Swedish policy developments towards nutrient recycling and experiences from Baltic Stewardship Initiative

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Webinar – Nutrient recycling in the Baltic Sea Region

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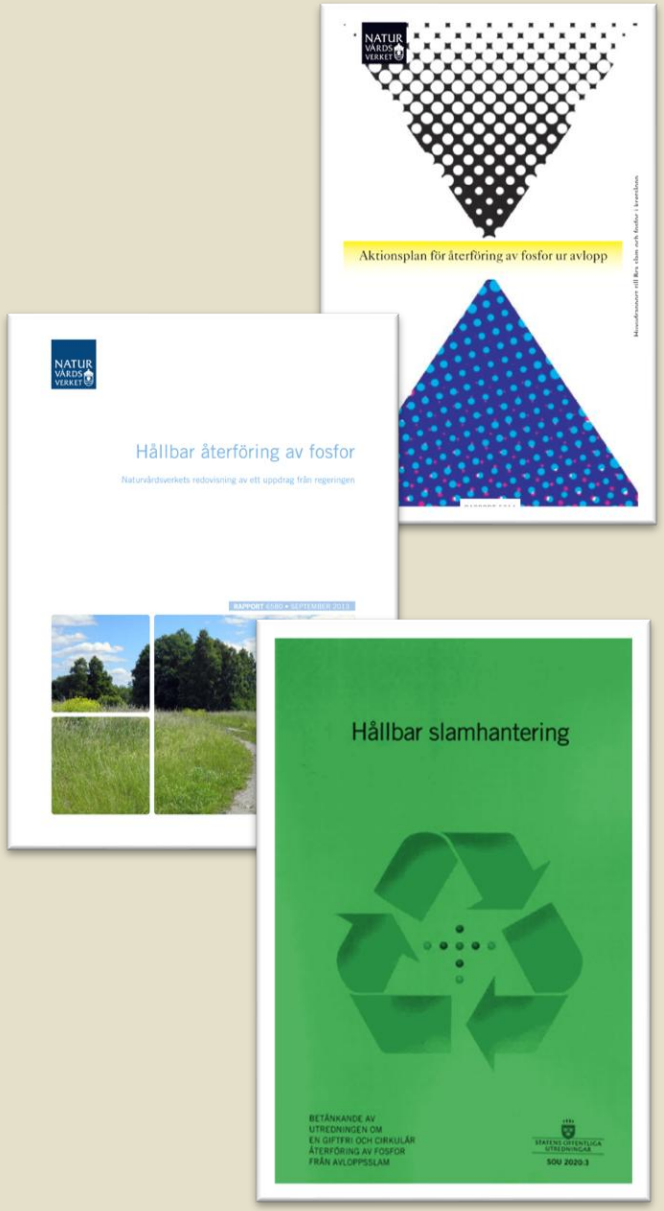
Nutrient recycling from wastewater in Sweden -1

- ✓ Unsolved policy discussion on national level
  - 5 government assignments to national authorities and a national inquiry since 1990
- ✓ Debate on allowing or banning use of sludge in agriculture and/or for use in forestry or landscaping
- ✓ National environmental objectives for recirculation of nutrients was decided, but were taken away when the system was reorganized 10 years ago
- ✓ No specific steering mechanisms in place other than the Swedish general environmental and waste legislations
- ✓ New EU Wastewater directive not yet implemented in Swedish legislation, will in some way contain recirculation of nutrients and possibly other resources



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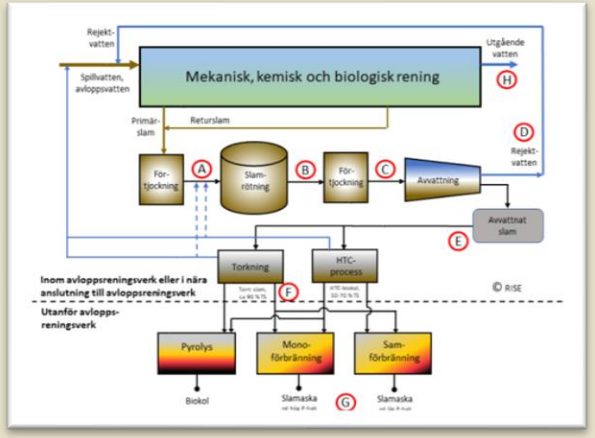
Nutrient recycling from wastewater in Sweden - 2



- ✓ No national governance – unsure institutional situation
- ✓ Municipalities and Water and wastewater utilities decides on investments without knowing the future objectives and legislation
- ✓ New technologies for treating sludge/wastewater fractions are developed and introduced to market and many local pilots with different technologies
- ✓ Sludge incineration and biochar is gaining interest, investment plans in place
- ✓ Discussions within the sector to move towards ”Resource factories” instead of reinvesting in WWTPs

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Principal proposals in latest National inquiry -1

- ✓ **ban on spreading of sewage sludge on or in soil through**

(1) a complete ban on spreading with very limited exceptions, or

(2) a ban on spreading on the basis that possible risks are to be managed and addressed
- under this option exceptions are permitted for sanitised and quality-assured sludge to be spread on productive farmland

