



CHEMRING NOBEL AS

AGENDA



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OUR HISTORY FOR MORE THAN 150 YEARS

1865



Alfred Nobel (1833-1896)

Nitroglycerin Compagniet was established in June 1865. In six weeks a factory was built at Lysaker by 6-8 men. Prod start August 1865.

1874



Explosion accident at Lysaker

It is believed that an operator dumped ashes where there was nitroglycerin waste. The operator died. Plant was rebuilt shortly after, but then closed May 1875



1876



Property of Engene

A new factory was built near the ocean and away from Oslo. Production started after 10 months construction work.

Prod plan - 45 kg nitroglycerin per charge

1916-1917



Norsk Sprængstofindustri

Norsk Sprængstofindustri A/S was established in 1917 when Nitroglycerin Compagniet, Håøen - Gullaug Sprængstoffabrikker, Nitedals Krudtværk, Norsk Svovlsyrefabrik, Stordøen Dynamitcompagni, and Nordenfjeldske Sprængstof merged.



1935



Engene Arbeiderforening

Glue production

Started building a glue factory at Engene and moved production of Dynamite to Gullhaug



1958-1964



Engene industry area



Tullepikene

2000



Dyno Nobel

Dyno Nobel ASA was established in 2000 when an investment company Industri Kapital took over the company and restructured it.



1980s



Major Expansion

Ragnar Halvorsen was managing director between 1981-1987, and chairman from 1987-1995. He led Dyno through a massive expansion. Dyno doubled its production of RDX.

There was a fire in 1986 in the control room in A-area. No people died, but it took a while before the plant was up and running.



1971



Dyno Industrier

Dyno Industrier was established in 1971, when Norsk Sprængindustri and Grubernes Sprængstoffabrikker A/S were merged. All major explosive industry in Norway were now under one company.

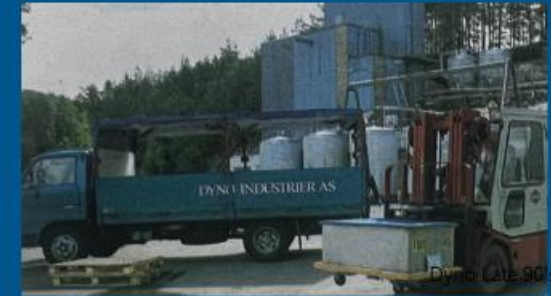
Production of RDX started in 1972.

1968



HMX production

The HMX plant we know today was built with technology from the US, when Norway introduced M-72 LAW for the European market and a European manufacturer for Octol was needed.



Dyno Late 90s

2006



Chemring

Innovating to protect

NTO production

In 2006 the production of NTO started. NTO is a more powerful and insensitive product.

From 2008 Dyno Nobel is owned by Australian Icitec Pivot.

2007



Chemring Group

The European part of Dyno Nobel was sold to Orica Mining Services in 2006.

Orica sold High Energy Material to Chemring Group PLC in UK June 2007 and a new company Chemring Nobel was established.

2020



Increased Demand

In recent years, Chemring Nobel has experienced increased demand. This has created the basis for significant investments in upgrades and modernization of the factory.

2024



Chemring Nobel

Chemring Nobel has in recent years invested in people as well as supporting the local community and have a clear strategic vision for protecting future generations.

In 2024 CHN received EUR 103.8 million from EU and the Norwegian Government to expand their production capacity in order to support Ukraine and other NATO countries.



Engene 2022



Dyno Nobel was one of Norway's largest companies with more than 100 manufacturing plants in 40 countries.

Dyno was ranked the most respected firm in explosives technology in the world.

