

Land meets ocean



*Sammen om et bedre miljø*

## Recycling of phosphorus

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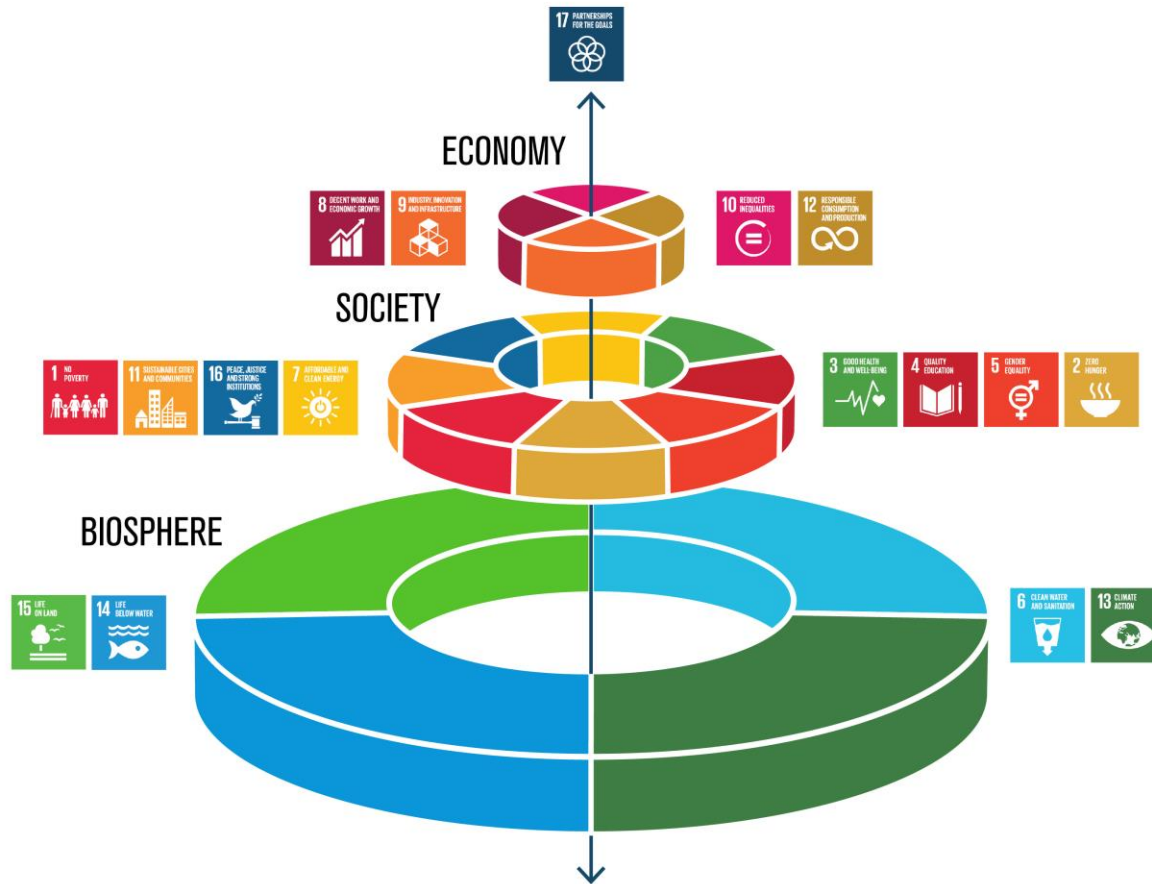


# New wastewater treatment at Hias IKS

- The company is owned by 4 municipalities around Hamar to:
  - Produce and distribute drinking water
  - Collect and treat wastewater from households and food industry
  - Develop and sell products resulting from the treatment of wastewater
- We have developed a patented biological method that allows us to:
  - Stop using precipitation chemicals to bind phosphorus with metal salts
  - Circulate 95 % of the incoming phosphorus
    - Around 50 % as struvite
    - 45 % + as plant available in our biomass treated with THP
- But is there a market for these products (yet) ?



