

# Can Innovations in the Supply Chain Lead to Reduction of GHG Emissions from Food Products? A Framework

Guro Nereng



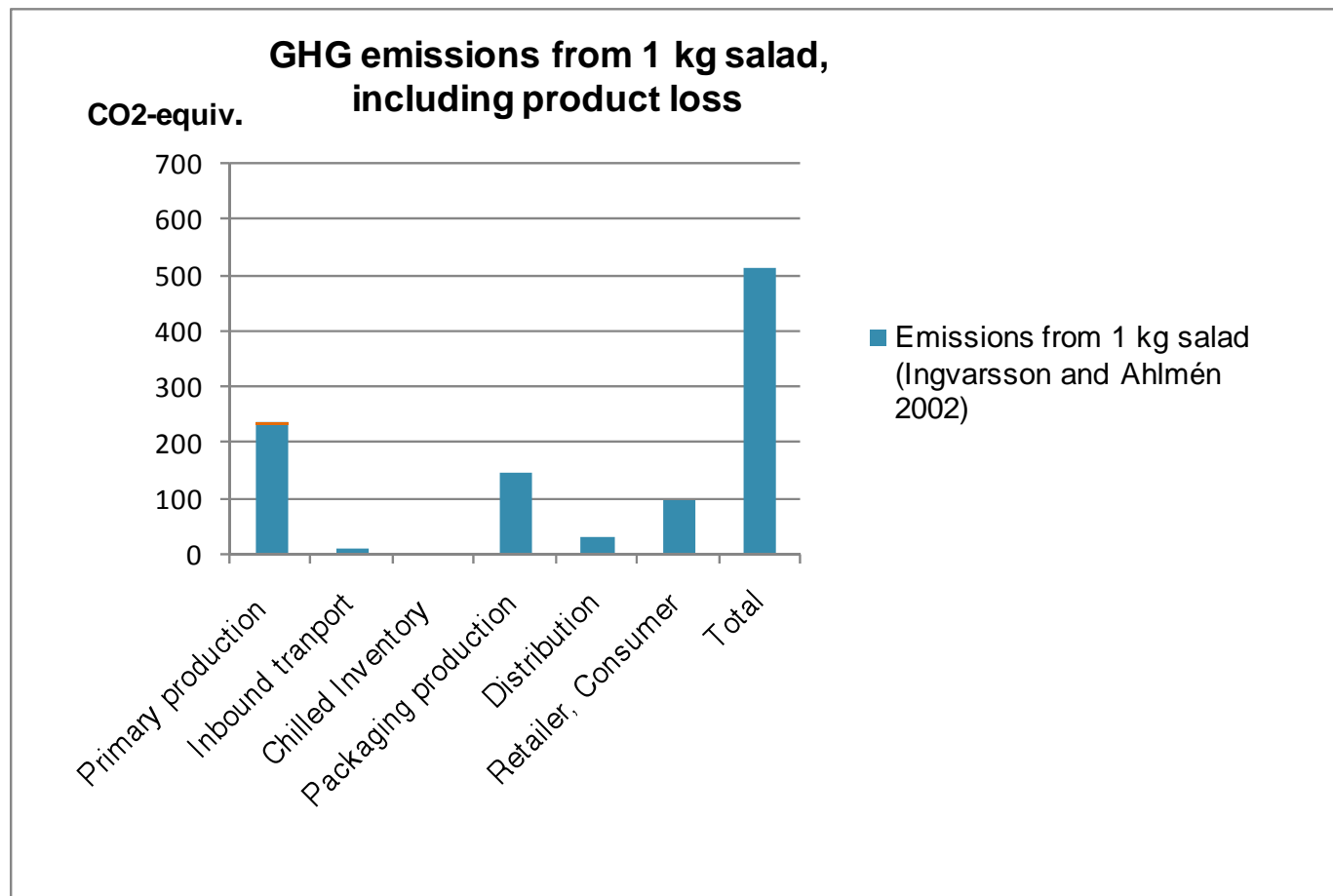
