



SMART TEXTILES

SMART TEXTILES PLATFORM



Fasern neu gedacht - Kreislauffähige
Rohstoffe für innovative und nachhaltige
Produkte

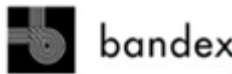
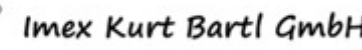
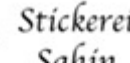
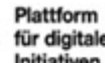


Funding Providers



Scientific Partners

Platform Members

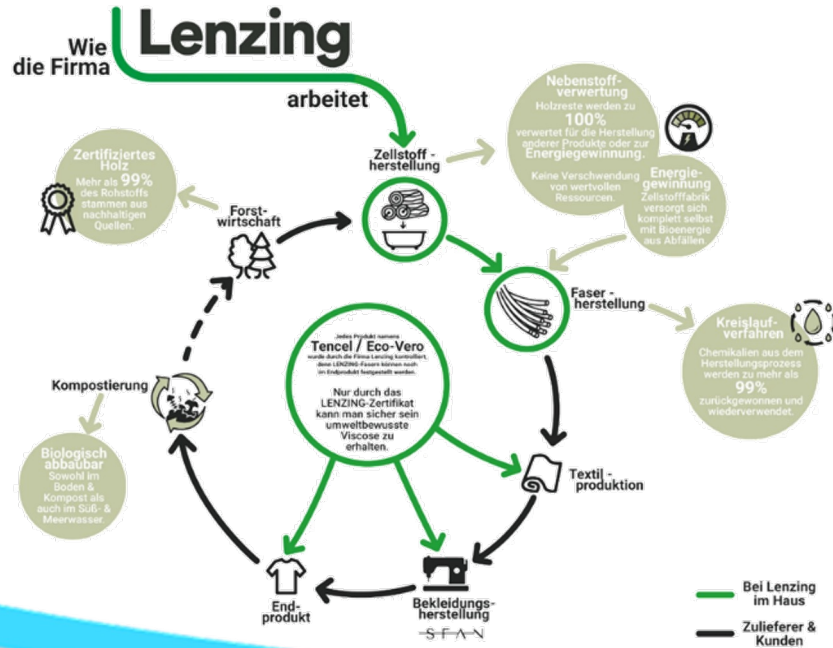


SYSTEMRELEVANTE ROHSTOFFE

Mehr systemrelevante Rohstoffe in Österreich und der EU produzieren. Österreich muss im Jahr 2030 krisenresistenter sein. Indem wir in Zukunft mehr systemrelevante Rohstoffe in Österreich und der EU produzieren. Dadurch gewährleisten wir mehr Versorgungssicherheit und Unabhängigkeit.

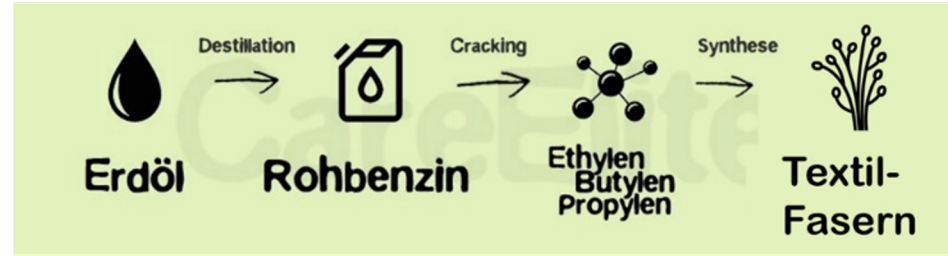


Österreich verfügt über zwei Rohstoff-Faserhersteller, die Firma Lenzing AG (Cellulosefasern) und die Grabher-Group (Bio-Kunststofffasern)



Anwendung: Hydrophile Bekleidungstextilien

Polypropylen Herstellung Raffinerie Schwechat Austria) Bio-Polypropylen Faserwerk Lustenau (Austria)

