Sustainability Now Podcast
“Hormuz and the Fertilizer Fault Line”
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Gabriela de la Serna
Hello and welcome to the weekly edition of Sustainability Now, the show where we explore how the environment, our society, and corporate governance affect — and are affected by — our economy. I'm Gabriela de la Serna, and I'm your host for today's episode.
When conflict disrupted gas exports through the Strait of Hormuz earlier this year, the world's attention went straight to oil prices and energy markets — and for good reason. The impact was – and continues to be- significant, and rising energy costs are something that touches all of us to some degree.
But there's a perhaps less talked about ripple effect of that disruption — one that reaches further than you might expect. From farmers trying to plan their growing season, to food companies managing their costs, to people like you and me wondering why the weekly shop keeps getting more expensive. Well, it all comes back to fertilizers…
So on today's episode, we're discussing how the Hormuz energy disruption led to fertilizer havoc, why not all companies are being affected equally, and how investors can now trace that risk all the way through the supply chain. So, let's jump right in.

Gabriela de la Serna
So, first things first — if you want a deeper dive into what the Hormuz disruption meant for energy markets, we actually covered that in our episode from last month – it’s titled ‘Is this the end of oil?’ My colleague Chris Cote discusses both risks and opportunities that are emerging from the market turmoil.
But aside from market turmoil, we also need to acknowledge that these disruptions have had a very human cost – fatalities, infrastructure damage, and a great deal of hardship for people affected by the conflict. It’s something that we’ll keep in mind as we work our way through this episode.
And this episode is very much focusing on one specific consequence that has received a little less attention than the energy sector — and that is what this disruption means for fertilizer markets.
Now, I'll be honest — doing a podcast about fertilizers wasn't on my bingo card for 2026. And if like me, you didn't know much about them before the crisis started, it's worth knowing that there are actually three types: nitrogen, phosphorus, and potassium — and we will hear more from our guest in just a minute. But the key thing to know for now is that phosphorus and potassium are mined from the ground, so a gas disruption doesn't really touch them. Nitrogen is different — it's made from natural gas. So when gas supply gets disrupted, making nitrogen fertilizer gets more difficult, AND, more expensive — simple as that.
And of course, that has consequences. If you're a wheat farmer suddenly paying a lot more for fertilizer, you're facing some pretty tough choices — you can absorb the

extra cost and use less and risk a lower harvest, OR you can try to pass it on. None of those are great. And whichever way it goes, it may start to show up in the price of the food on your plate. Now, knowing that broadly is one thing. But knowing specifically which farmers are most exposed, which crops are at risk, and which companies sit further along that chain — well, that's a whole other story. And that's exactly what we're getting into today.

Now, fertilizer demand follows the seasons — and farmers in the northern hemisphere are right in the thick of their spring planting window. But, the longer the disruption goes on, the harder it will be to avoid those costs making their way down the chain. And in any case, prices have already reacted — urea, the most common form of nitrogen fertilizer, jumped by around 80% between February and April. And governments are starting to take notice- the EU, for example, has just announced plans to build a strategic fertilizer reserve for the very first time.

To tell us more about this complex supply chain and what the Hormuz disruption means for gas exports and fertilizer economics, I talked to my colleague Cole Martin out of our London office. Here's Cole.

Cole Martin

So first of all, a quick intro on fertilizers. They are very important for agricultural crop development, and there are three kinds that most farmers use, which are phosphate, potash, and nitrogen-based fertilizer. Producing phosphate and potash fertilizer is relatively straightforward, where you're essentially digging minerals out of the ground and then refining them to make fertilizer.

Making nitrogen is, on the other hand, a bit more complicated. By far the most common method is to take natural gas and convert it to, among other things, hydrogen. And then through what's called the Haber-Bosch process, you create ammonia. And that ammonia forms a building block to a variety of different nitrogen-based fertilizers that farmers then use.

Now, if we think about the global fertilizer market, there are a couple of important things worth noting. Firstly, the raw materials for all of these fertilizers are geographically concentrated. So China and Morocco in the case of phosphate rock, Canada and Russia in the case of potash, and US, Russia, and Iran in the case of natural gas. So very few countries out there are self-sufficient in fertilizers or specifically the fertilizer raw materials.

Secondly, with potash and to a lesser degree phosphate, the largest producers are also the largest exporters. But this isn't true of natural gas, particularly because Qatar, which of course isn't a very big country, exports a disproportionate amount of its reserves. Something like a quarter of all LNG exports worldwide, therefore, come from Qatar, and those exports go through the Strait of Hormuz. So the combination of the Strait of Hormuz being blocked and the reported Iranian attack on Qatar's Ras Lafan infrastructure means that a significant amount of the stuff you need to make nitrogen fertilizer can't get to market, at least not right now. And that could result in considerable downstream consequences for fertilizer makers that rely on Qatari exports for their natural gas.