# The basement of the UN Sustainability goals



- 6: Clean Water and sanitation
- 13: Climate action
- 14: Life below water
- 15: Life on land

# New markets depend on new regulation?

**STRUVITE** is a mineral fertilizer with organic origin rich in phosphorus and with certain special features:

- Long term effect
- Ideal for organic farming
- Ecologically sound

Worldwide demand for phosphorus is increasing

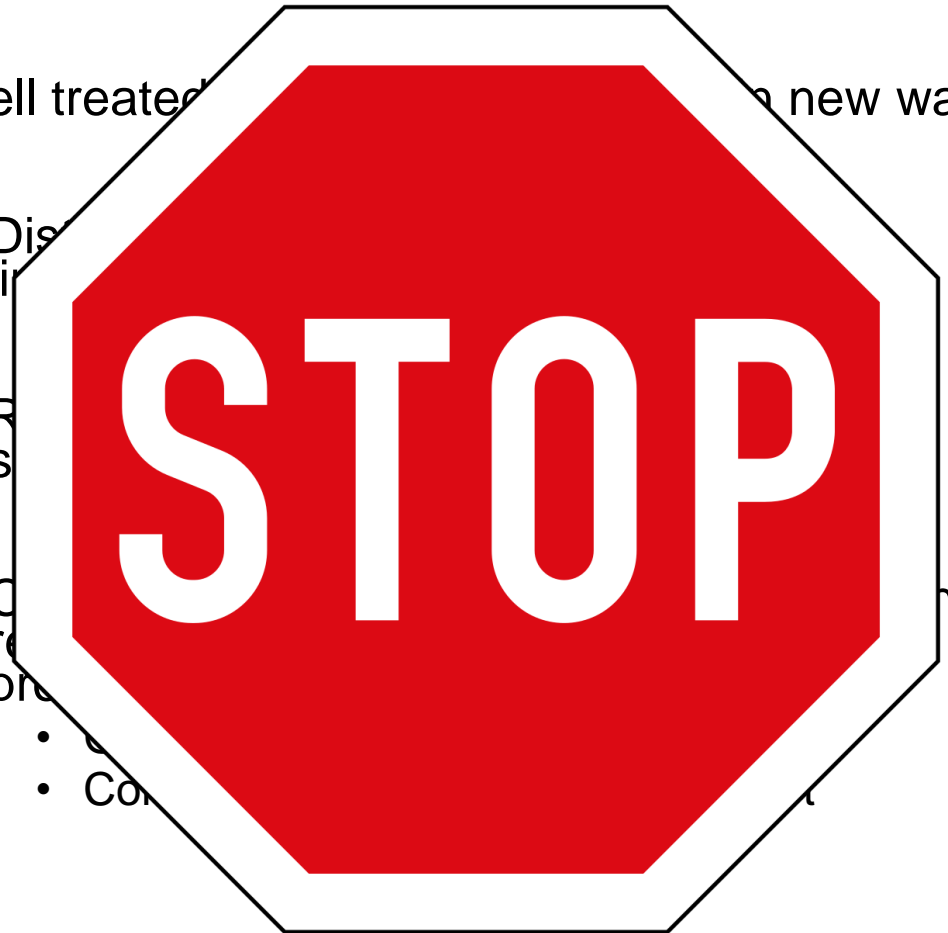
EU will accept ecological farming (2021)

Demand for a percentage of retrieved P in all fertilizer products are discussed



Well treated phosphorus can be used in new ways:

- Disposal
  - Fertilizer
  - Organic products
  - Compost
- soil



## Horizon 2020: «Wider Uptake»

- Water smart solutions i 5 countries
- Symbiosis between WW facilities and private sector
- Document effects against the UN Sustainability Goals
- Pinpoint regulation needed to promote a circular economy

### **Our part:**

Finish implementation of the Hias process as a demonstration of what we can achieve.

Together with Sirkula IKS demonstrate how we can replace peat/ turf in commercial soil products for sale

- **Develop markets, products and value chains** for retrieved phosphorus from different sources.