Beacon
TOGETHER, CREATING TOMORROW'S HOMES

Creating homes and neighbourhoods that work well into the future and don't cost the Earth

A systems approach to sustainable homes

Beacon Symposium 2008

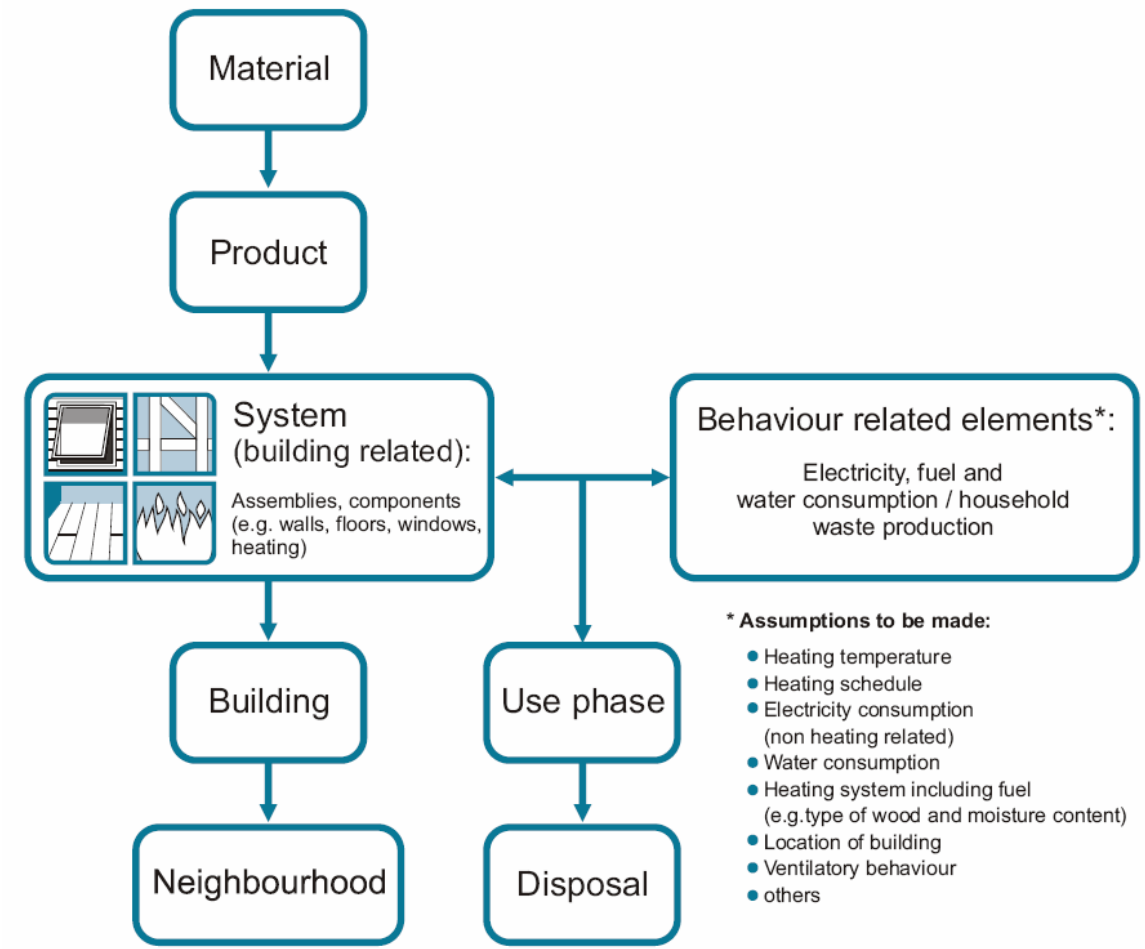
Barbara Nebel, Systems Research Team Leader (Scion)

Beacon Pathway Limited

- Introduction to systems thinking
- Goals of the strategy
- Components of the work
- Conclusion

