

# Sustainability Strategy AVEBE



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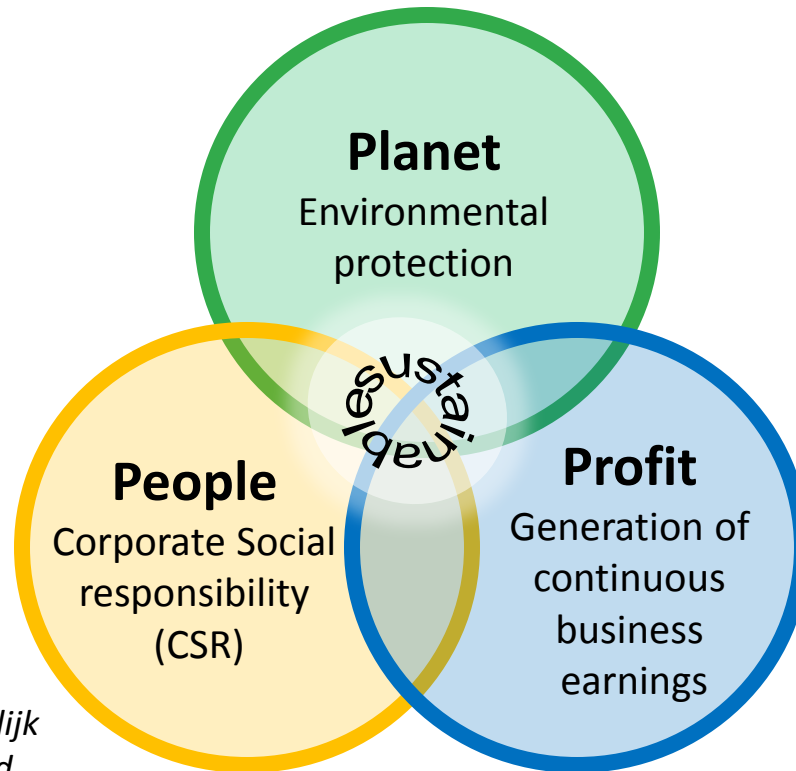


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## Brundtland definition of sustainability



*Maatschappelijk  
Verantwoord  
Ondernemen*

## The challenges for AVEBE

- **Payment of competitive price for starch potatoes**

→ keep starch potato growing attractive in relation to alternatives like wheat

Our members make choices...  
Our factories process potatoes...