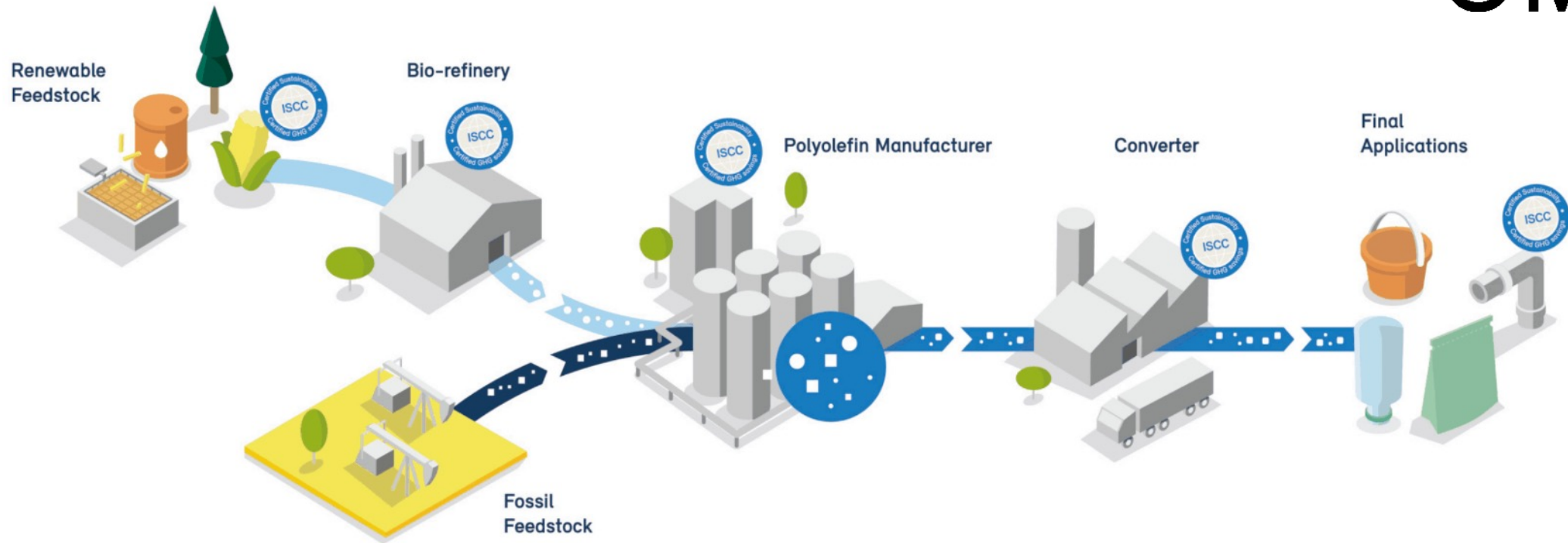


Bio-Polypropylen Fasern 100% recycelfähig mit negativem Footprint

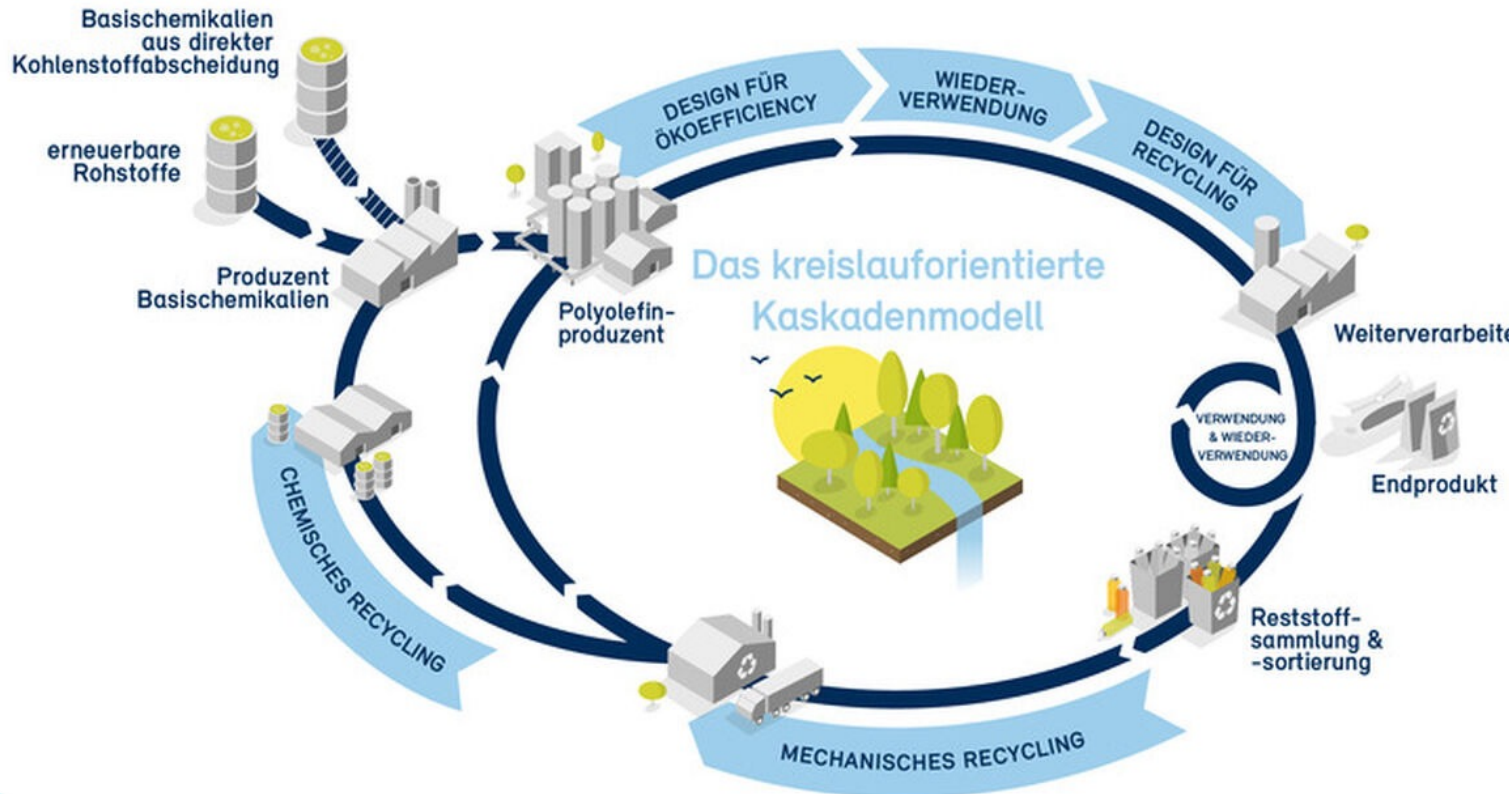


Anwendung: Hydrophobe technische Textilien

Fasern mit negativem Footprint und recycelbar aus Österreich, ist dies möglich?