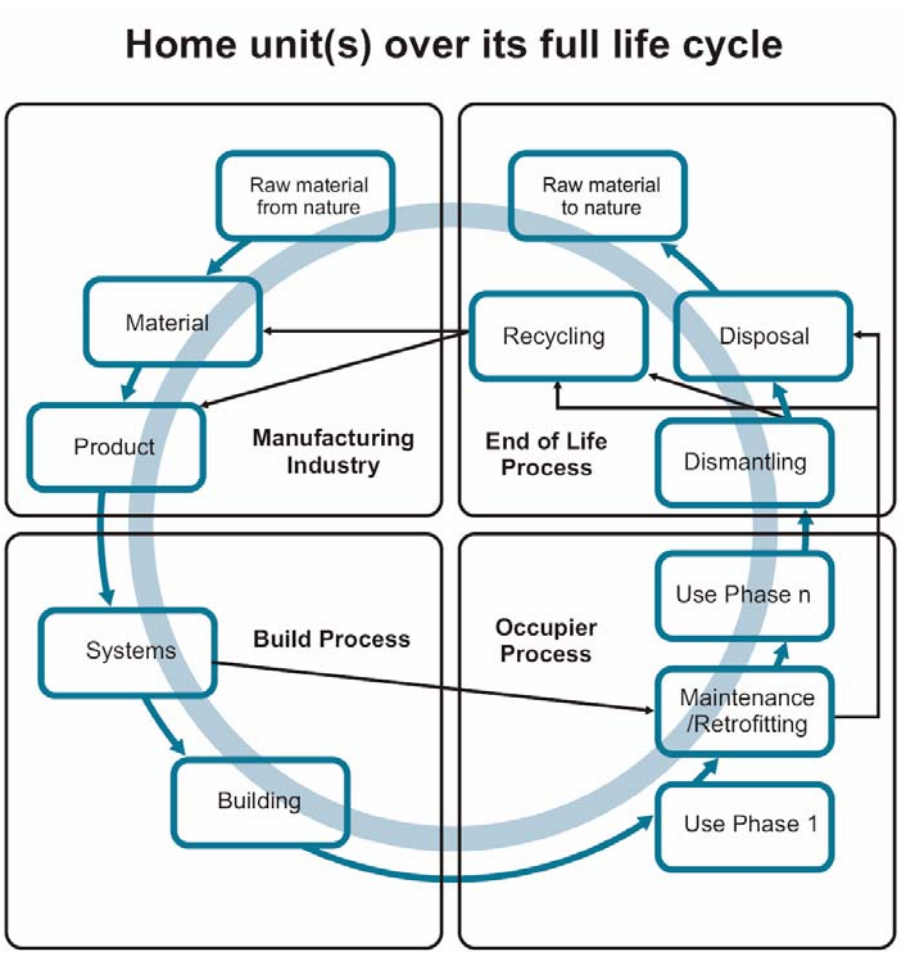
Systems thinking

Definitions



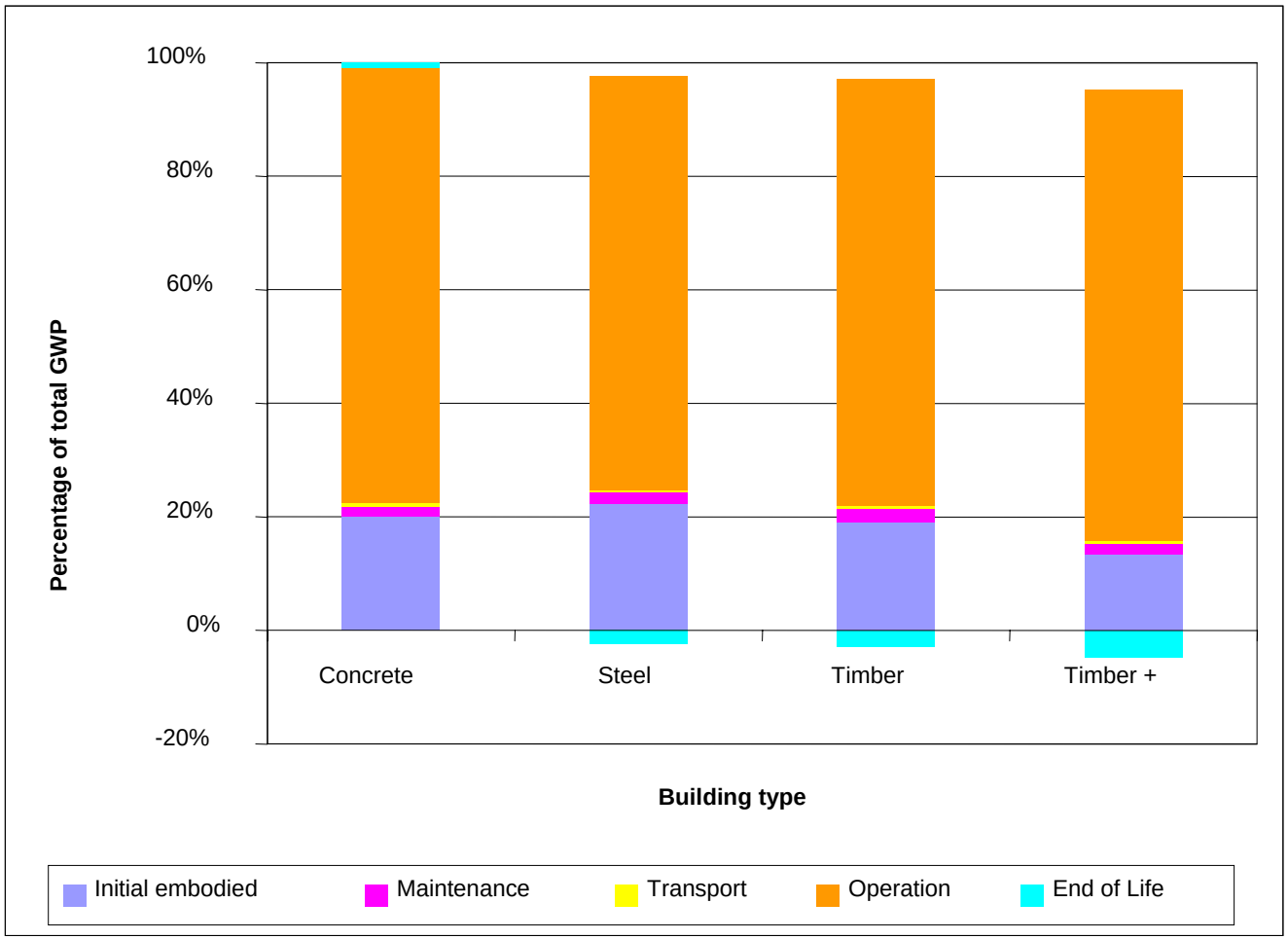
Although the system is part of a building, the system is always evaluated in the context of the whole building or neighbourhood.

Life cycle approach



- The systems need to be considered from cradle to the cradle
- Disposal phases and recycling of particular products can influence outcomes markedly