or



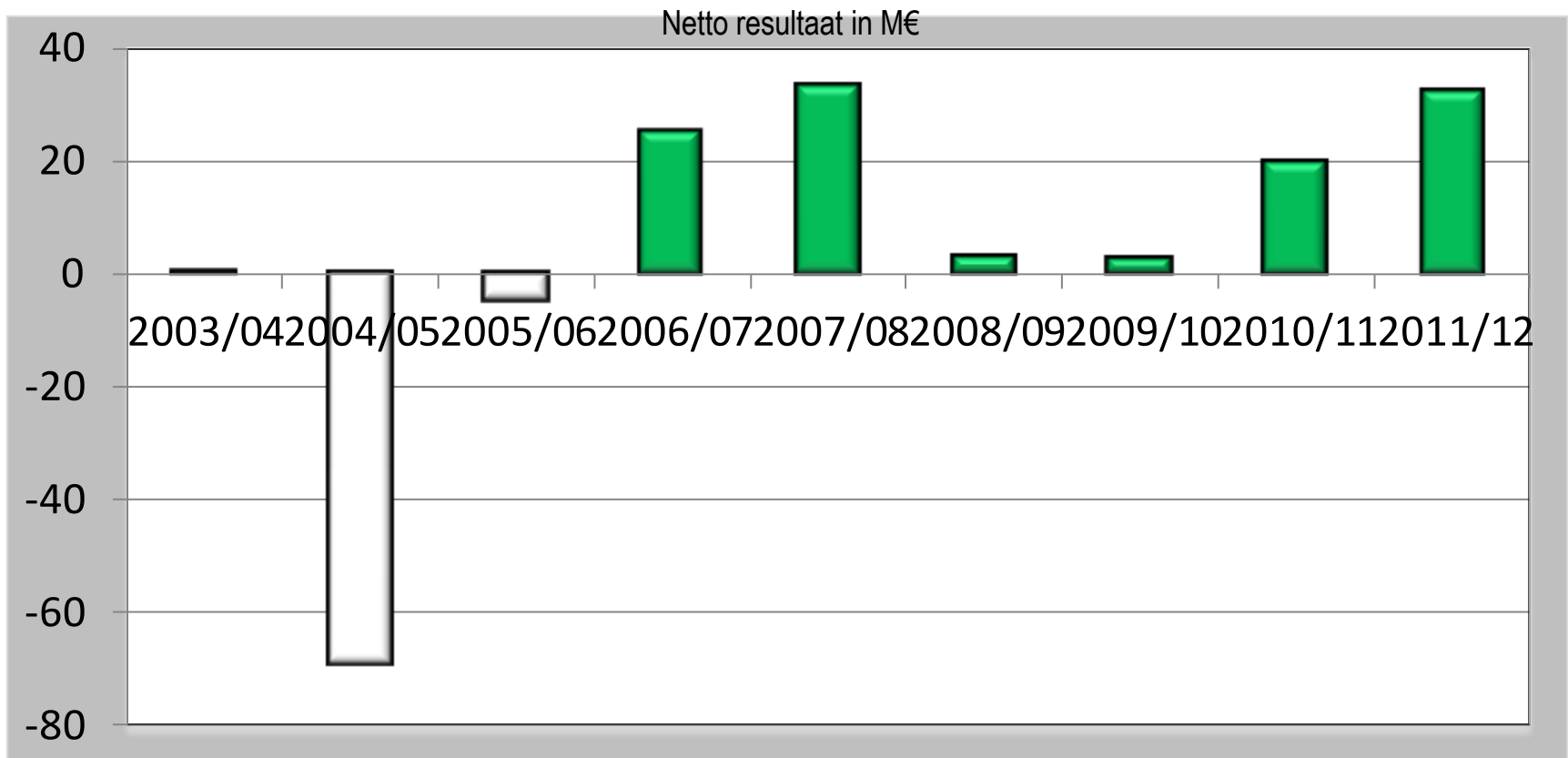
- **Compensate for EU subsidies lost in 2012**

→ cost savings and growth from innovation

→ **Innovation:** move product portfolio to higher added-value products

But, **AVEBE** since 2006 is financially more stable through  
**cost reduction** and **raising efficiency**,

# Result development: 2005 refocus strategy



# AVEBE: sustainability of agriculture 'more with less'

innovation by nature

- Disease resistance
  - ✓ Nematode: fumigation of soils
  - ✓ Fungi (Phytophthora and wart)
  - ✓ Virus → spraying against insects which transmit virus

