

## Pre-consultation for EU Green Paper on sustainable phosphorus use:



### Exploring governance innovations in the Baltic Sea Region agricultural-food system

#### Towards a new approach on phosphorus?

In recent years, there has been mounting awareness that phosphorus is not only essential for agriculture/food production, but that it is also a limited resource, and that new governance measures are required to ensure its use is sustainable. Large, commercially viable phosphorus rock reserves are found in only a few countries, mainly outside the EU. In the absence of an international governance framework to facilitate trade, EU member states remain import-dependent, with a great degree of unpredictability in the pricing of phosphorus rock and fertiliser. For instance, in 2008, the price of phosphate rock rose by 800% due to a spike in oil price and speculation. This situation creates vulnerabilities for the agricultural-food system and makes phosphorus an important policy question for food security and improved governance.

At the same time, from an environmental standpoint, phosphorus from agricultural runoff and point sources leaches into water bodies and contributes to eutrophication, ‘dead sea bottoms’, and the disappearance of fish species and aquatic animals. These impacts, in turn, have negative effects on the agricultural-food industry, livelihoods and tourism. There are, however, no regulatory targets for phosphorus management within the EU. In the Baltic Sea Region, only the Baltic Sea Action Plan stipulates phosphorus targets, and they are strictly voluntary.

The physical separation of food production, food processing and food consumption in modern societies has resulted in a linear flow of nutrients from ‘field’ to ‘fork’. Continuous application of new phosphorus via imported fertiliser allows an ‘end of pipe’ loss both during food production and consumption. Current market instruments generally encourage overdosing rather than cautious application and effective reuse, for example, through manure handling technologies to optimise nutrient recycling. This problem is exacerbated by the fact that the existing European regulatory framework, such as the Ni-

trates Directive and the Water Framework Directive, focuses on combating the leaching of nitrogen, not phosphorus. Further, the majority of agro-environmental measures under the Common Agricultural Policy are designed around a definition of nutrients as a ‘pollution’ problem, rather than from a resource management and recycling perspective.

Altogether, more effective reuse of fertiliser nutrients could potentially save agricultural communities significant sums of money, reduce the dependence of the Baltic Sea Region on fertiliser imports and lessen vulnerability to price shocks, and benefit the overall environment and citizens’ well-being. To realise these benefits, countries in the Baltic Region will need to learn from one another about technical, institutional and policy innovations.

#### Innovations facing systemic constraints

Recent years have seen many innovations in several countries and sectors towards phosphorus reuse, including waste handling, sanitation and manure processing in agriculture. Some countries have introduced phosphorus taxes, launched voluntary phosphorus indices to guide soil application, and even regulated phosphorus fertilisation through soil maps. There is also ongoing research, examining, among other options, the prospects of applying flexible fees and feed-in tariffs to encourage reuse. However, there is no common institutional ‘home’ for efforts to promote reuse and closing of loops between sectors, so they often depend on one sector taking additional responsibility. Urban-rural recycling of human excreta is often problematic due to infrastructural lock-ins and legislative constraints. It has proven difficult to adequately monetise/value manure recycling technologies, which deliver multiple benefits. Further, recovery of phosphorus from lake and coastal sediments remains a wild card in terms of cost-effectiveness and biosecurity risks owing to accumulation of hazardous substances.





©Rasmus Klocker Larsen

On top of this, as with all complex issues, the uncertainties remain high. What is the exact lifetime of low-cost phosphorus rock globally, and how urgently should we respond? How do we manage phosphorus application in the absence of soil maps or even basic monitoring data in some countries? How can we price phosphorus transfers through manure when the phosphorus content varies? While some countries have sludge regulations with compulsory requirements for recycling a fraction of the sludge to arable land, uncertainties regarding biosecurity make it difficult to scale-up and to generate acceptance among consumers and farmers.

### The European Green Paper on Phosphorus

With the September 2011 Roadmap to a Resource Efficient Europe, the European Commission received approval to explore future governance alternatives for promoting effective recycling across sectors in society. A European Green Paper on Phosphorus is being prepared by the European Commission and will be published in early summer 2012.

Immediately after publication, an online stakeholder consultation will be hosted by the Commission, followed by decisions in

the European Council and European Parliament. If negotiations go well, there are many opportunities to strike novel ‘win-win’ solutions for a range of sectors and societal interests.

The Danish Government, which currently holds the rotating Presidency of the European Council, has included phosphorus management and reuse on the agenda of a conference to be held in May 2012.

As part of this process, the Baltic COMPASS team has been invited to submit a ‘position paper’ that summarises Baltic Sea Region experiences and interests through the perspectives of stakeholders. This paper may also inspire inputs to the EU Green Paper.

In the box below you will find a list of questions on which we are soliciting comments. We are seeking input from parliamentarians, government officials, agricultural and environmental groups, individual farmers, and other interested parties. We would appreciate brief statements accompanied by relevant reference materials and citations (documents, web links, etc.).

You may reply to the survey online by visiting <http://bit.ly/Baltic-Survey> (preferred), or you may send your replies by email to [rasmus.klocker.larsen@sei-international.org](mailto:rasmus.klocker.larsen@sei-international.org) or mail them to Rasmus Klocker Larsen, Stockholm Environment Institute, Kräftriket 2b, Stockholm SE 106 91, Sweden. **All replies will remain confidential**, unless explicitly agreed otherwise in follow-up correspondence.



**Please submit your views by 26 March, 2012.** A draft version of the paper will be circulated for comments prior to publication.

*The EU-funded project Baltic COMPASS aims to find ways how the agricultural sector in the Baltic Sea Region can produce the daily food required by the region’s 90 million inhabitants and at the same time preserve the Baltic Sea. To learn more, visit [www.balticcompass.org](http://www.balticcompass.org).*

### Key questions for the Baltic COMPASS phosphorus position paper

1. What are the most significant sources of phosphorus loss from the agricultural-food system in your country?
2. What are the most promising technical, institutional and legal innovations for phosphorus reuse already in place in your country to address these losses?
3. What further enabling governance measures (e.g. monitoring systems, regulations, market incentives, etc.) are required to promote these innovations; and which national initiatives are currently being taken in this regard?
4. Is there a need for a common European governance framework, and if so, how could it best stimulate desirable national actions?



Part-financed by the European Union (European Regional Development Fund and European Neighbourhood and Partnership Instrument)



**Published by:**  
Stockholm Environment Institute  
Kräftriket 2B  
SE -106 91 Stockholm  
Sweden  
+46 8 674 7070

**Contacts: Rasmus Klocker Larsen**  
[rasmus.klocker.larsen@sei-international.org](mailto:rasmus.klocker.larsen@sei-international.org)  
**Paula Biveson**  
Baltic COMPASS Communications Coordinator  
[paula.biveson@sei-international.org](mailto:paula.biveson@sei-international.org)  
+46 730 801088