Fasern mit negativem Footprint und recycelbar aus Österreich, ist dies möglich?

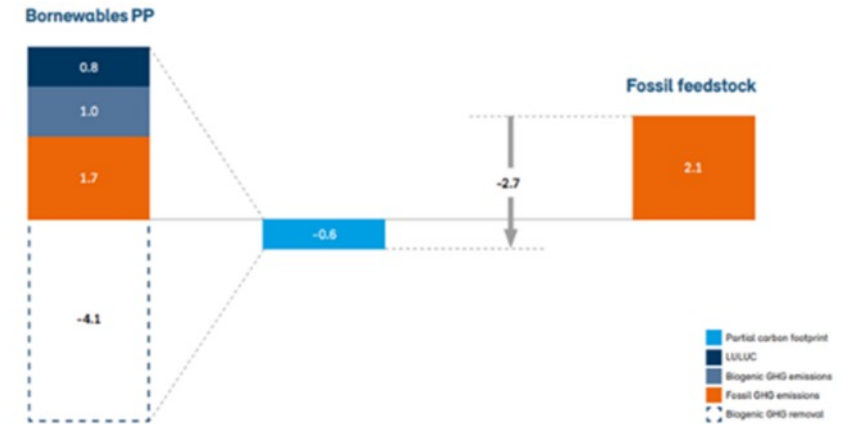


Bornewables are proven to reduce greenhouse gas emissions

Life-cycle assessment (LCA) has shown that the Bornewables contribute towards the mitigation of climate change by providing significantly lower greenhouse gas emissions compared to polyolefins made from fossil-based feedstock. The LCA was carried out by ifeu on Bornewables polypropylene (PP) at Borealis' Kallio and Beringen sites in Belgium, using Neste's renewable feedstock. When compared to PP manufactured with fossil-based feedstock, it revealed that from cradle-to-gate, the partial carbon footprint is reduced by at least 2.7 kg CO₂eq./kg polymer, from 2.14 to -0.58 kg CO₂eq./kg (3.14 kg biogenic CO₂ stored in 1kg PP polymer) – a reduction of 127%. Furthermore, the Bornewables are a lower-emissions alternative to fossil-based PP no matter which end-of-life option is chosen.

Even in case of energy recovery, when the carbon stored in the product is released during incineration, the carbon footprint reduction still amounts to 52% compared to PP from fossil-based feedstock. The analysis also revealed that in the production of the Bornewables, sustainably sourced renewable feedstock reduces reliance on fossil feedstock by about 69%.

The study also showed that compared to fossil PP, the upstream burdens from cultivation and processing the waste and residue streams into the raw materials of our feedstock, cause higher impacts in acidification and eutrophication. The environmental impacts on photochemical ozone creation potential are of the same order of magnitude as with the fossil comparator.



SGS

ISCC PLUS Certificate

Certificate Number: ISCC-PLUS-Cert-DE100-08548122
SGS Germany GmbH
Europa Allee 12, D-49685 Emstek
certifies that
Borealis AG

Industrieweg 148
3583 Beringen
BELGIUM



complies with the requirements of the certification system
ISCC PLUS
(International Sustainability and Carbon Certification)

Place of the audit:
see above

This certificate is valid from 11.01.2022 to 10.01.2023

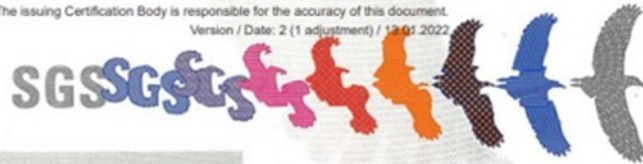
The site of the system user is certified as:
polymerization plant, compounding plant

The scope of the certificate includes the following chain of custody options:
mass balance

Emstek, 11.01.2022
Place and date of issue


SGS Germany GmbH
Stamp, Signature

The issuing Certification Body is responsible for the accuracy of this document.
Version / Date: 2 (1 adjustment) / 13.01.2022



