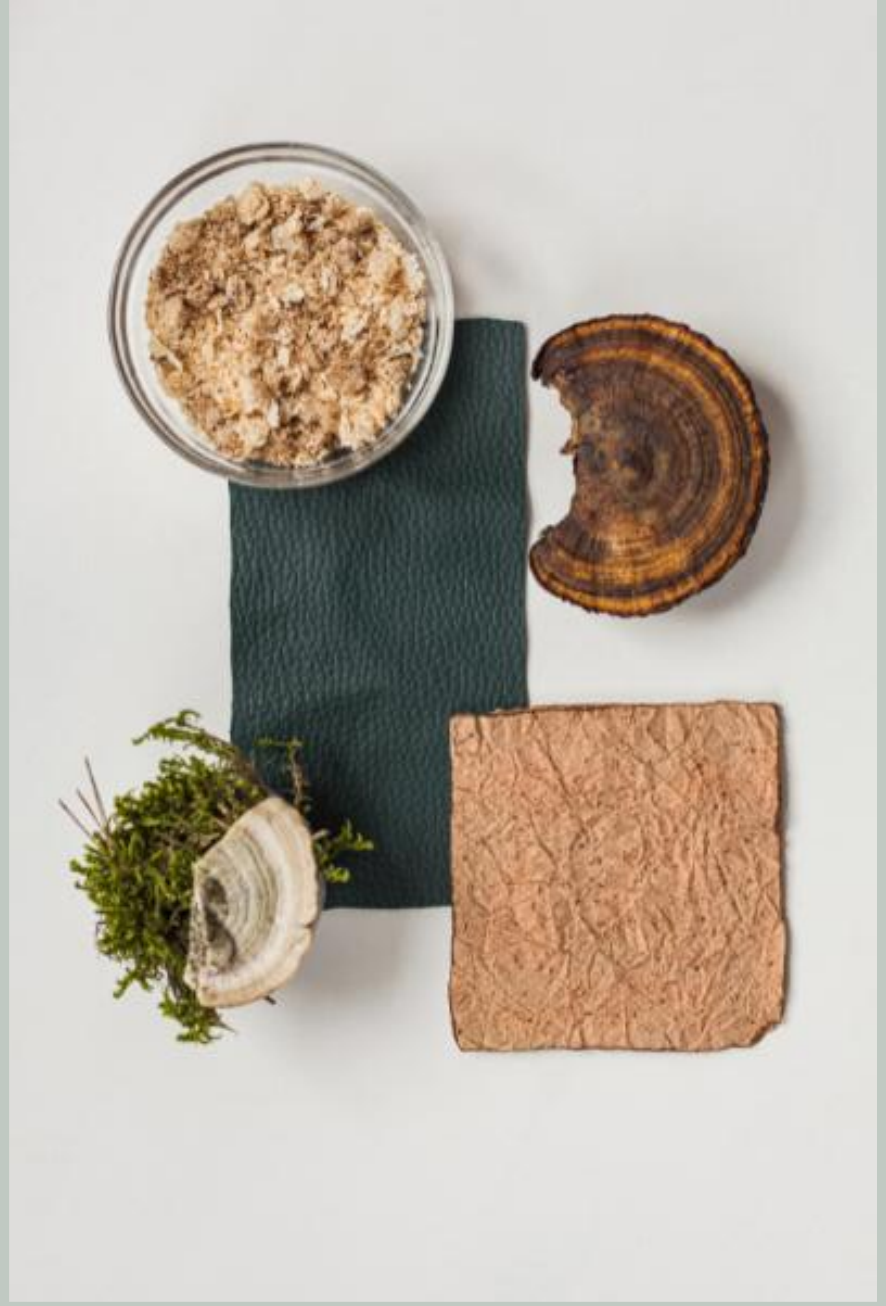
Planting the Seed for Renovation



Thesis presentation

Valerie Erd

June 30th, 2025

Content

01 Introduction

a. Problem statement
b. BBBM
c. Research Gap
d. Research Question

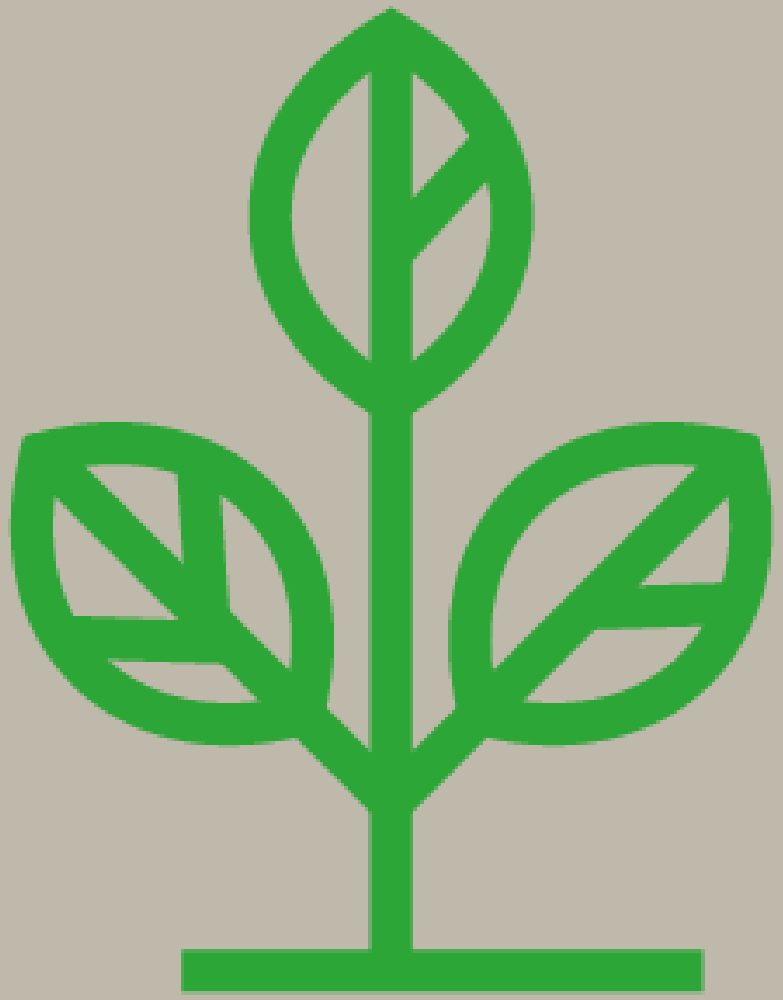
01 Introduction

a. Problem Statement

12%
CO_2

01 Introduction

b. BBBM

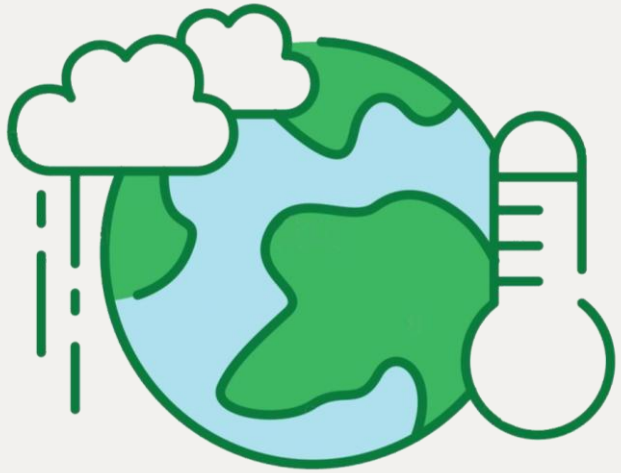


