ECO — Electrically driven, Chemical-free Operations

Publieke samenvatting / Public summary

Korte omschrijving

Motivation

The Dutch Climate Agreement targets a reduction of about 30 Mt CO2 emissions in industry by 2030. Achieving this requires major structural changes, with electrification of industrial processes playing a key role. By 2050, projections indicate that 80–130 TWh of industrial energy demand will need to be supplied by electricity, underscoring the scale of the transition.

At the same time, stricter regulations, including the Water Framework Directive, are increasing requirements on water quality and temperature, further raising energy required for water purification. Especially the increasing concentration of salts hinders energy-efficient reuse of water.

As water reuse initiatives continue to grow, treatment systems will have to handle increasingly concentrated effluents, which in turn significantly raises the energy required for cleaning.

Furthermore, it is thermodynamically hardly possible to reduce the energy demand of w

Projectinformatie / Project information

Projectnummer / Project number
TKI2026 LTP ECO
Subsidiebedrag / Grant amount
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Algemene informatie / General information

Penvoerder / Secretariat
Universiteit Twente

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