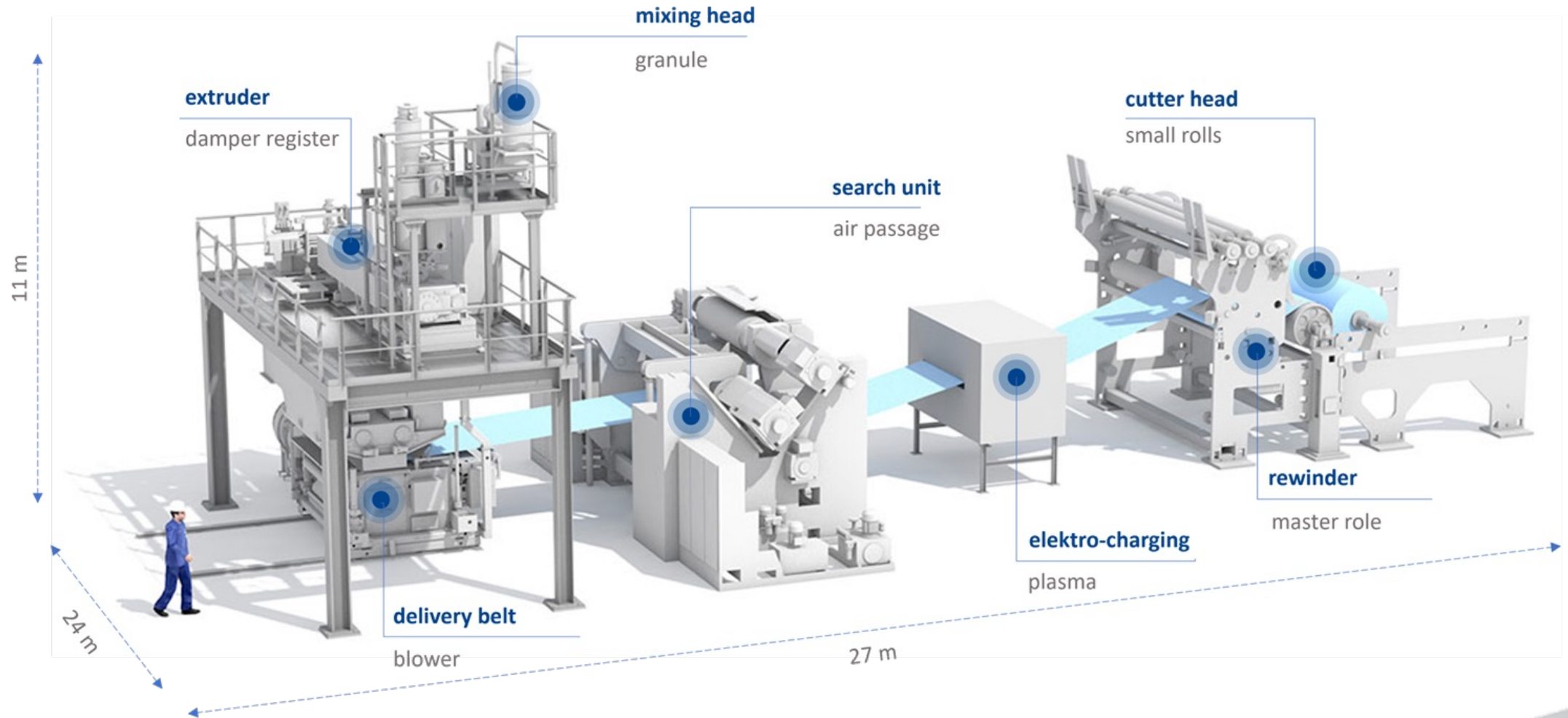
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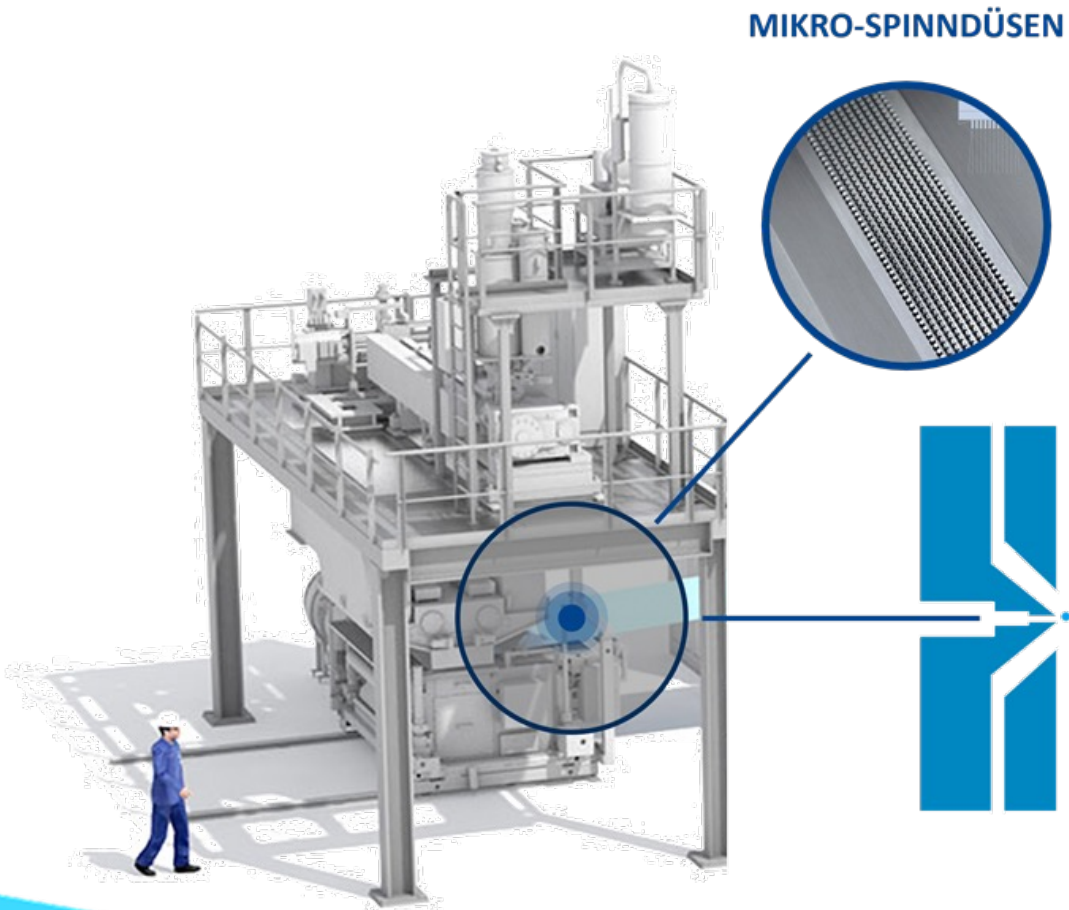
Keep Discovering