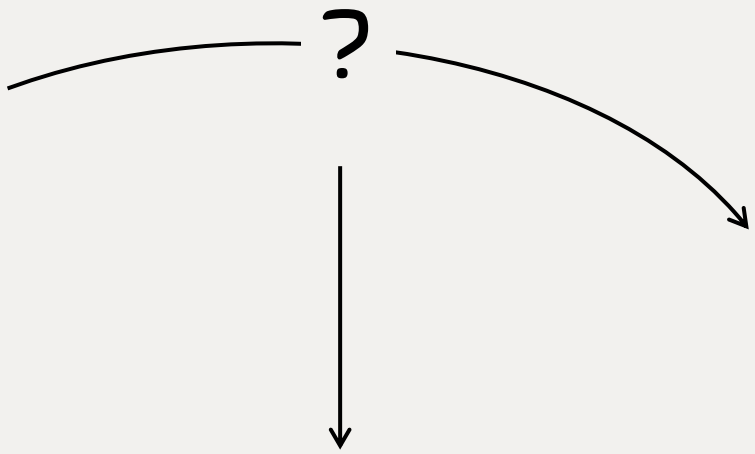
+ Reduce CO_2
+ Renewable

- Time & space
- Performance
- Mirroring trap
- Cost, Quality Assurance, Knowledge

01 Introduction

c. Research Gap





Solutions

01 Introduction

d. Research Question

How can the use of bio-based insulation materials be stimulated in renovation of existing housing stock in the Netherlands?

