



# Redesigning the Future with Renewable Packaging

InnovaWood Seminar, April 22, 2013, Geneva

Ohto Nuottamo, Stora Enso Renewable Packaging Business Area

# Redesigning the Future with Renewable Packaging

- ☐ Consumer and packaging
- ☐ The strive for biopackaging
- ☐ Redesigning with renewables
  - ☐ Case DDSi Pharma package



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# The integral brand



# Consumer interest in the origin of the goods





# The responsible choice: life cycle approach



# The consumer experience



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Why do we find packaging to be redundant?





# From linear to circular economies





# The strive for biopackaging







# The consumer confusion

renewable

=

recycleable?



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# Coca Cola PlantBottle™



"30% less plastics"







# Liquid cartons: 80 % less plastics





# Biocup: 98% less plastics



# Our vision: 100% tree-based biopackaging

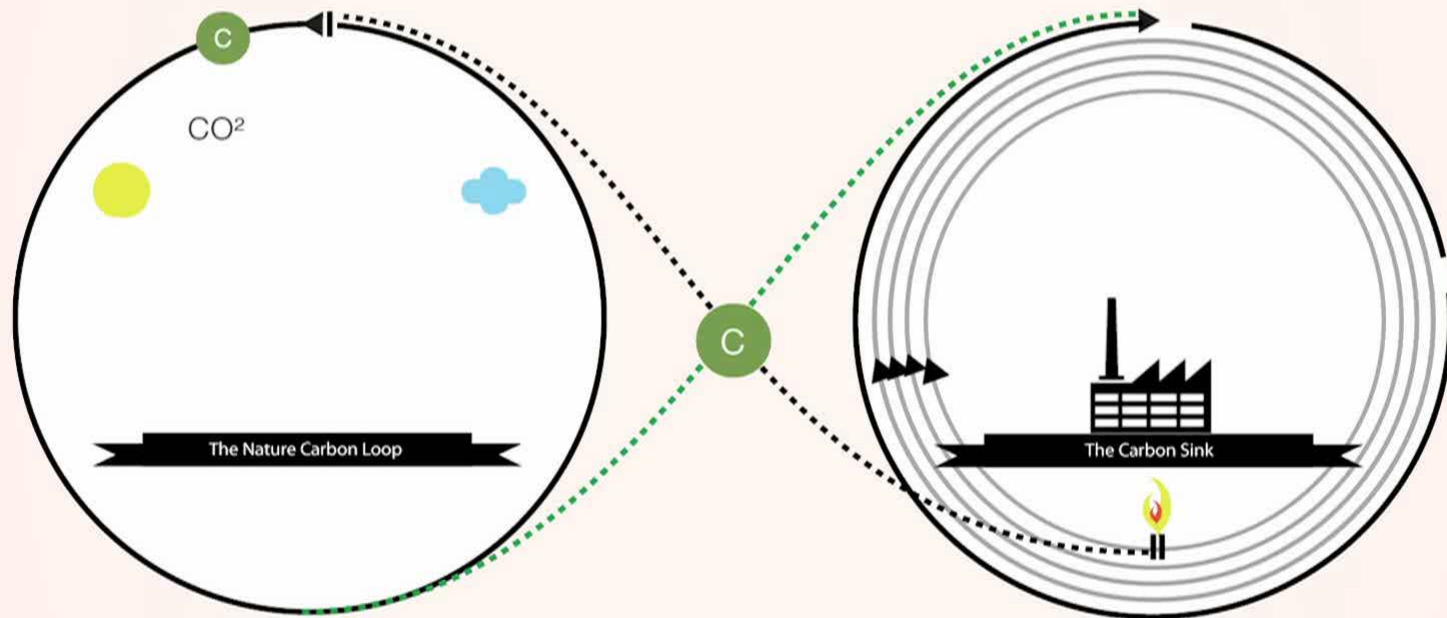




# Tree-based circular economy

## The Infinite Biocarbon Loop

**C** = (bio)Carbon



# Redesigning the future



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# DesignStudio by Stora Enso