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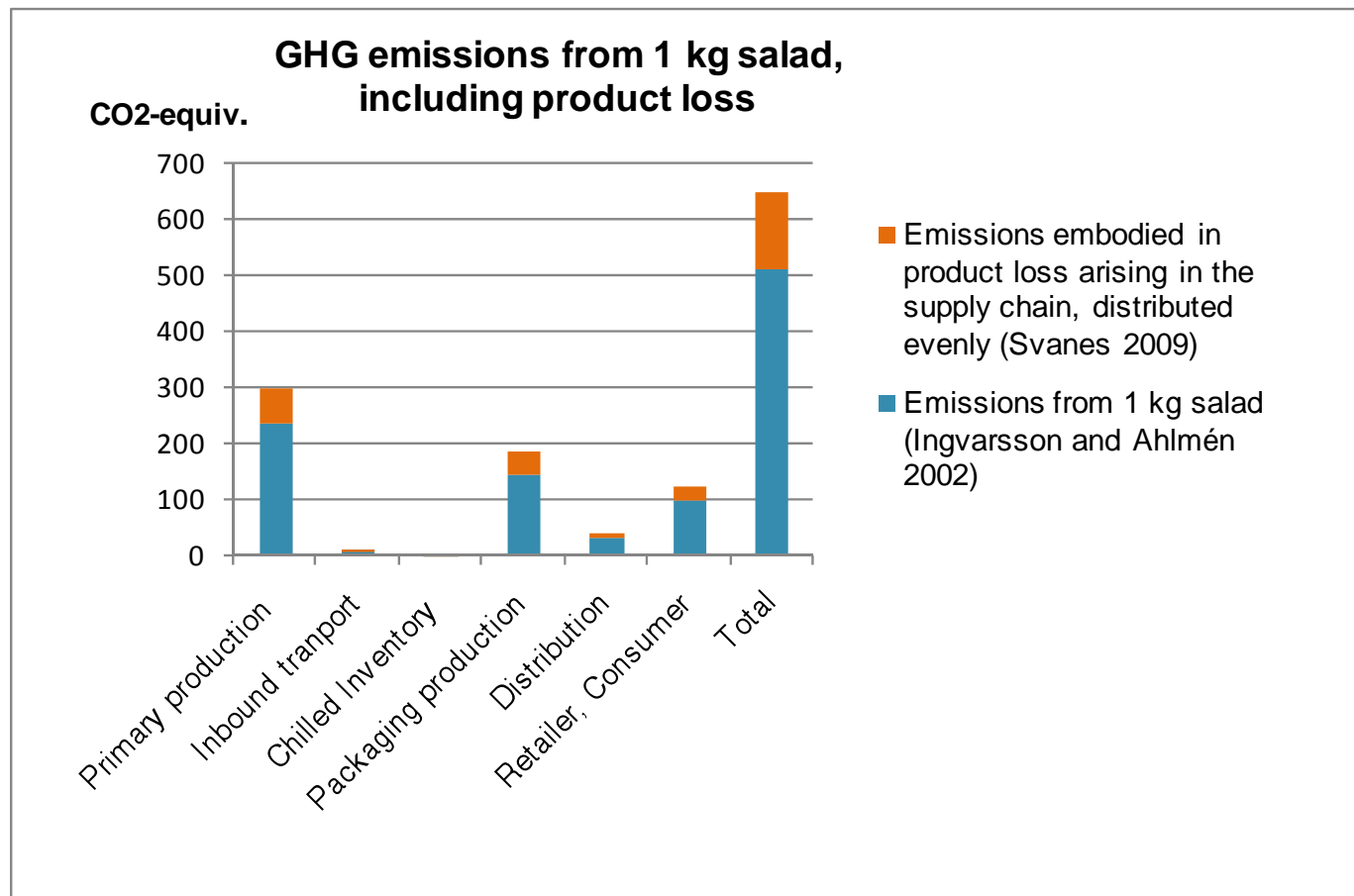
## Smart Vareflyt (=“Smart flow of goods”)

