Recell®

greens entire supply chains

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Mission Innovation Integrated Biorefineries

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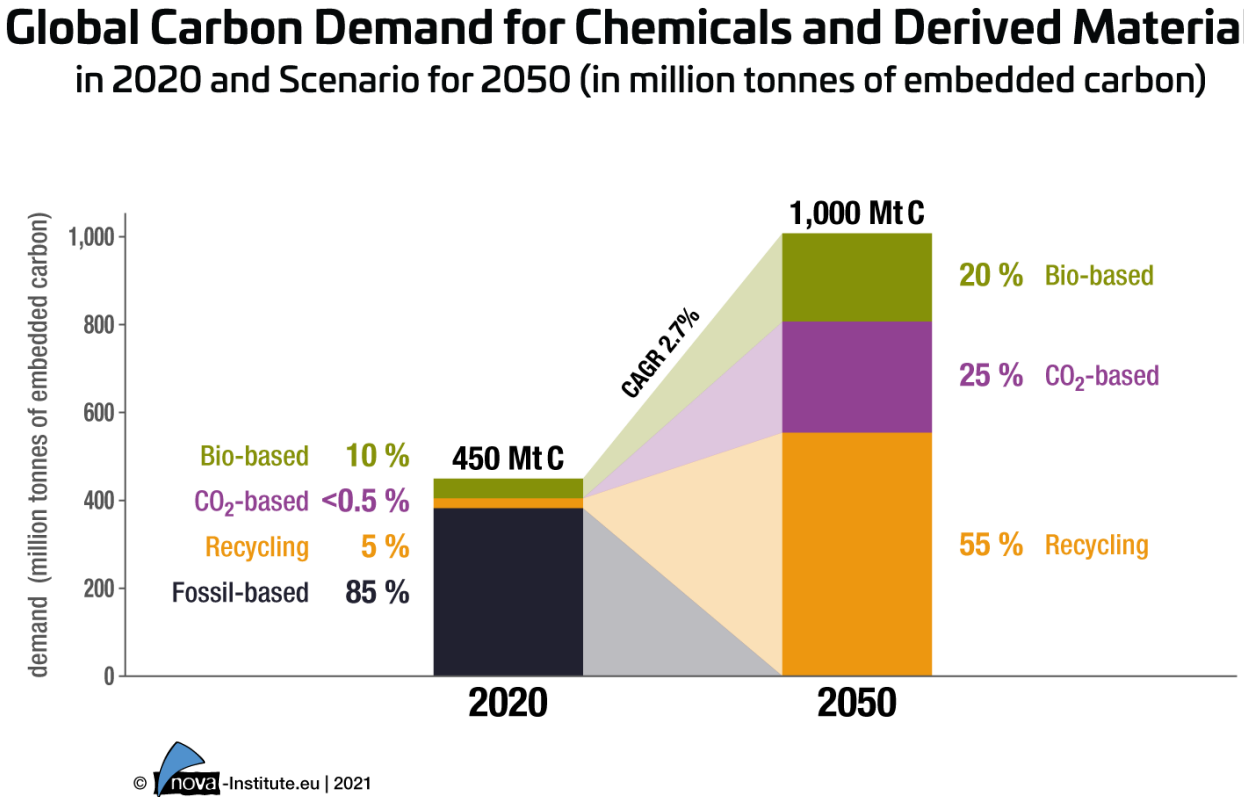
Global demand for carbon increases while need for sustainabilty and accountability is high