02

Bio-based Building Materials

a. Conventional BBBM

b. BBIM

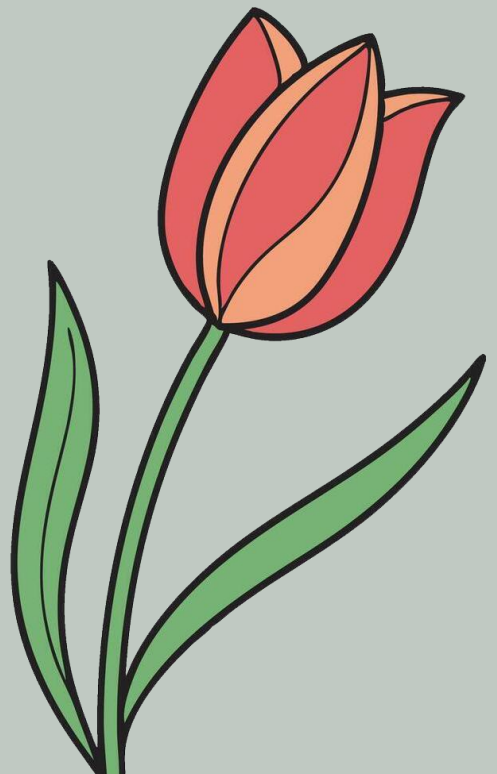
c. Renovation

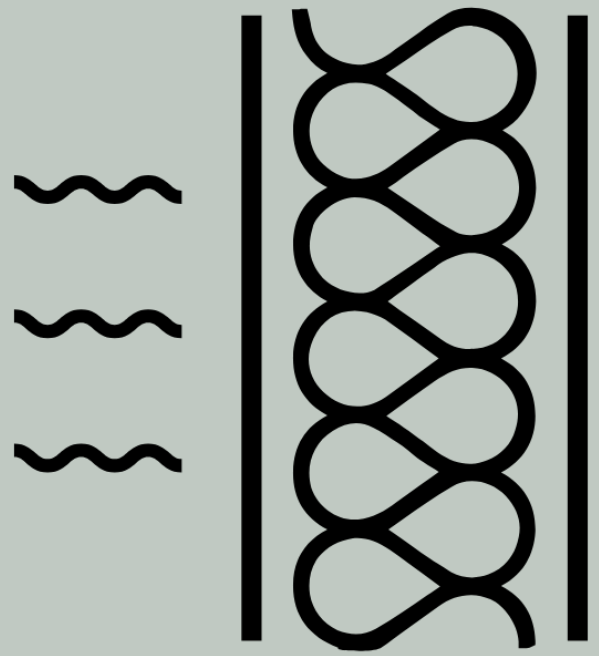
02 BBBM

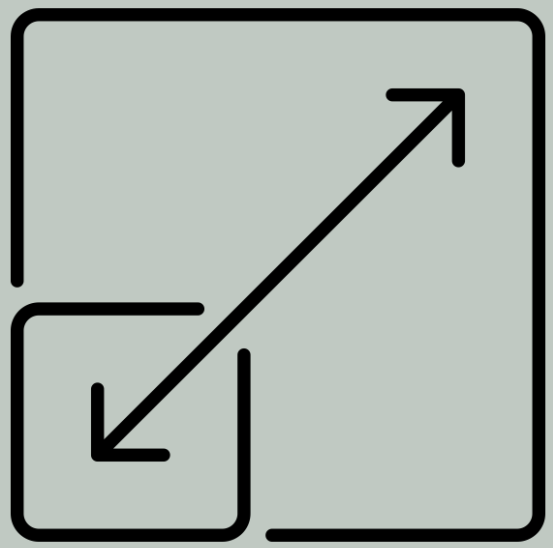
a. Conventional BBBM

02 BBBM

b. BBIM

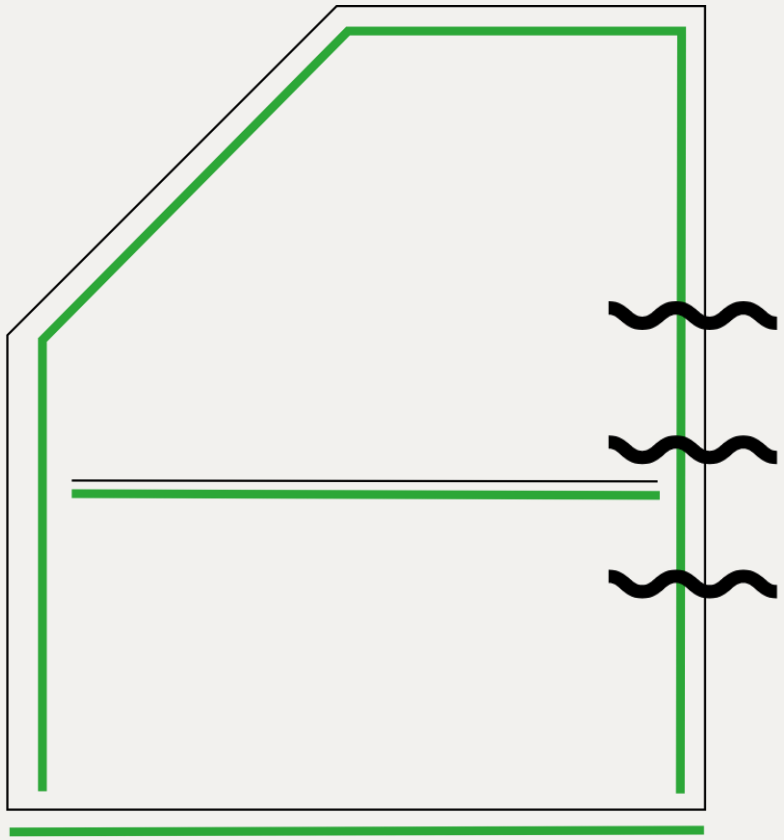






02 BBBM

c. Renovation



03 Barriers & Drivers

a. Cost

b. Quality Assurance

c. Knowledge

d. Policy

03 Barriers & Drivers

03 Barriers & Drivers

03 Barriers & Drivers

a. Cost

- Certification Costs
- Investment Costs
- Operational Costs
- Production Costs

- S = strain

+ L = strategic

03 Barriers & Drivers

b. Quality Assurance

- Certifications
- Performance & Reliability

- Standardization

- Trust

+/- Certifications

03 Barriers & Drivers

c. Knowledge

- Expertise
- Training & Education

- Gaps
- Transparency
+ Lobbying
+ Growing availability

03 Barriers & Drivers

03 Barriers & Drivers

03 Barriers & Drivers

d. Policy

- Government Incentives
- Regulatory Frameworks

- Inaccessible

+ Lobbying

+ Force change

Compete vs co-exist

04 Systemic Innovation

a. Mirroring Trap

b. Diffusion of Innovations

c. Strategic Niche Management (SNM)

04 Systemic Innovation

a. Mirroring Trap

Mirroring Trap

- Fragmentation & decentralized
- Breaking requires integration

04 Systemic Innovation

b. Diffusion of Innovations

Mirroring Trap

- Fragmentation & decentralized
- Breaking requires integration

Diffusion of Innovations

- Rate of adoption
- Innovation-decision process
- Learning cycles

04 Systemic Innovation

c. SNM

Mirroring Trap