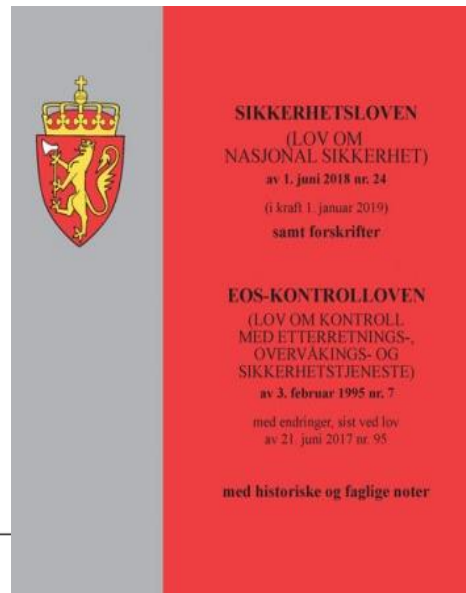
BETINGELSER OG FORPLIKTELSER



Meld. St. 17
(2020–2021)
Melding til Stortinget

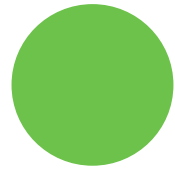
Samarbeid for sikkerhet

Nasjonal forsvarsindustriell strategi for et høyteknologisk og fremtidsrettet forsvar



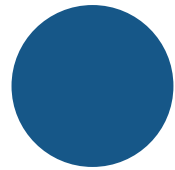
ESG – ANSVAR

Systematisk inkorporere ESG i strukturer, kultur, kompetanse og ledelsessystem



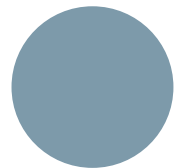
Klima og Miljø

- Sirkulær økonomi og Livssyklusanalyse
- Minimere miljøpåvirkning
- Bærekraftige og fornybare energiløsninger



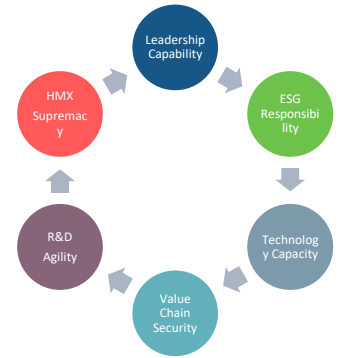
Sosiale forhold

- Kultur og Ledelse; kompetanse og kunnskap
- Struktur, systemer og omgivelser
- Arbeidsmiljø/ Risikostyring