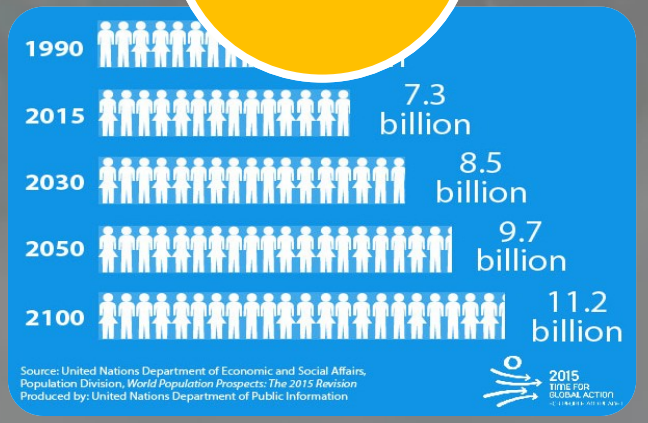


Challenges drive opportunities

primary resources

produce

consume



waste loss

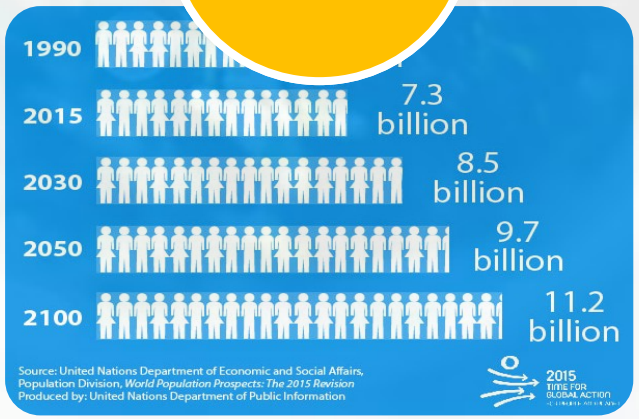
Recell®

new resources

produce

consume

re-value waste



New green materials from cellulosic waste

Recell Chem® solution

Recell® chem

- 50 KTA (ambition 2025)
  Cellulosic waste source
- High yield
  3G glucose – DE95
- Negative CO_2 footprint

Glucose-intermediate to production

- Biobased polymers: PHA, PLA, PE
- FDCA / PEF
- Bio-Ethanol
- Mono-Ethylene Glycol (MEG)
- Fermentation based products

Cellulosic waste as a feedstock

Tertiary cellulose as a source

→ primary

→ secundary

→ tertiary

Tertiary cellulose benefits

- Accessible resource
- Year-round stability
- Ethics – no food competition
- Low environmental impact

→ tertiary

20 million tons tertiary cellulose

Recell Chem® technology covers an increasing range of tertiary cellulosic feedstocks

