

DRAFT PROPOSAL

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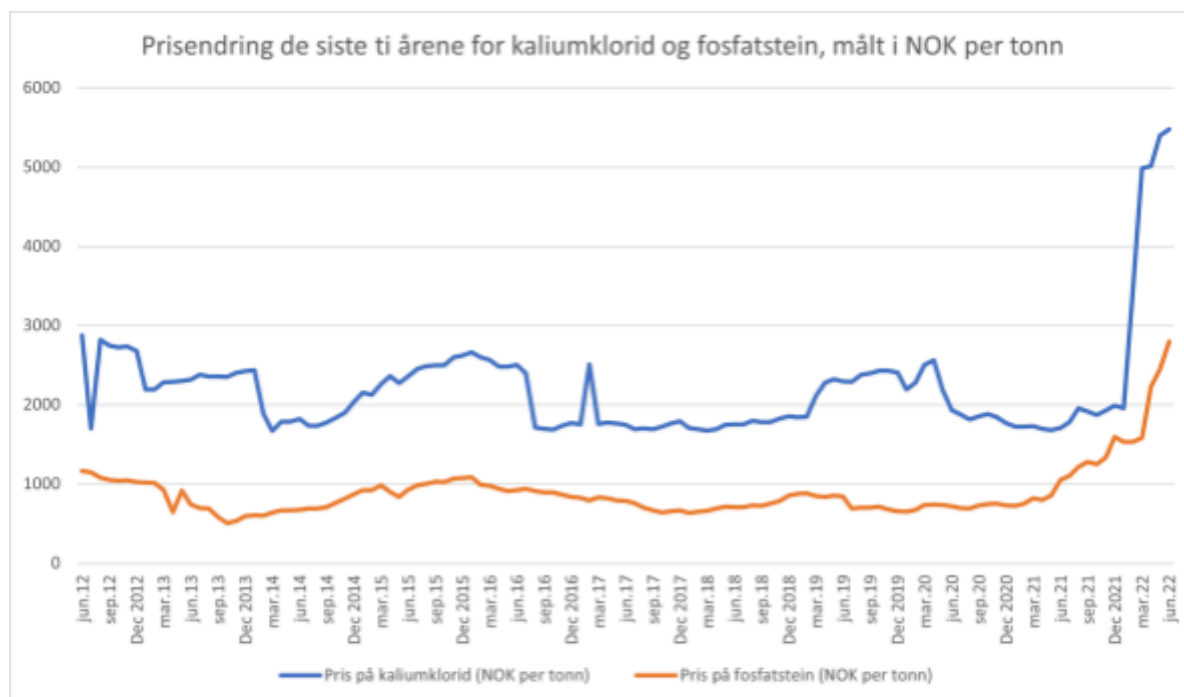
PHOSPHORUS MANDATE

Background

The world is running short on critical raw materials, and needs to shift from using virgin raw material over to using recycled ("secondary") raw materials in a circular economy.

The European Commission added phosphate rock to its Critical Raw Materials list (CRM) in 2014. Even so, much more needs to be done to encourage the market to uptake recycled phosphorus.

Until the Russian invasion of Ukraine in February 2022, one of Yara's main phosphate sources, was phosphate rock sources from Russia. For potassium the source was mainly Belarus, where the EU imposed economic sanctions on Belarusian potash in June 2021.



Figur 4: Diagrammet viser prisutviklingen de siste ti årene for kaliumklorid og fosfatstein, i NOK per tonn. Dataene er hentet fra IndexMundi.

Norway has a huge potential - and can pave the way

In the Mind P project it has been established that Norway has a major potential for recycled phosphorus, with more than 9.000 tons of phosphorus from fish farming alone being lost into the sea today with no regulation or demand for collecting and utilising this critical resource.

For sewage sludge, bio-waste and other industrial organic waste, it is also a challenge that in many of the areas where this is treated in biogas plants, the surrounding farmland already has too high concentrations of phosphorus, while other areas in the country have a deficit.

It is possible for Norway to households phosphorus much better and become completely self-sufficient given the right political instruments.

The phosphorus mandate

In Norway, for many years we have had the biofuels mandate, which has worked well to increase the amount of biofuel as a proportion of total fuel turnover.

The biofuels mandate was introduced in 2009, and was then 2.5%. Today (from 2021) it is 24.5% and there is talk of increasing it to 40%.

Other countries in Europe like Sweden have worked on reducing climate emissions in the transportation sector by having a “reduction-obligation” to cut emissions.

The benefits in the Norwegian biofuels mandate system is that it is both technology neutral and flexible. We can start at a low level and later increase the requirement.

How can a phosphorus mandate work?

As opposed to a blending mandate, we suggest a turnover based mandate, similar to the biofuels mandate.

It means that Miljødirektatet (the Norwegian EPA) will monitor and control annually the turnover of all fertilisers in Norway, and the distributors (sellers) have to report annually to Mdir their sales documenting that they meet the share of RP (Recycled Phosphorus).

As for the biofuels mandate, all who sell fuel must report by 31 March every year on the previous year's fulfilment of sales requirements and sustainability criteria. In 2020, 12 sellers reported their turnover. The results are presented in an open seminar at Mdir in the following month or so. This way the development is transparent and it is possible to follow up on whether the goals and targets set are actually met.

The same system can be used for the phosphorus mandate.

Suggested escalation plan share of RP in turnover (to be discussed):

2025: 5%

2028: 10%

2031: 20%

2035: 40%

Sustainability criteria

Mdir must develop a set of sustainability criterias for RP.

Sources

[Miljødirektoratet - about the biofuels mandate](#)

[Avansert biodrivstoff øker på norske veier \(2022-numbers\)](#)