Example for life cycle approach

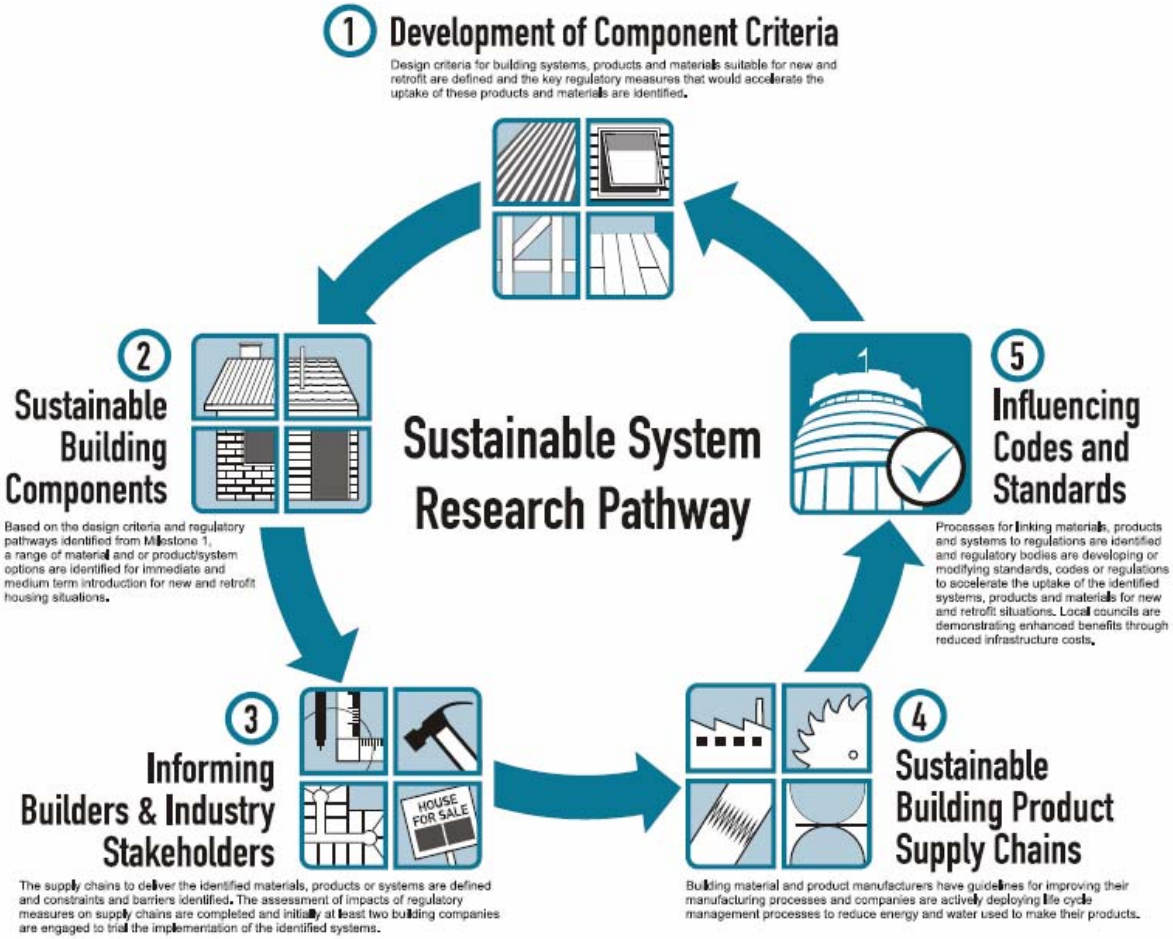


Goals

Goals of the systems stream

- The development of a structured approach to systems development
- The development of innovative systems to rapidly change the existing housing stock to meet Beacon's objectives
- The iterative development of a process to accelerate the introduction of innovative systems into the market through identifying and addressing 'bottlenecks" in the regulatory approval processes and providing routes to address these based on designed solutions
- The development of a design-based approach to new and innovative materials, products and systems into the residential built environment