Link to inquiry, in Swedish, English summary:
https://www.regeringen.se/contentassets/3d68880d2e6942f3a1dccb158e46beb7/hallbar-slamhantering-sou-20203/

Principal proposals in latest National inquiry - 2

- ✓ **requirements for the recovery** of at least 60 percent of the Phosphorus contained in the sewage sludge from public wastewater treatment plants in excess of 20,000 p.e.
- ✓ remit to the Swedish Environmental Protection Agency to **coordinate national upstream efforts** and ensure a central expertise and support function for wastewater issues and ecocycle resources
- ✓ remit to the Swedish Environmental Protection Agency following consultation with other government agencies concerned to **propose regulation for other organic fertilisers**
- ✓ necessary to take **a broader approach to returning nutrients** to the ecocycle, and deems that targets could be introduced into the system of environmental objectives for the recovery of plant nutrients

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Baltic Stewardship Initiative

BALTIC STEWARDSHIP INITIATIVE

WORKING TOGETHER FOR A HEALTHY BALTIC SEA AND A CIRCULAR AGRI-FOOD SECTOR

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Baltic Stewardship Initiative ”in a nutshell”

✓ New way of addressing the nutrient challenge
-> Partnership along the value chain for food production in Sweden

✓ Develop mechanisms that rewards the farmers
-> get everybody on board and all actors must benefit

✓ Put the nutrients back in the right place
-> replace fossile based fertilizers in agriculture
-> increase resilience
-> reduce eutrophication

Final report from the project (in Swedish)
https://wwfbsi.cdn.triggerfish.cloud/uploads/2025/01/Slutrapport-Baltic-Stewardship-Initiative.pdf

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11 members of the BSI-project identified the need for increased recirculation of nutrients in Sweden

- ✓ Long-term and coordinated work is needed to **minimize the problem of eutrophication** of the coast and sea including steering towards circular flows of Phosphorus (P) and Nitrogen (N).

- ✓ A long-term **sustainable and resilient food system** also requires nutrients to be managed as a resource in circular flows.

- ✓ In 2022 only **approx. 9% of the N and 40% of the P in wastewater was recirculated.** The future potential of the existing system, using incineration and P-extraction and N-extraction from reject water, is approx. 20% N and 90% of the P. The potential of a future source separating system is close to 100% of the nutrients in the wastewater including Potassium.

- ✓ If gradually reinvesting in a source separated system the nutrients in wastewater could over time **replace up to 25% of the mineral N and 36%** of the mineral P used in Swedish agriculture

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Policy messages to the Swedish Government

1. Decide on a long-term goal of near 100% return of P and N from wastewater to food production

- It is necessary to set a long-term goal that is not limited by today's systems and technologies.

2. Decide on a milestone target for increased return of P and N to food production

- The government should decide that by 2030 the return of used P and N to food production must be at least 50 percent of P and 15 percent of N in the wastewater.

3. Advocate for the EU to work on the phasing out of substances hazardous to the environment and health

- The number of chemical substances used in society is very large and for many of the substances there is still a lack of knowledge about effects, use and exposure.

4. Give the Swedish EPA the task of coordinating national upstream work and securing a central competence and support function for wastewater management and circular use of resources

- We support this proposal from the national inquiry Sustainable sludge management

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Policy messages to the Swedish Government

5. Investigate how a gradual transition to a source-separating wastewater system can be achieved

- Give national agencies the mission to develop a plan for a stepwise transition to source-separating wastewater systems.

6. Develop national innovation programmes for developing high-value fertilizers from manure, wastewater, sewage sludge and food waste

- Give the Swedish Agency for Agriculture together with other agencies this task.

7. Investigate how to support technical development of and investment in new technology for recycling nutrients from wastewater

- Give the Swedish EPA the proposal published by the Swedish Circular Economy Delegation.

8. Regularly make new risk assessments and updating regulations on hazardous substances in wastewater, sludge and products

- Task to Swedish Environmental Protection Agency and the Swedish Chemicals Agency as proposed in national inquiry.

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Policy messages to the Swedish Government

9. Push EU-policy and legislation so that fertilizers are governed by the quality of the fraction and not its origin

- Today's regulations on the provision on the market of EU fertilizer products for use in agriculture do not contain categories for, for example, sludge or wastewater.

10. Develop quota obligations that include recycled P and recycled N in mineral fertilizer

- We support the proposal from the Swedish Parliament's Environmental Goals Committee to investigate quota obligations for sold mineral fertilizers.

11. Develop a certification system for climate-smart recycled N

- Start an investigation to propose a certification system for climate-smart recycled N. This is needed to promote technology that recovers N directly from the wastewater without risk of emitting the strong climate gas nitrous oxide.

12. Investigate additional financial incentives along the food chain to promote nutrient recirculation to agriculture

- A national initiative is needed to identify financial incentives that increase recirculation of nutrients from wastewater.

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Read the text in Baltic Rim Economies 2/2025 - Sustainable nutrient management

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The text is translated from the Swedish document:
"Driva på policy för en hållbar återföring av växtnäringsämnen tillbaka till livsmedelsproduktionen – gemensamma policybudskap"

https://media.wwf.se/uploads/2022/01/bsi-policybudskap-aterforing-av-vaxtnaring.pdf

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