- Fragmentation & decentralized
- Breaking requires integration

Diffusion of Innovations

- Rate of adoption
- Innovation-decision process
- Learning cycles

SNM

- Vision development
- (Second-order) learning
- Networking

Teamwork

05

Conclusion

a. Conclusion

b. Discussion

c. Further Research

05 Conclusion

a. Conclusion

1. Knowledge gap
2. Policies
   - Financial incentives
   - Certifications
   - Visibility

How can the use of bio-based insulation materials be stimulated in renovation of existing housing stock in the Netherlands?

Small

- Subsidies
- Training
- Clear certifications

Large

- Tenders

05 Conclusion

b. Discussion

- Literature vs interviews
- Regional expansion
- Co-exist with CIM

Limitations

- Sampling
- Generalizability
- Transparency BBIM

Proposed Solutions

- Impact remains low
- Policies unpredictable
- Change ≠ positive

05 Conclusion

c. Further Research

- Long-term observation
- Database
- Sampling
- Innovation Theories

05 Conclusion

How can the use of bio-based insulation materials be stimulated in renovation of existing housing stock in the Netherlands?

With concerted efforts to close **knowledge gaps, reduce costs, improve quality assurance, and leverage effective policy instruments**, BBIM can become a cornerstone of sustainable building practices in the Dutch renovation market. By focusing on **structured learning, cross-sector collaboration, and long-term investment**, the Netherlands can accelerate its transition to a circular, climate-resilient built environment.

06 Questions?