Recell Chem®
–
cellulosic
feedstocks

Recell Chem® technology – cellulosic feedstocks

DRINKING CARTONS

WWTP

PAPER SLUDGES & REJECTS

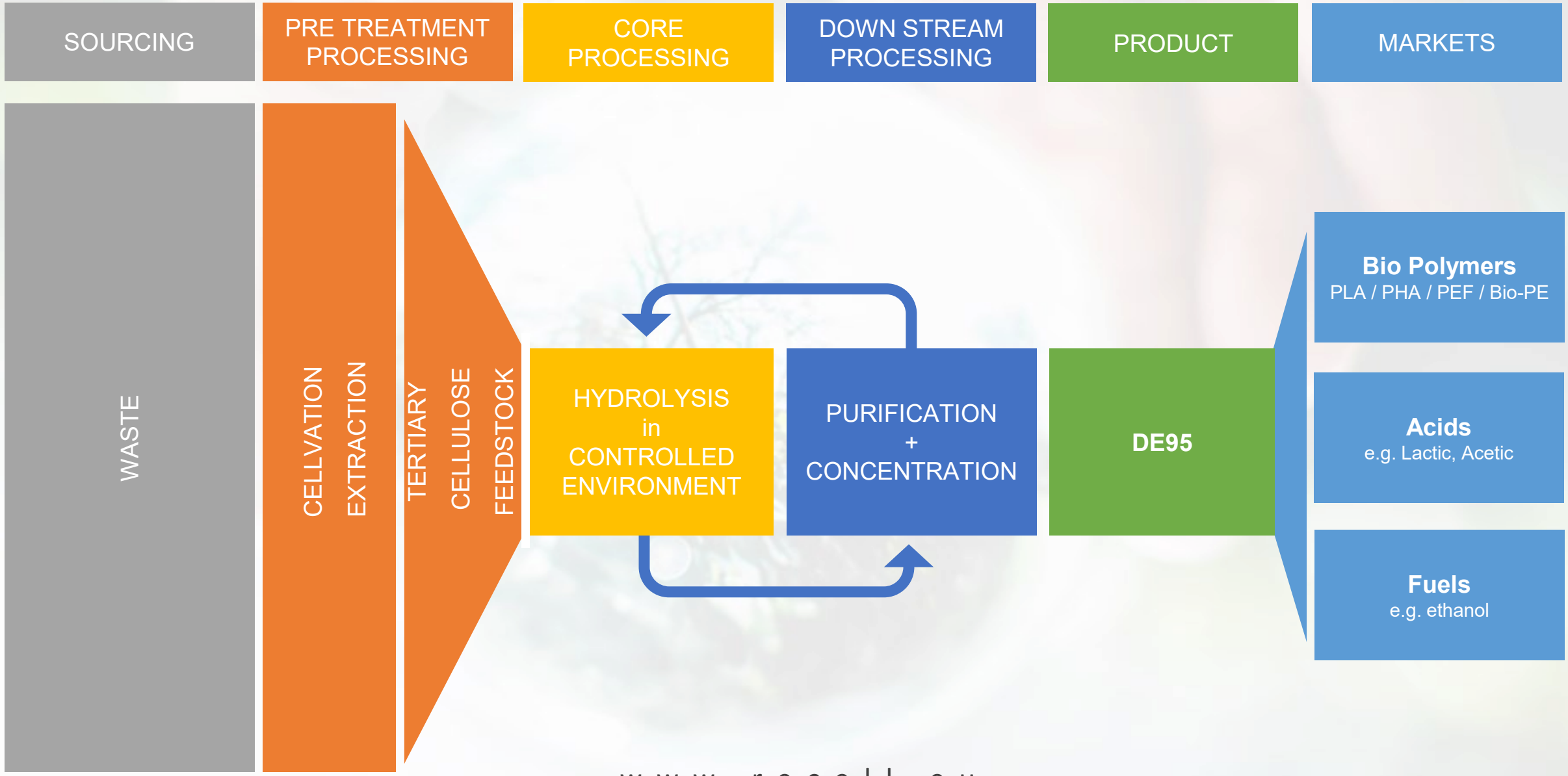
TEXTILE / DIAPER & INCO

Conversion rates are maximized in the process while preserving high **glucose quality**.

56 cellulosic waste streams have been tested on lab & pilot scale.

Recell Chem® process

Recell Chem® process



Recell Chem® cellulosic glucose answers the need for new resources, circular and sustainable

WHY NOW

RESOURCE
Increasing demand of new resources.

COSTS
Increasing logistics costs and waste discharges.

DEFOSSILIZATION
Public pressure & supporting policies (Green Deal).
Need to decrease **carbon footprint**.

ENVIRONMENTAL
Need for sustainable and circular solutions.

WHY RECELL CHEM®

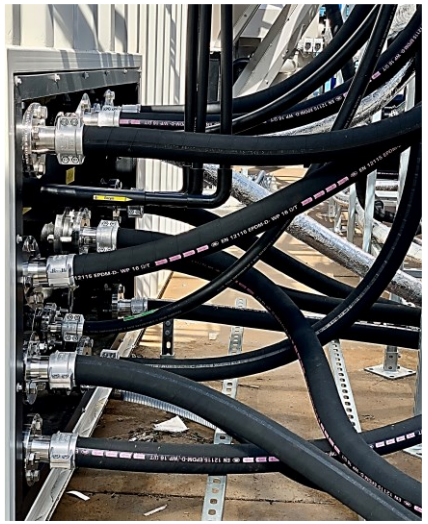
QUALITY
Recell Chem glucose reaches high drop-in quality

AVAILABILY & OFF-TAKE
Continuous and stable capacity.

ENVIRONMENAL IMPACT
100% Renewable and 100% biogenic (C14)
No food competition.

Recell Chem® demo plant – TRL 6/7

100 – 1,000 ton/yr capacity



Recell®
chem

Community & associates

Clusters of participation

CHEMPORT EUROPE

stichting Nationale Koolstofmarkt

NEDERLAND CIRCULAIR!

wateralliance

ISPT
Institute for Sustainable Process Technology

CIRCULAIR FRIESLAND

BeStart
BOOSTING CLEANTECH

FOM Friese Ontwikkelings Maatschappij

EPMD

GJ Smid Fonds
INNOVATIE PARTNER

NOM
INVESTEREN IN ONTWIKKELING

Recell partners & associates

CIRTEC

NOBIAN

Nouryon

Cellvation

ecodek

TNO innovation for life

OMRIN

van hall larenstein
university of applied sciences

Esha

university of groningen

aqua minerals

BioBTX

AkzoNobel
Tomorrow's Answers Today

Gemeente Amsterdam

KWS

Hanzehogeschool Groningen
University of Applied Sciences

KWR

Ministerie van Infrastructuur en Waterstaat

WETTERSKIP FRYSLÂN

HOOGHEEMRAADSCHAP DE STICHTSE RIJNLANDEN

HVC

Cellvation

hoogheemraadschap Hollands Noorderkwartier

ENERGIE EN Grondstoffen FABRIEK

vito

foamplant
innovators in biodegradable foam

RIVM

stowa

Rijksdienst voor Ondernemend Nederland

provincie groningen

- **Recell's development well on track**
- **Collaborate in consortium**
- **Momentum is now**

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