Structure of System Research Pathway

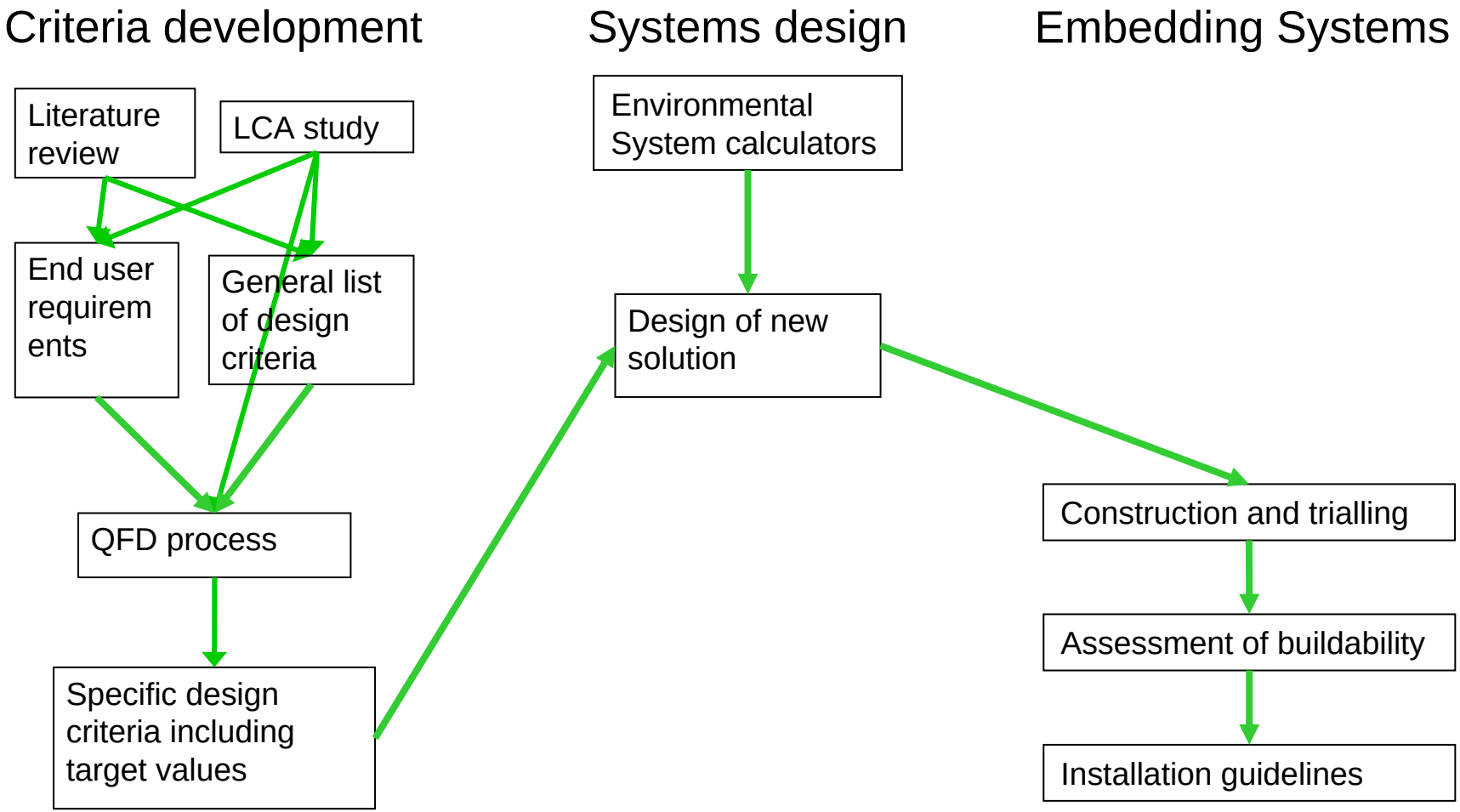


Approaches

- Development / implementation of (new) systems
  - Criteria development
  - Systems design / identification of existing solution
  - Embedding systems into the build process

- LCA of Waitakere NOW Home® and Papakowhai NOW Home® Renovation project

Framework to develop new systems



Conclusion

Summary

- We take an embedding systems approach
  - Systems rather then materials
  - Whole life cycle
  - Whole supply chain
  - Regulations for installation