- Yield.....yield and yield

- Carbon Footprint
- Land use



- Drought → water footprint



- Fertilizers

- Nitrogen, potassium and phosphate
- Organic vs artificial

- Crop rotation

- 50 % potato, 25 % cereal, 25 % sugarbeet

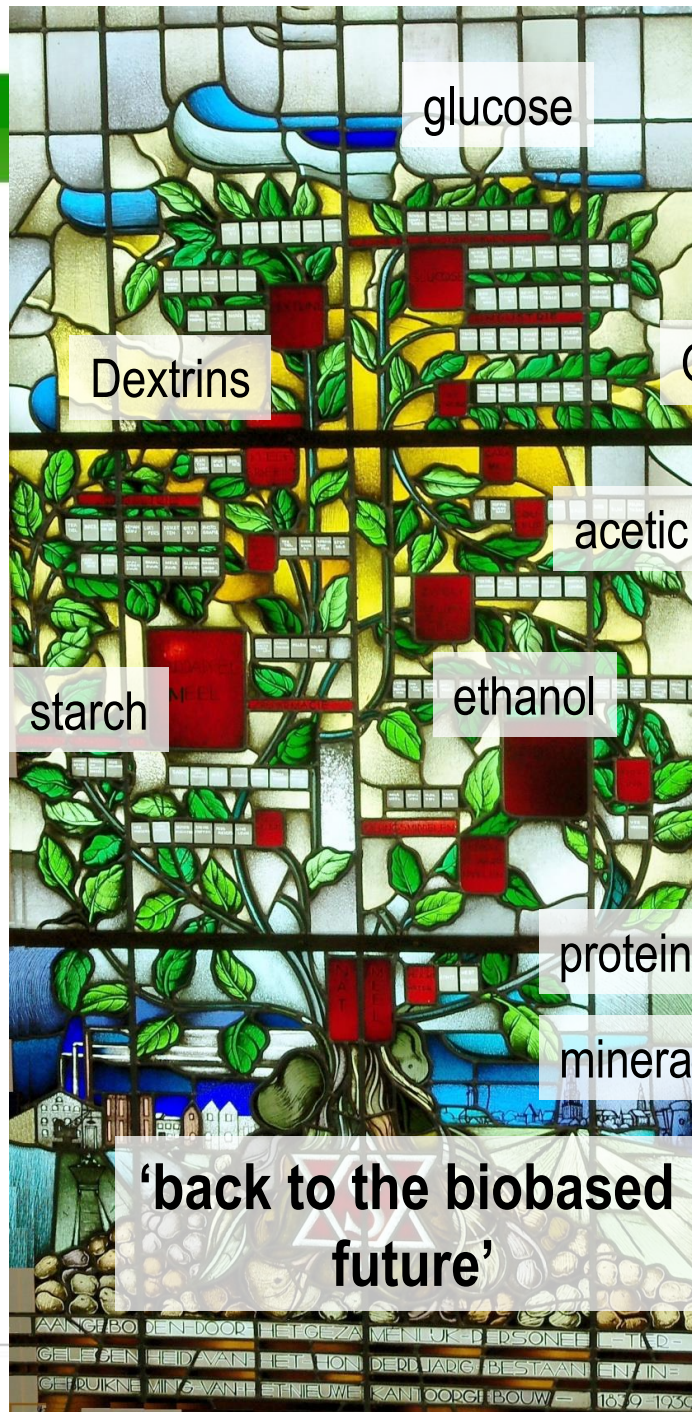
agriculture

genetics



# Biorefinery

'The biobased economy'