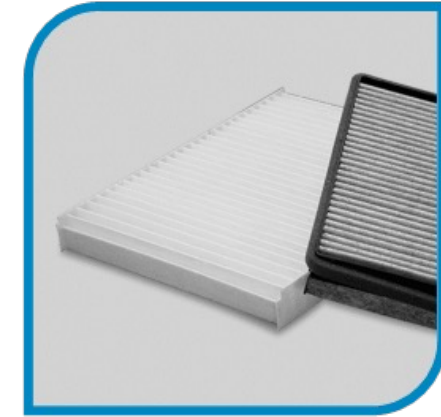
Meltblown Plant



Nano-Filtration



MIKRO-SPINNDÜSEN



MAXIMALE KAPILLARDICHTE

Geschmolzener Kunststoff tritt aus hunderten Düsen als Faden aus. Im Luftstrom wird daraus ein hochfeines Vlies.

Die Endlosfasern haben einen Durchmesser von weniger als einem Mikrometer.

Nano-Filtration

Covid 19 virus

0,06 – 0,12 μm (mikrometer)

Aerosol cough

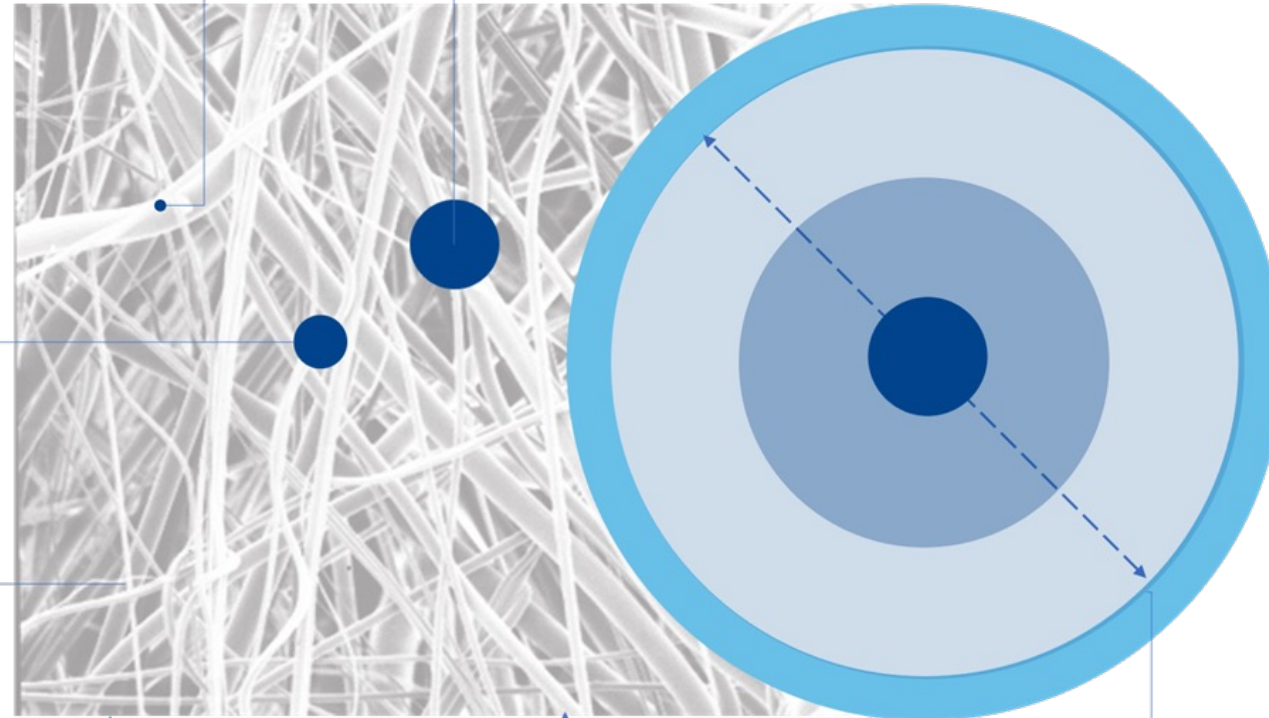
10 μm (mikrometer)

Aerosol sneezing

5 μm (mikrometer)

Meltbown fibre

2 μm (mikrometer)



50 μm (mikrometer)

Cross-section hair

70 μm (mikrometer)



MOBIL-TEC



MED-TEC



CABIN-TEC



CLEAN-TEC



FLUID-TEC



ENERGY-TEC

Filter-Products:



Pleated-Filters



MNS-Filters



Cassette-Filters



Anthers-Filter

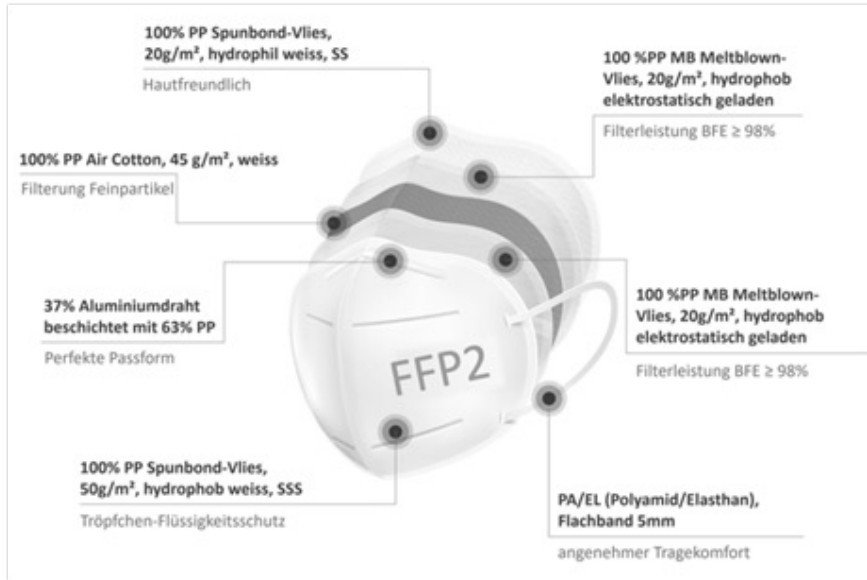


Candle-Filters

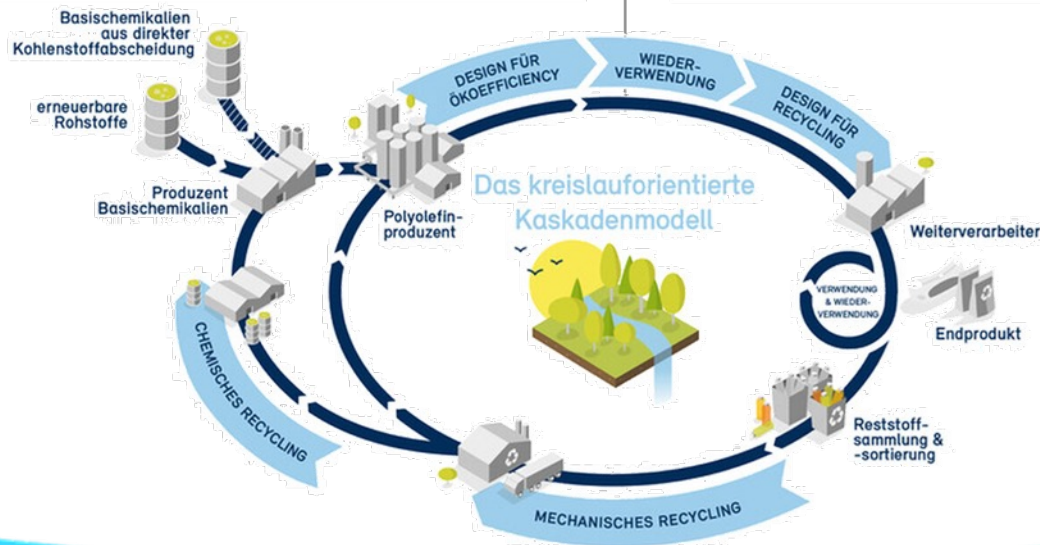
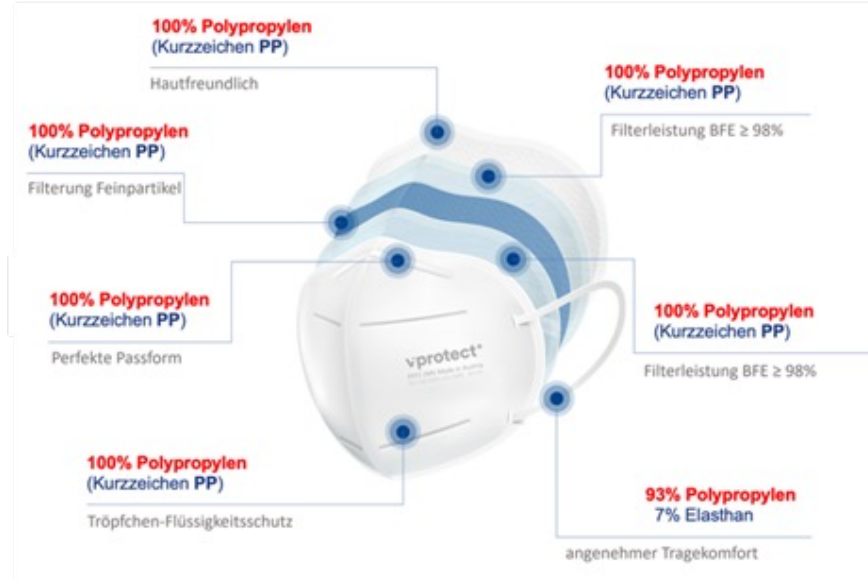


Separators

FFP2 MASKE STANDARD MATERIALMIX:
Polypropylen, Polyamid, Polyethylen, Elasthan, Aliminium.