Gabriela de la Serna

So now we have a pretty good picture of what happened — a disruption in the Middle East, a squeeze on natural gas, and fertilizer producers caught in the middle. And your first question might be — are there alternatives? Can farmers just switch to something else? The short answer is: not really, not at scale. There are

alternatives — manure or crop rotation— but none of them can replace synthetic nitrogen fertilizer in the volumes that global food production depends on today.
So with limited room to pivot, the pressure on these companies is real. But what caught my attention is that the disruption didn't hit everyone equally. The impact varied enormously across the sector — and the reason why isn't where you'd expect to find it. Not in the sector, not in where a company is based, not even in who they directly buy from. It is sitting much further down the supply chain — in links that investors don't even typically have the tools to look at.
And that's exactly what Cole and his co-authors Liz Houston and SK Kim looked at in their quick take titled 'Hormuz Disruption Highlights Supply Chain Risk in Fertilizer Stocks'. What makes their approach particularly interesting is that rather than just looking at a company's direct supplier relationships — which by the way, is what most traditional analysis does — they used geospatial data to map several layers deeper into the supply chain, to ultimately estimate where the risk was actually hiding.
And before I share what Cole told me about what they found — just a quick heads up that he'll be referring to the MSCI ACWI IMI —and that's our global equity index covering large, mid and small cap stocks from 45 countries. Here's Cole.

Cole Martin
So what we set out to do using our supply chain model was to figure out which companies in our ACWI IMI were most exposed to the Hormuz disruption, assuming that they generate at least twenty percent of their revenues from nitrogen fertilizer. Now, how did we do that? We essentially used a combination of geospatial data, i.e. where your factories are located, for example, and what are called input output tables, to claim that for any given product, there will be a typical set of raw materials needed to make that product. And those raw materials will typically come from certain places. So say you're a company that owns factories that make shoes in Mexico. Those shoes require raw materials like leather, for example, and that leather is going to come from somewhere. It could be domestic, but could also be from Brazil or the US, or wherever. So if we return to our fertilizer producers, it turns out that from the start of the war in late February until the first cease fire on April 8th, the companies more exposed to Hormuz in general did worse from a share price standpoint than the companies that were less exposed. So, for example, in the article, we have a chart, and you'll notice looking at it that the Indian and Chinese fertilizer makers are much more exposed to Middle Eastern natural gas on a relative basis compared to, say, their North American counterparts. And sure enough, during the period before the first ceasefire, the Indian and Chinese company stocks demonstrably underperformed. Now, that might seem fairly obvious. If you can't access raw materials, it'll be harder for you to make money. Okay. But what I think is interesting is that the divergence between the outperformers and underperformers appear to grow over time once the war started. Which suggests to me that it took time for the market to fully understand the impact of the Hormuz shutdown. To me, this is the relevance of a supply chain model like the one we used for this piece. Without a model like this, you as an investor are forced to figure out on a company by company basis what their exposures are, which is fine, but that can be relatively time intensive since companies aren't required to disclose their supply chains. And in any event, some supply chains are complex to the point where companies would have a difficult time mapping them even if they wanted to. And listeners can look up the UK horsemeat scandal in 2013 if they'd like to see an

example of this. Now, there are limitations to these supply chain models because sometimes companies can have, let's say, specific procurement agreements that are unique within an industry. But broadly speaking, I think there's value in being able to assess very quickly across a large number of companies. Exactly, or roughly speaking, at least, what their material supply chain exposures are, and use that as a basis for either conversation with company management or as a means to adjust portfolios as necessary.

Gabriela de la Serna
Now, before I wrap up — it's worth clarifying that the analysis Cole walked us through is based on estimated supply chain data, since companies aren't required to disclose their supply chains. But as Cole said, that's the whole point— being able to quickly map which companies are most at risk, without having to wait for them to tell you.
And what my conversation with Cole really highlighted for me is a pattern that keeps coming back. A geopolitical shock hits, the world focuses on the obvious impact — oil prices, shipping lanes — and quietly, somewhere further down the supply chain, the ripple effects land somewhere nobody expected. And this isn't new — think of plastic gloves during Covid. And now fertilizers and Hormuz. The good news is that we're getting better at tracking this. Approaches like the one my colleagues developed mean investors no longer have to wait for the shock to hit to understand who's exposed.
And that is it for the week. A massive thanks to Cole for his take on the news with a sustainability twist. And thanks to you as well for listening and sticking around. The research we discussed today is freely available on the MSCI's website. If you liked this episode, don't forget to subscribe and maybe even share it with a friend or colleague. That's all from me. Thanks again and catch you next time.

Bentley Kaplan

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