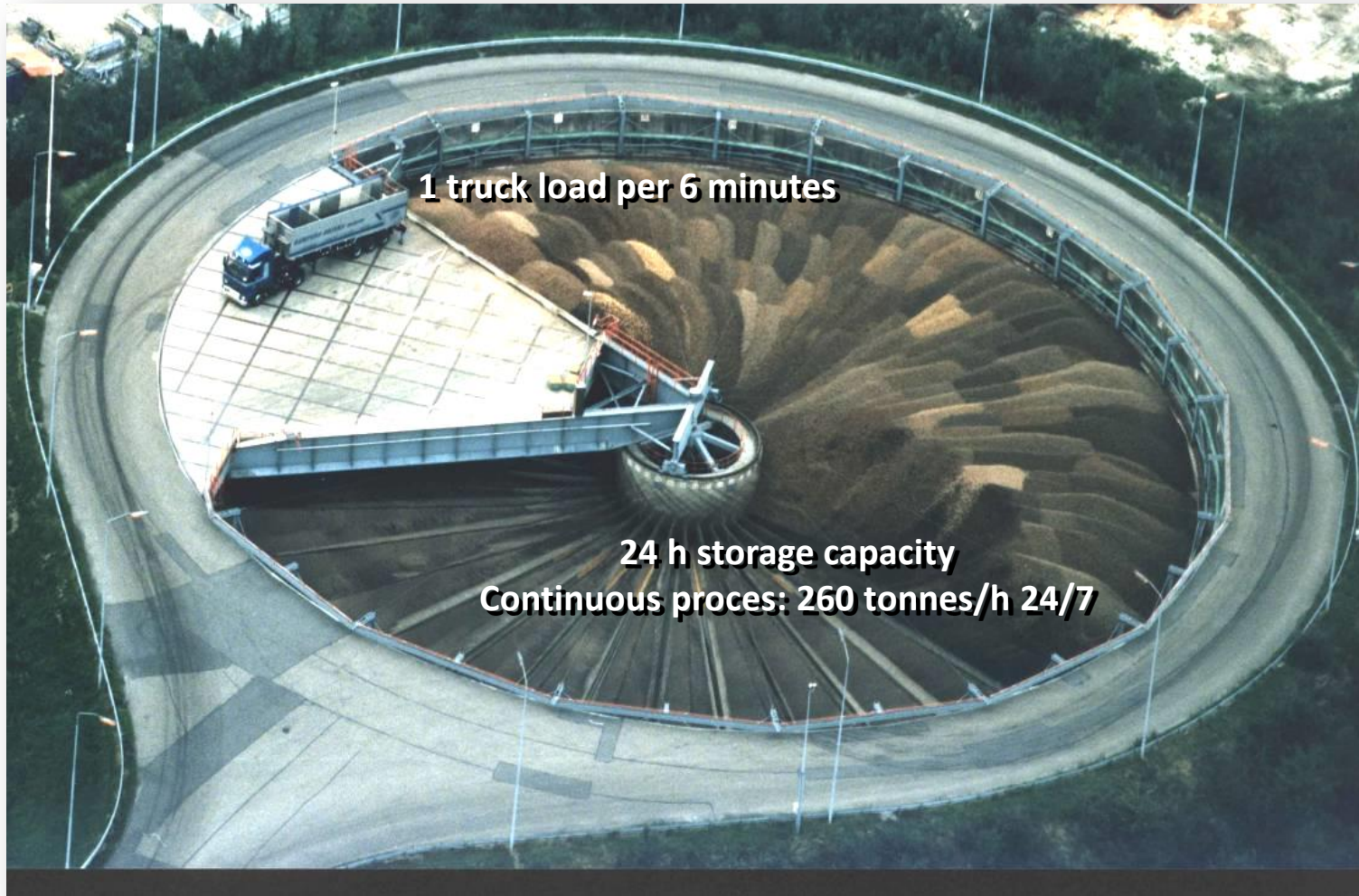
1839-1939

# Ter Apelkanaal: processing ~1 million tons of potatoes

innovation by nature



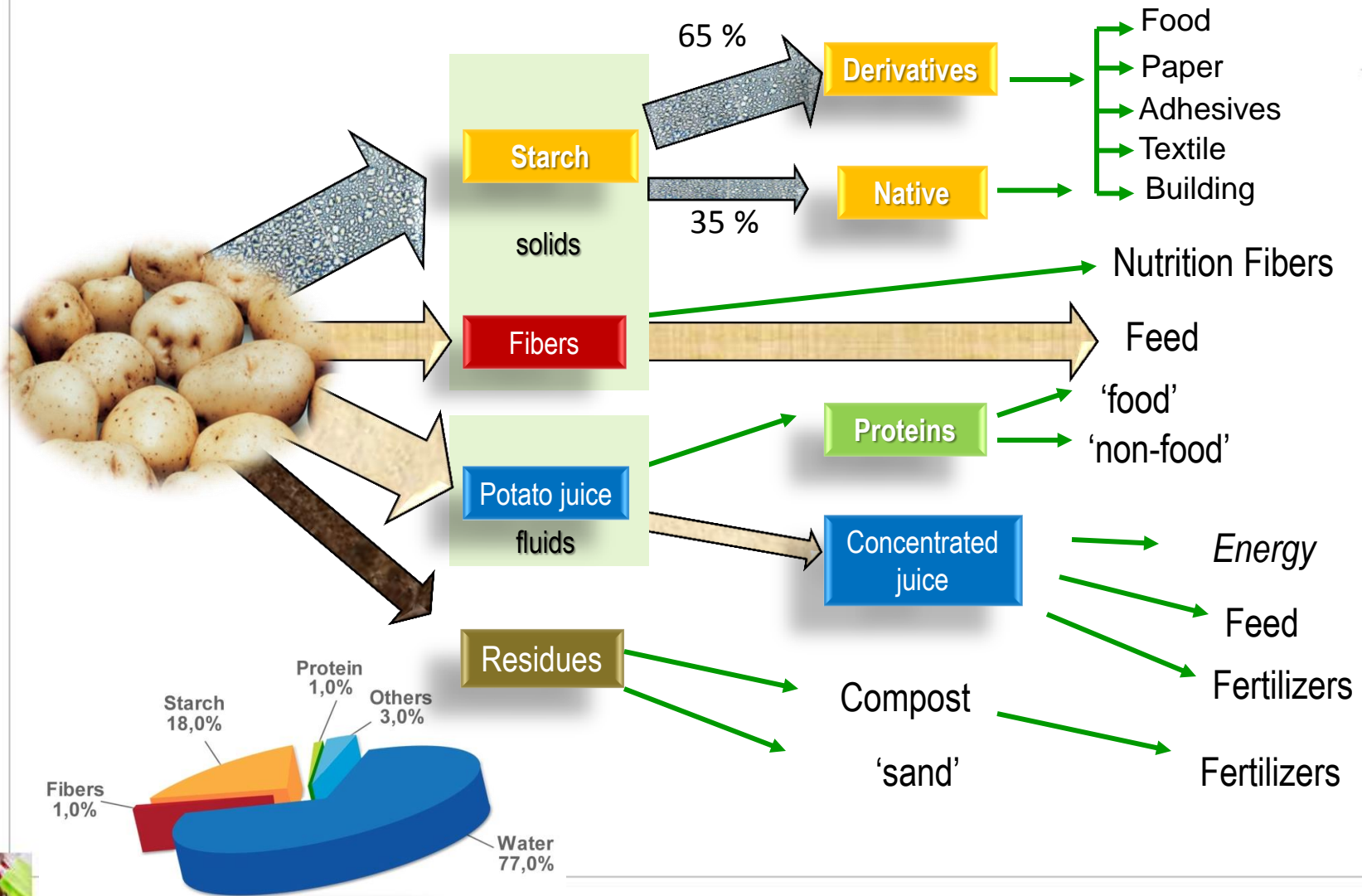




**1 truck load per 6 minutes**

**24 h storage capacity  
Continuous proces: 260 tonnes/h 24/7**

# AVEBE = biorefinery



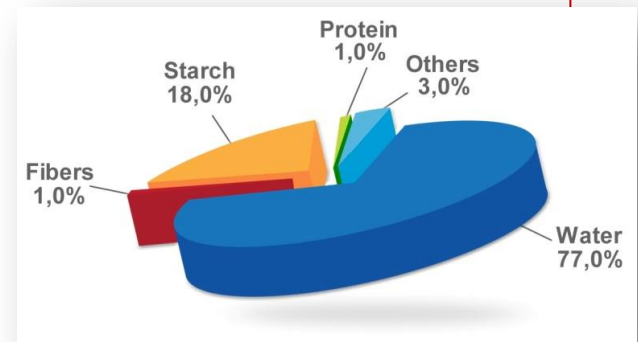
## Biorefinery concepts

- today's biomass vs developing novel crops
- Complete use of biomass
- Re use of components (now waste)
  - Re use of minerals
- Separation processes
  - Unlocking biomass
  - Retain molecular functionality
  - (low) concentrations
  - Low molecular weight compounds
- Drying processes

the  
dutch  
biorefinery  
cluster



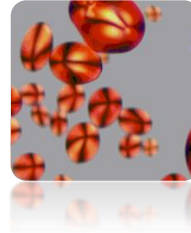
- AVEBE produces of electricity/steam in gas powered Combined **Heat and Power** Plants
  - 100 million m<sup>3</sup> gas used with > 90 % energy efficiency
  - Re-use of energy by integrated processing
  - CHP plants struggle because of low E prices of subsidized renewable energy and cheap 'coal' energy
  - 2013: Energieakkoord
- 75 % of energy(heat) for own use, 25 % of E as electricity to public grid
  - ~ 35 % is for protein isolation (cooking)+ conc. potato juice
  - ~40 % is for starch chemistry (and drying)
  - ~25 % is for starch isolation (and drying)
- Energy saving through:
  - New protein isolation process (Solanic)
  - No evaporation of potato juice water
    - 2 billion litres of potato juice
- Opportunity: waste water
  - Today aerobic treatment
  - Future: potato juice for Biogas
  - ~ 2 \* 8 million Nm<sup>3</sup> biogas
- Less starch chemistry
- More efficient drying of starch?