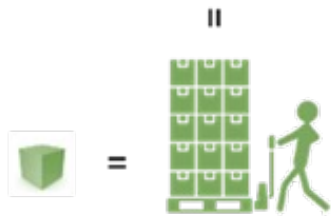
FFP2 MASKE NEU PSA-R022:
99,7% Polypropylen



Maskenproduktion V-protect Austria
ÖKO Strom / BIO Polymer = **KLIMANEUTRAL**



10.000 Masken = **0,0 TONNEN CO2**



Maskenproduktion Asien
Braunkohle Strom / fossiles Polymer = **933 kg eq.CO2**







CERTIFICATION ISCC PLUS



Welche Rolle spielen innovative Fasern für innovative Anwendungen (smart textiles).

Stationäre Energiespeicher sind ein wesentlicher Baustein für die nachhaltige Gestaltung unserer zukünftigen Energieversorgung.



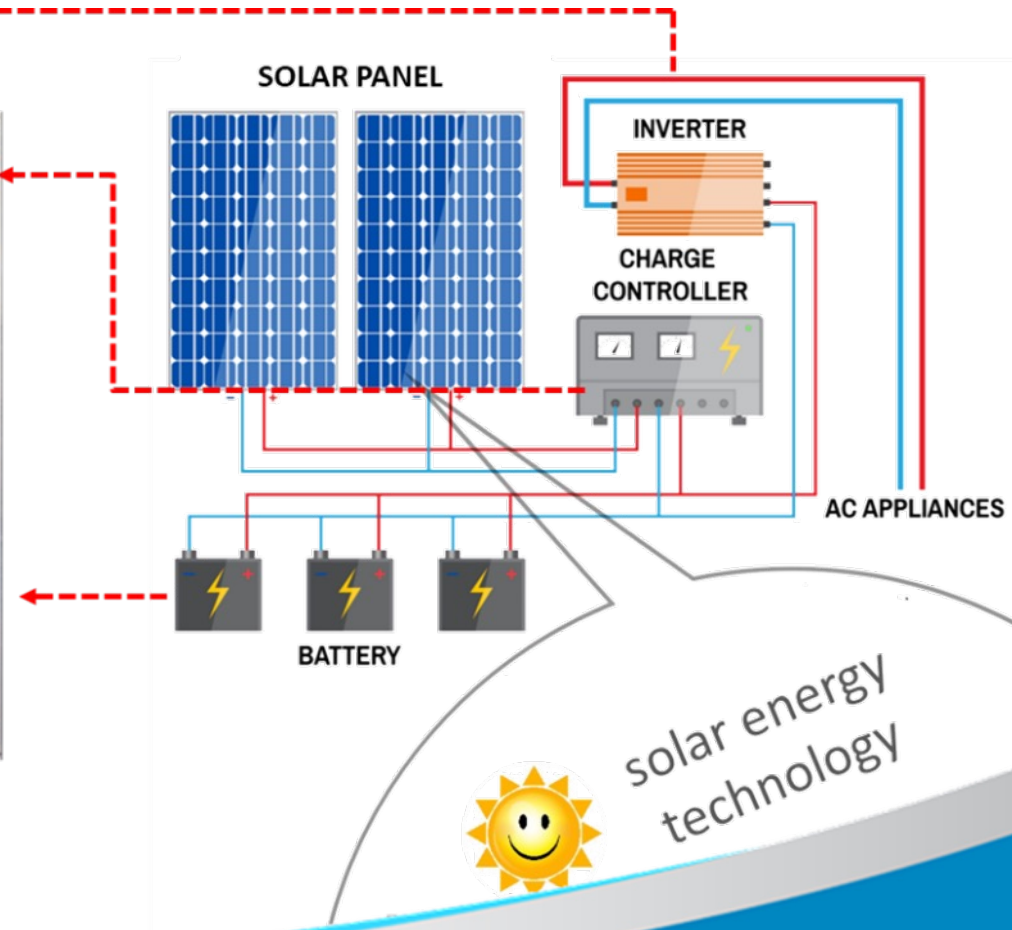
Salzwasserbatterie als Stromspeicher der Zukunft

Aufbau Salzwasser Batterie

-  **Edelstahl**
Edelstahl Stromkollektor
-  **Basis-Oxid**
Manganoxid Kathode
-  **Baumwolle**
Synthetischer Baumwollseparator
-  **Kohlenstoff**
Kohlenstoff-Titan-Phosphat
Anode
-  **Salzwasser**
Alkali-Ionen Salzwasser Elektrolyt