Workshop culture

# Hand in hand



**with the partners**



# Global DesignStudio network





# Redesigning the future with renewable packaging



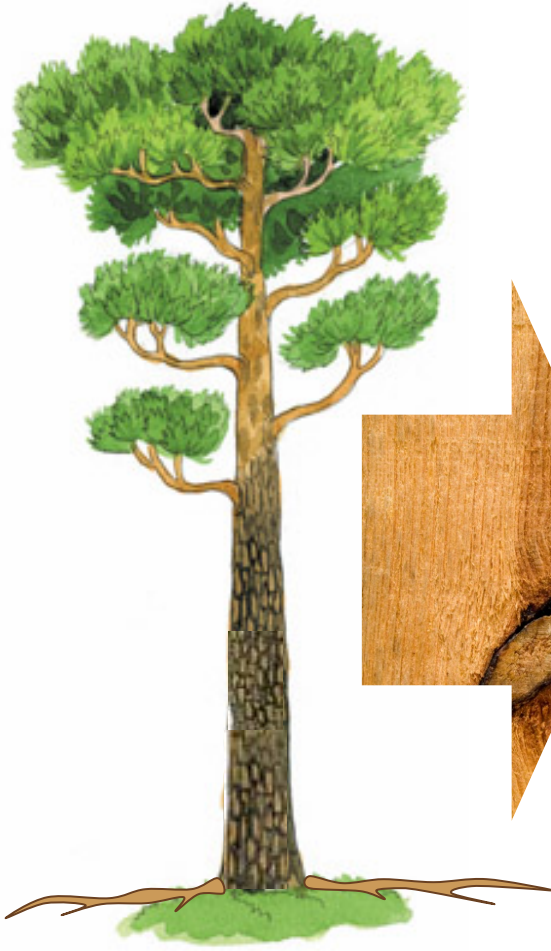


# Plastic was trees, once



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# Tree cracking: from macro to miniscale



**Intelligent  
wood  
structures**



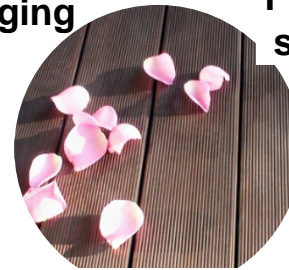
**Packaging**



**Pharmaceuticals  
& Well-being**



**Energy and  
biofuels**



**Composites**



**Next  
generation  
wood and  
paper  
products**



**Biochemicals**



**Biopolymers**



# Case

## Intelligent, Renewable Packaging



# Stora Enso Pharma DDSi Wireless

## A new solution to simplify adherence control





# Numbers behind inadherence

## Cost of inadherence **€178 billion**

- ❑ The number of inadherent patients is 85 million (average 30% , range 7% and 61%).
- ❑ Cost of inadherence due increased medical costs in selected diseases is €178B. This includes only direct healthcare costs, not indirect costs for society or social care
- ❑ For pharma companies cost of inadherence is €41B lost sales of medicines

\* Hypercholesterolemia, diabetes type 2, psychoses, alzheimer, parkinson, COPD epilepsy, HIV, asthma and tuberculosis

Focus diseases in Western Europe and the US

# Stora Enso Pharma DDSi Wireless

- Conductive ink on carton board based blister inlay connected to a cellular module
- Tracks one pill at the time and using GSM/GPRS cellular networks delivering data to electronic health record systems
- Renewable, recyclable carton and reusable cellular module with chargeable battery
  - One time cost for the module and no need for extra readers





# Stora Enso Pharma DDSi Wireless

- Almost real time follow-up possibility for healthcare service providers
- Long life time (>100 days) without charging if one data delivery per day
- Daily follow-up possibilities towards patients, like voice call, SMS or personal visits when medication not taken
- Design adjustable for different blister layouts



# Room for radical innovations





# Innovative Packaging Powered by the Sun



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