

## SUSTAINABILITY STORIES

### LUCAS VAN DER SAAG, PROCESS AND R&D ENGINEER, ICL

#### WHAT IS YOUR JOB AND HOW DOES IT SUPPORT SUSTAINABILITY?

I work as a Process and Research and Development Engineer in Amsterdam for ICL. In Amsterdam we develop novel fertilizers made from recycled sources of phosphate. Furthermore, as a process engineer, I am continuously trying to implement improvements in the plant to reduce the energy and resources consumed by the production process. My job supports sustainability by developing fertilizers made from circular sources, which help to close a part of the phosphate loop. Additionally, improving the production process and consuming less resources and energy supports the sustainability of the process.

#### WHY DID YOU DECIDE TO WORK IN THE FERTILIZER INDUSTRY?

My personal passion is the development of novel processes and implementing these processes in order to support sustainability. ICL gave me the opportunity to help develop the process for using recycled sources of phosphate and implement it in the production site in Amsterdam. Fertilizers are also crucial for the further development of human society. Developing the next generation of fertilizers and making fertilizers more sustainable is very motivating.

#### WHAT IS THE MOST IMPORTANT LESSON YOU'VE LEARNED IN YOUR CAREER TO DATE?

The most important lesson I have learned in my career to date is to keep persevering in the endeavors you start. Especially in research and development it can be frustrating having the feeling that the work is leading to nowhere. Constant discussions with colleagues and continuous testing of new ideas will lead to new insights in the end. This makes it possible to discover new ideas and solutions.



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#### CAN YOU TELL US ABOUT ICL'S SUSTAINABILITY JOURNEY AND PLANS?

The sustainability goal of ICL is to reduce by 30 percent its greenhouse gases emissions by 2030 (vs a 2018 base line) and become carbon-neutral in 2050. In Amsterdam this means upgrading process equipment to more efficient electrical systems in order to reduce the use of gas as an energy source. Furthermore, ICL is developing technologies to use sources of plant nutrients that are recycled from waste streams. The main example in this area is the development of phosphate fertilizers from sewage sludge ashes. Further developments are on the way to recover the phosphate from other alternative sources such as bone meal ashes and others.

#### HOW DO YOU THINK FERTILIZERS AND PLANT NUTRIENT MANAGEMENT CAN HELP TRANSFORM FOOD SYSTEMS FOR THE BETTER?

With a growing world population, the efficient production of food is crucial to ensure food security. The development of

systems that recycle nutrients and thus close nutrient loops are essential for a balanced management of resources. Fertilizers can be the vector to reuse certain nutrients that can be collected in other parts of the environment. More efficient and circular nutrient management will be essential to guarantee food security for an ever-growing world population.

#### WHAT DOES SUSTAINABILITY MEAN TO YOU?

Sustainability, to me, means the sustainable use of resources. To sustainably use resources, it is fundamental to be able to re-use chemicals as much as possible and implement circularity in the use of resources. In the fertilizer industry, the challenge is re-using nutrients instead of mining and processing mineral ores. The valorization of waste streams and the recovery of nutrients from waste streams is essential for sustainability.