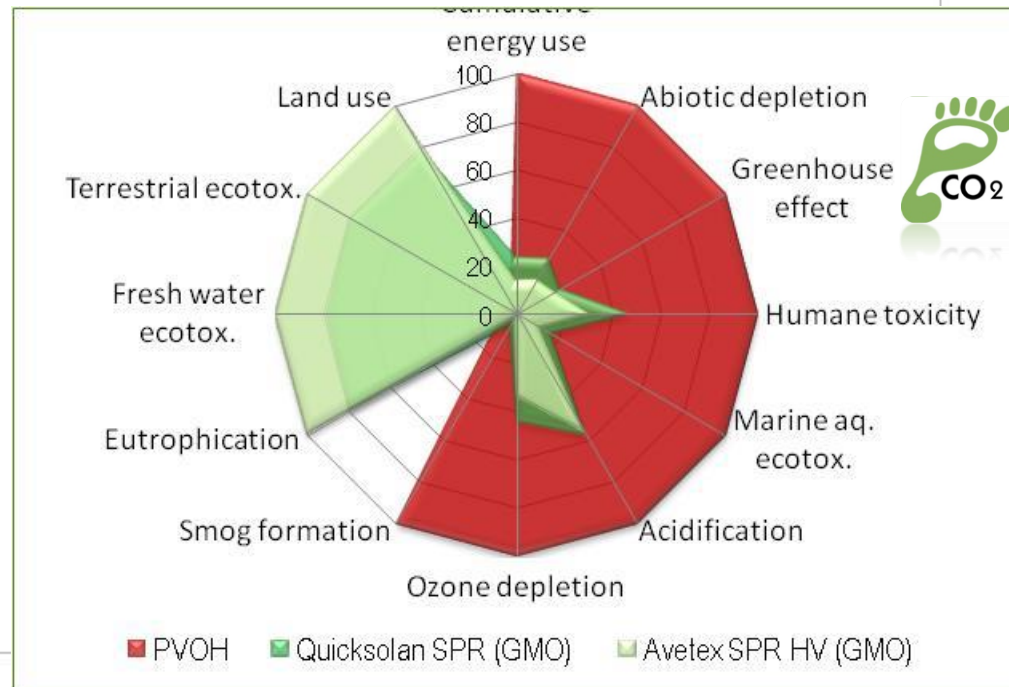
# AVEBE: energy savings starch derivation

innovation by nature

- Energy saving starch chemistry with pure amylopectin potato starch (breeding by Averis Seeds)
  - to replace PS derivatives
  - Less chemicals up to 100%
  - Less energy -30%
  - Less GHG -20 %
- Replacing petrochemicals by green chemicals
  - PVOH: 'latices' in textile and paper
  - Energy savings up to 80 %
  - GHG savings up to 75 %