- Goal: Facilitating more efficient supply chains of food products
  - logistics and environmental parameters
  - increased information exchange
  - demand driven supply chain planning and control
- Research traditions: Supply Chain Management meets Life Cycle Thinking
  - SCM: Purchase or transport focus
  - LCA: Functionality, system boundaries, embodied emissions

# LCA of food products: GHG emissions



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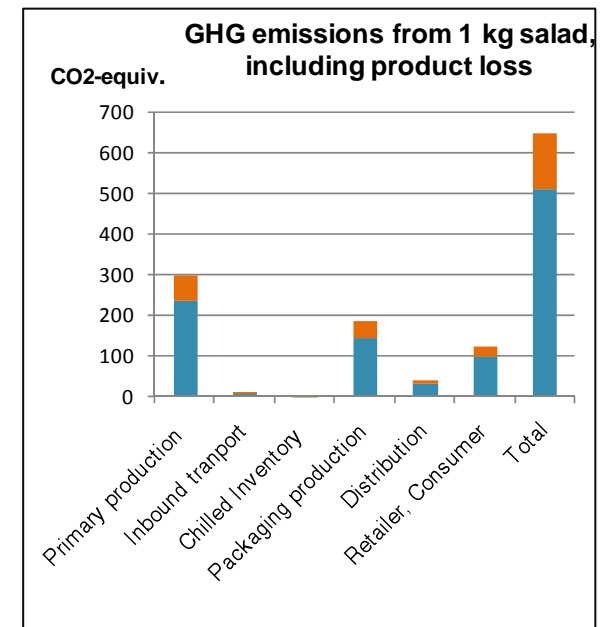


# Inferences for the project

- Primary production larger impact than transport of products
- Embodied emissions from product and product loss have to be included

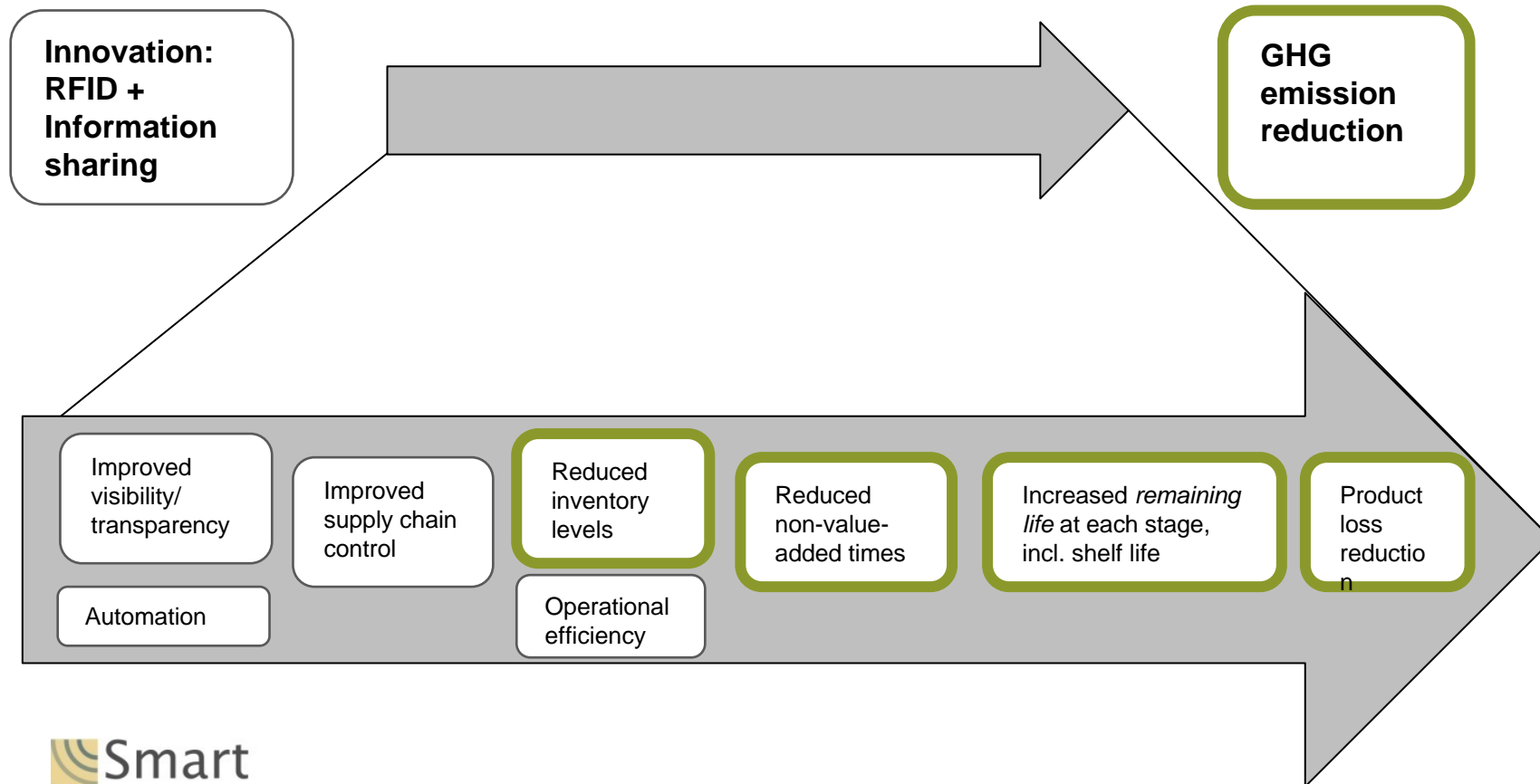
## Innovation:

- Planning and control concepts should relate to overall GHG mitigation
- Demand driven supply chain planning and control
- Collaboration in the supply chain
- Measurement system accordingly

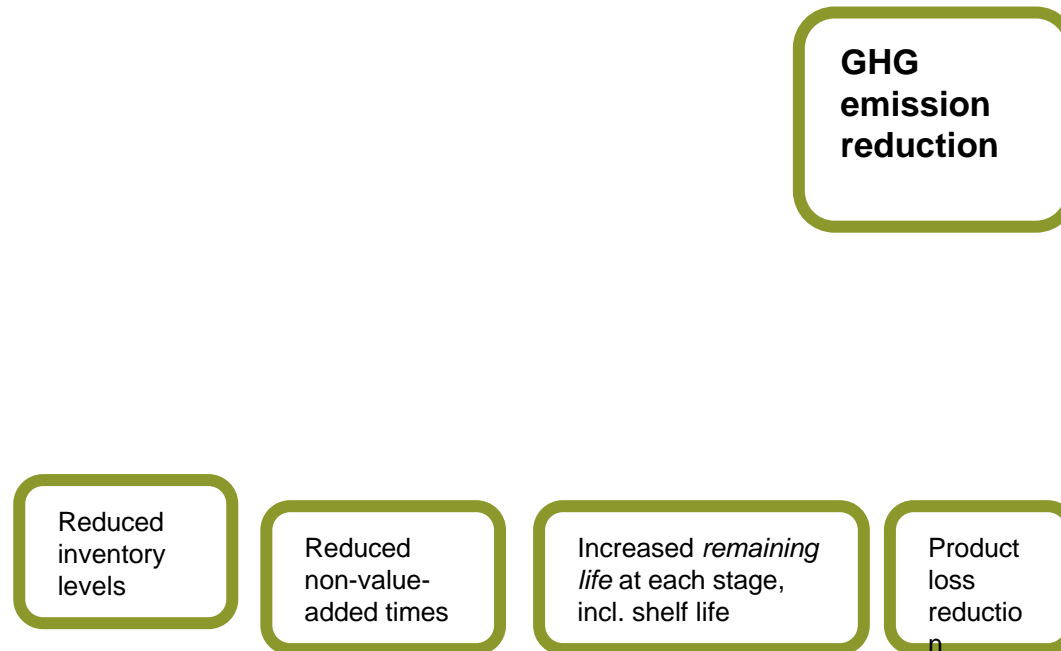


# A cause-effect hypothesis chain

Linking environmental indicators to logistical indicators



# Examples: Indicators





# Examples: Indicators

Inventory levels

non-value-adding times

*remaining life at  
each stage*

Product loss

GHG Emission

# Conclusions

- Relative importance: Emissions from transport vs. embodied emissions from product
- GHG-indicators reflecting the functionality of food
- The project will contribute to
  - New planning and control concepts
  - The framework for estimation and measurements of effects
- Interdependency
- System thinking is a prerequisite for both

Thank you!



[guro@ostfoldforskning.no](mailto:guro@ostfoldforskning.no)