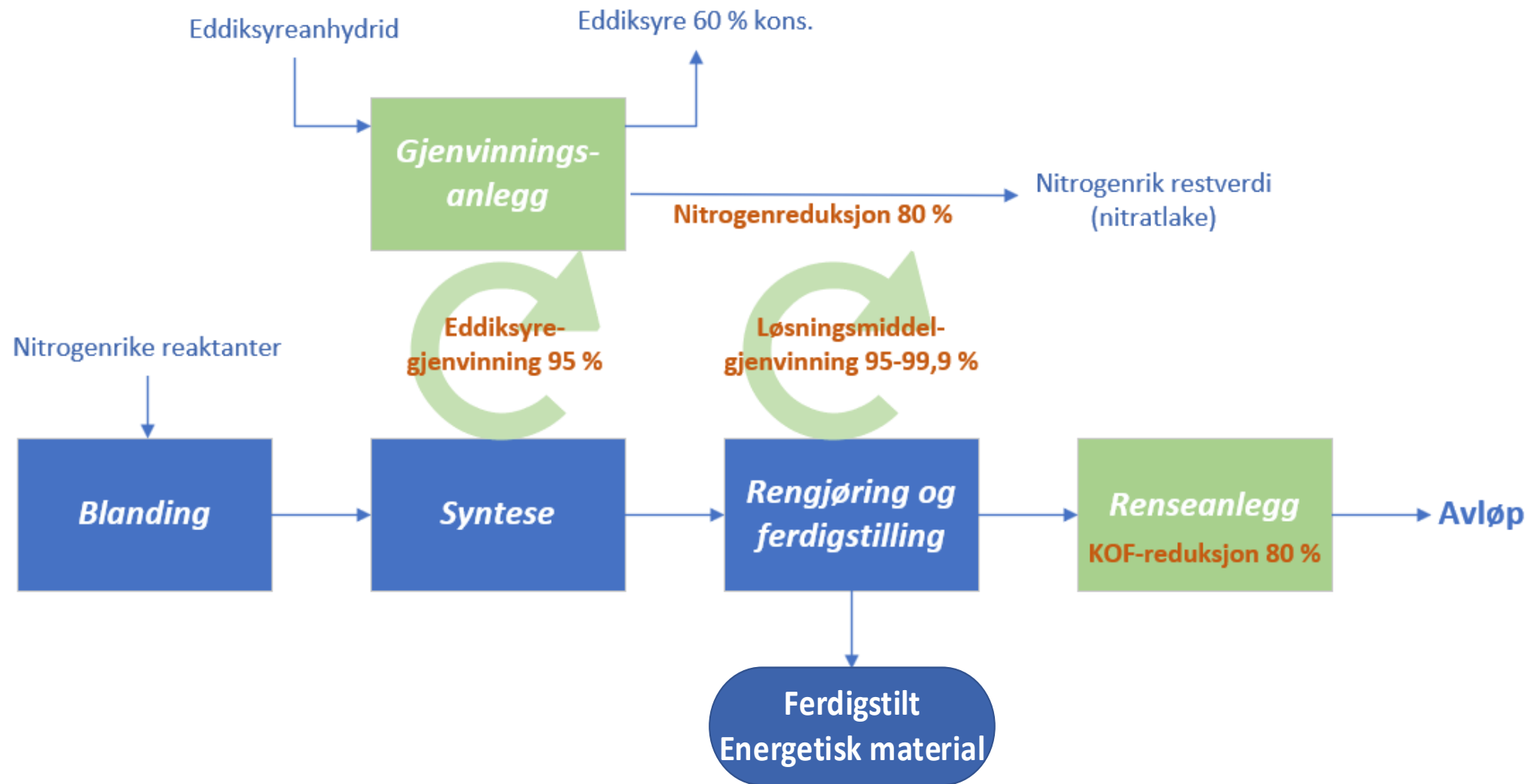


Forretningsetiske forhold

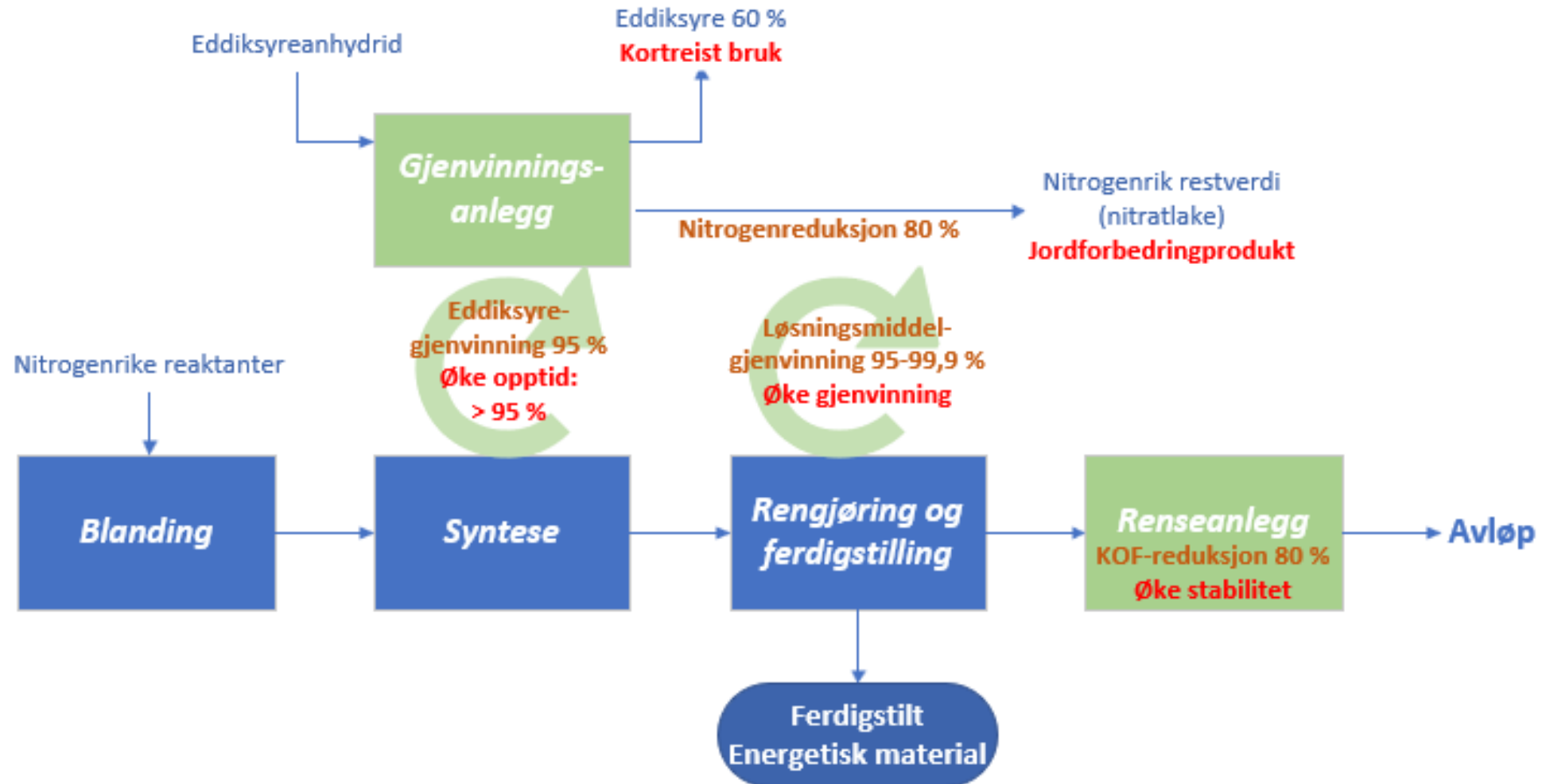
- Transparente prosesser; Intern og ekstern revisjon
- Økt produktkvalitet
- Sikkerhet



