

Membrane technology: the core of more sustainable processes?

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Membrane technology is widely accepted as an energy-efficient technology. The use of membranes typically brings a reduction of energy consumption in comparison with conventional technology such as distillation, evaporation, absorption, etc. However, being more energy efficient does not ensure an advance towards a more sustainable process. Two main questions will be discussed during this presentation: 1) Can an energy-efficient technology also be an energy-intensive technology? And, 2) Is an energy-efficient technology more water intensive, and vice versa?

Membranes play a critical role in the development of novel sustainable processes, but the design of the overall process has to be intelligent and consider the water-energy-food nexus. A multidisciplinary approach is thus essential.