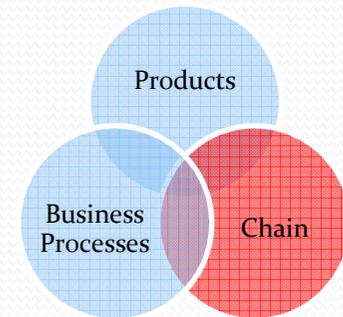
Case 3: Floating pavilions





Chain

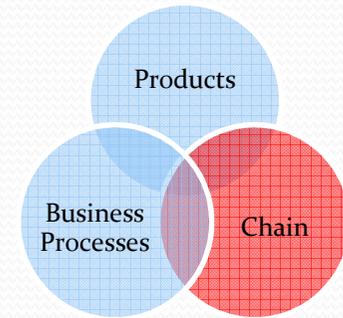
- Open innovation



“In this world, companies must become nimble at ‘open innovation’ – at accessing and exploiting outside knowledge while liberating their own internal expertise for others’ use.”

(H.W. Chesbrough, 2003)

Chain: sustainable operations



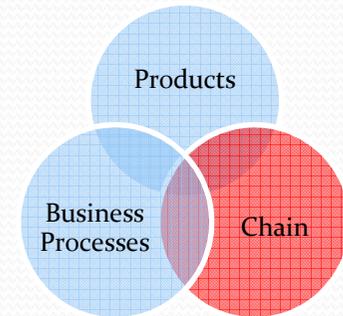
- Use of FSC certified wood
- Stimulation of sustainable operations in total chain
- Risk: Suppliers may refuse to offer FSC certified wood

→ trade-off for construction engineering organizations



Chain

- Relevant goals:
 - Reduction of CO₂ emission
 - Reduction energy consumption
 - Waste reduction & separation
 - Stimulate diversity
 - Stimulate ‘learning organization’
 - More use of FSC certified wood



Conclusion

Delivering CO₂ neutral products (products)

Much to gain in the route to the product (process)

Taking responsibility to promote planet (chain)

Thank you for your attention.

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