**Sustainable  
Agriculture or chemistry**



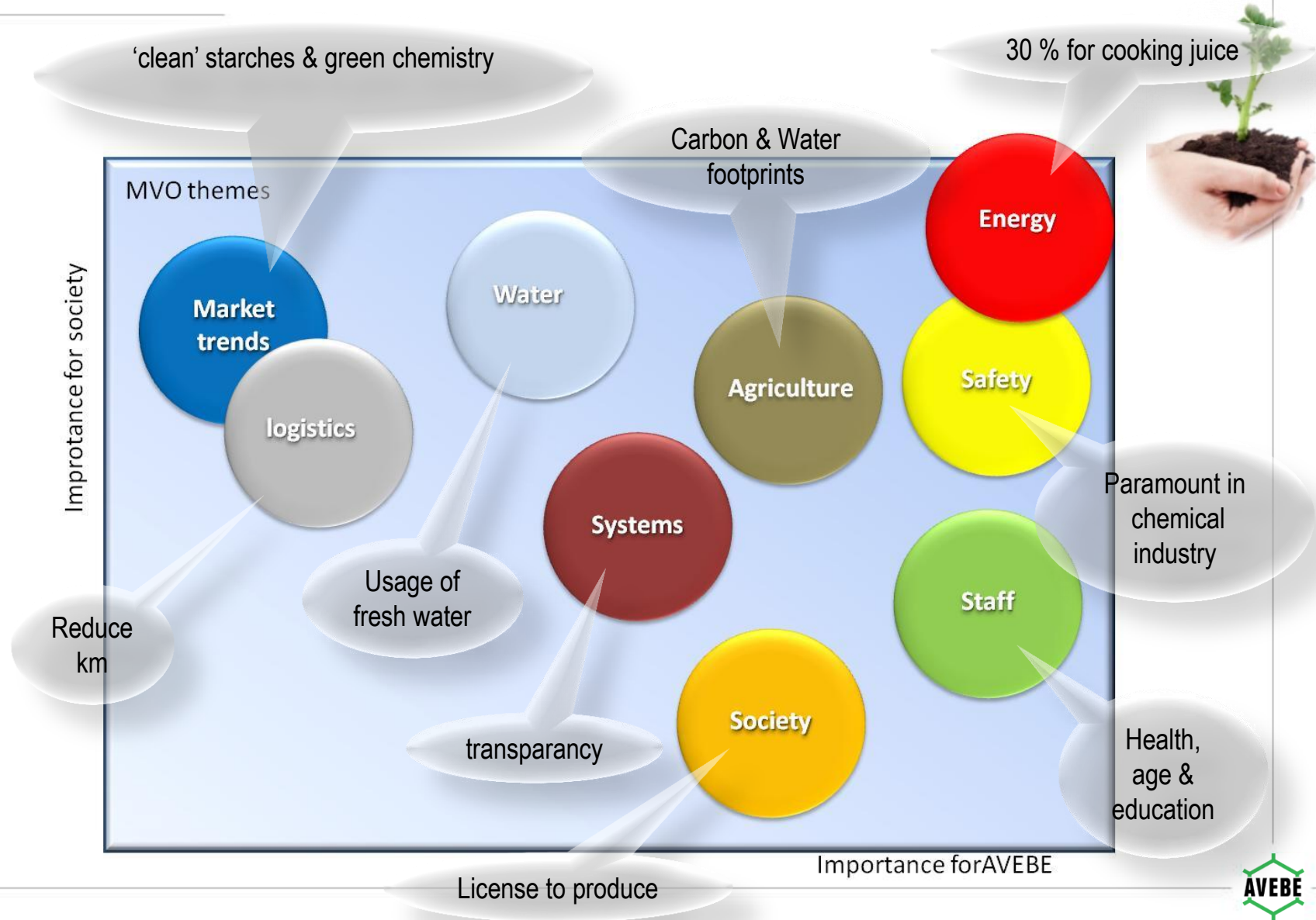
## CSR strategy

- AVEBE in the past executed many projects without branding it as 'sustainable' or CSR
- Jan 2012: decision to perform a base scan of CSR in AVEBE by 3<sup>e</sup> party
- Dec 2012: themes for CSR were identified
  - And incorporated in draft new strategy
- April 2013: Supervisory board approved strategy 2020
- May-June 2013: rollout communication new strategy.



# CSR: 9 themes were identified as relevant for AVEBE

innovation by nature



# Society and strategic goals for AVEBE

- Image should be consistent with strategic goals of AVEBE.
- Agreed shared values and identity
- More active and transparent communication
  - Internal
  - external
- Build and structural dialogue with relevant stakeholders





## Concluding remarks

- Sustainability >> than reduction of CO<sub>2</sub>
- Sustainability is the responsibility of the complete chain
  - Farmer-processor-formulator-retail-consumer
- AVEBE strategy 2020 is a CSR strategy
  - Balancing people-planet-profit