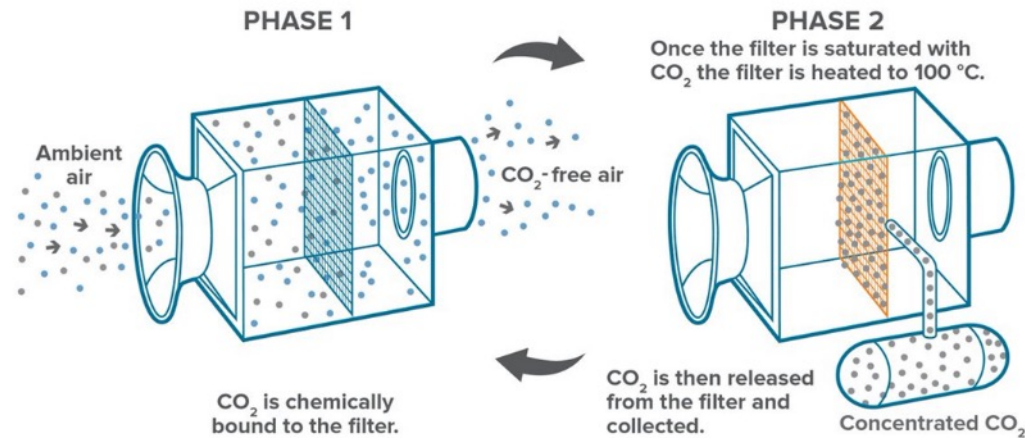
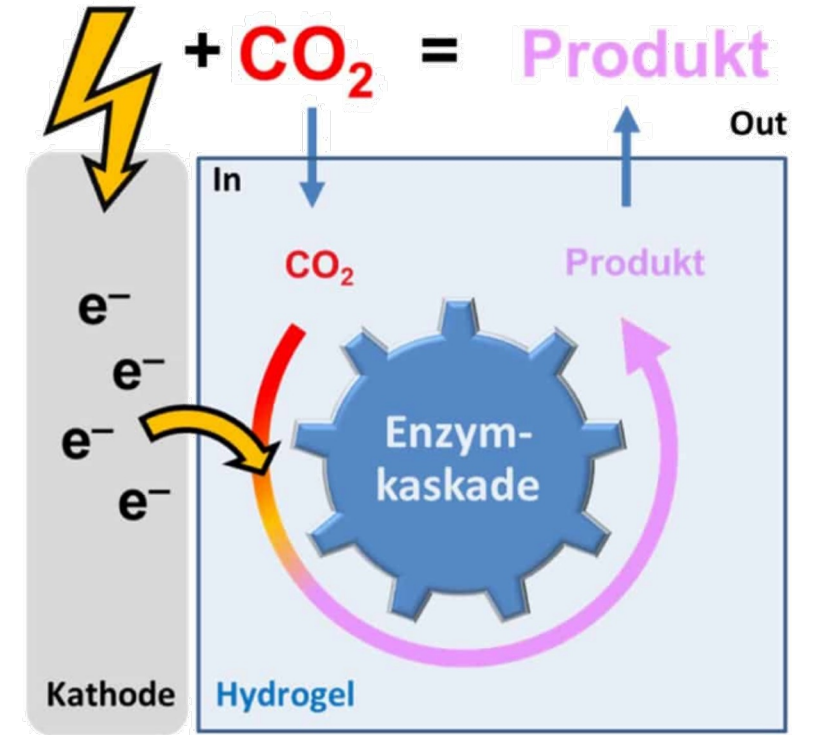
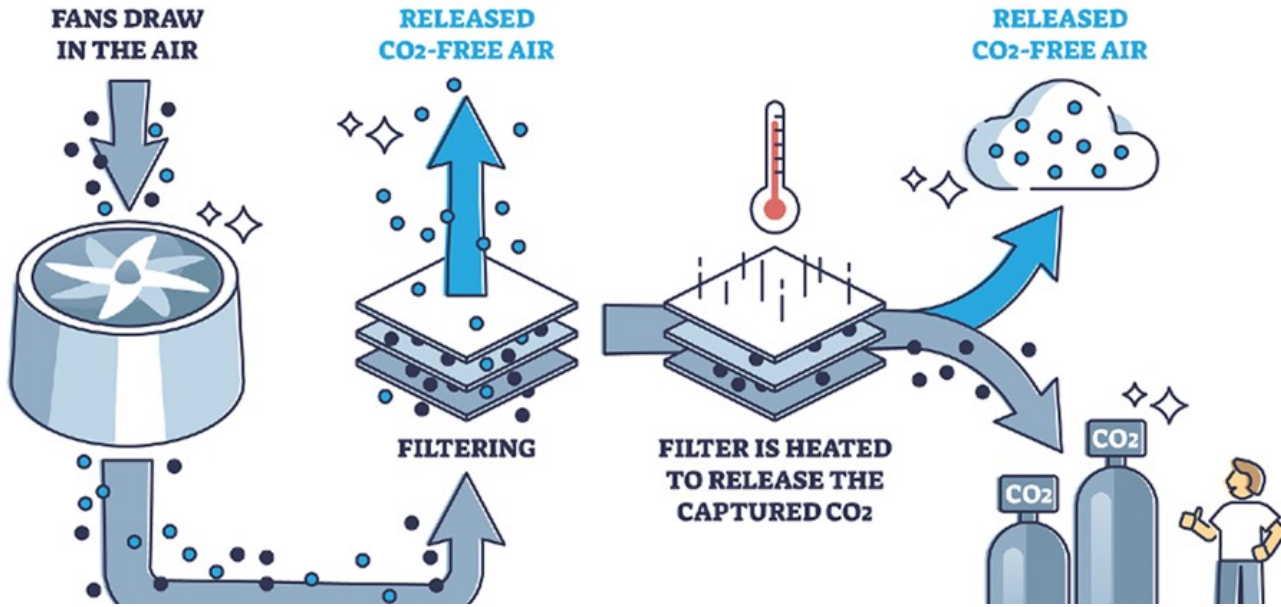
new redox-flow battery
storage technology





Wann kommen die Staubsauger zur Rettung des Erdklimas?

DIRECT AIR CAPTURE



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