EKSISTERENDE RENSE/GJENVINNINGSLØSNINGER: LINJE 1



PLANLAGTE RENSE/GJENVINNINGSLØSNINGER: LINJE 1

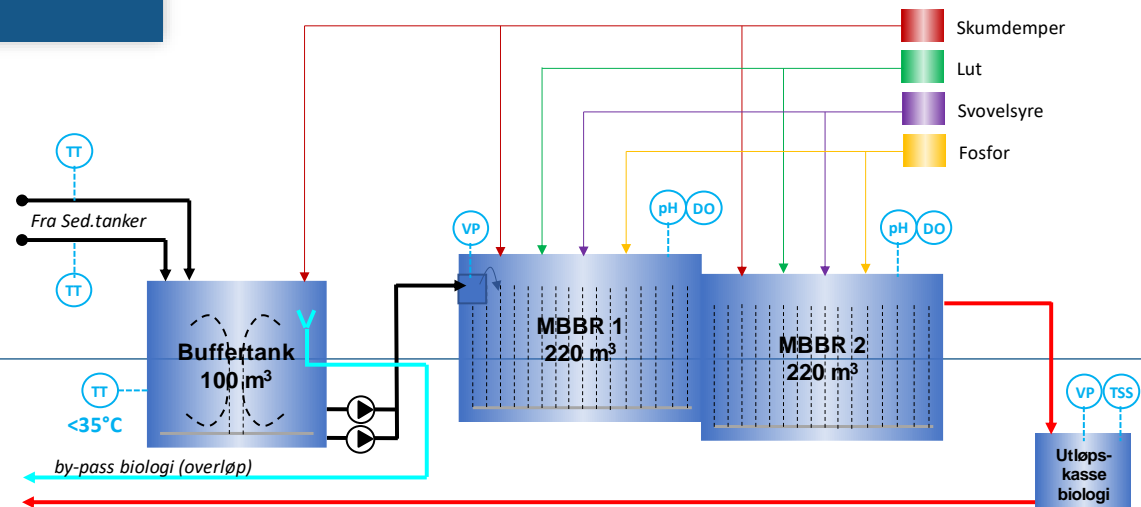


RENSEANLEGGET

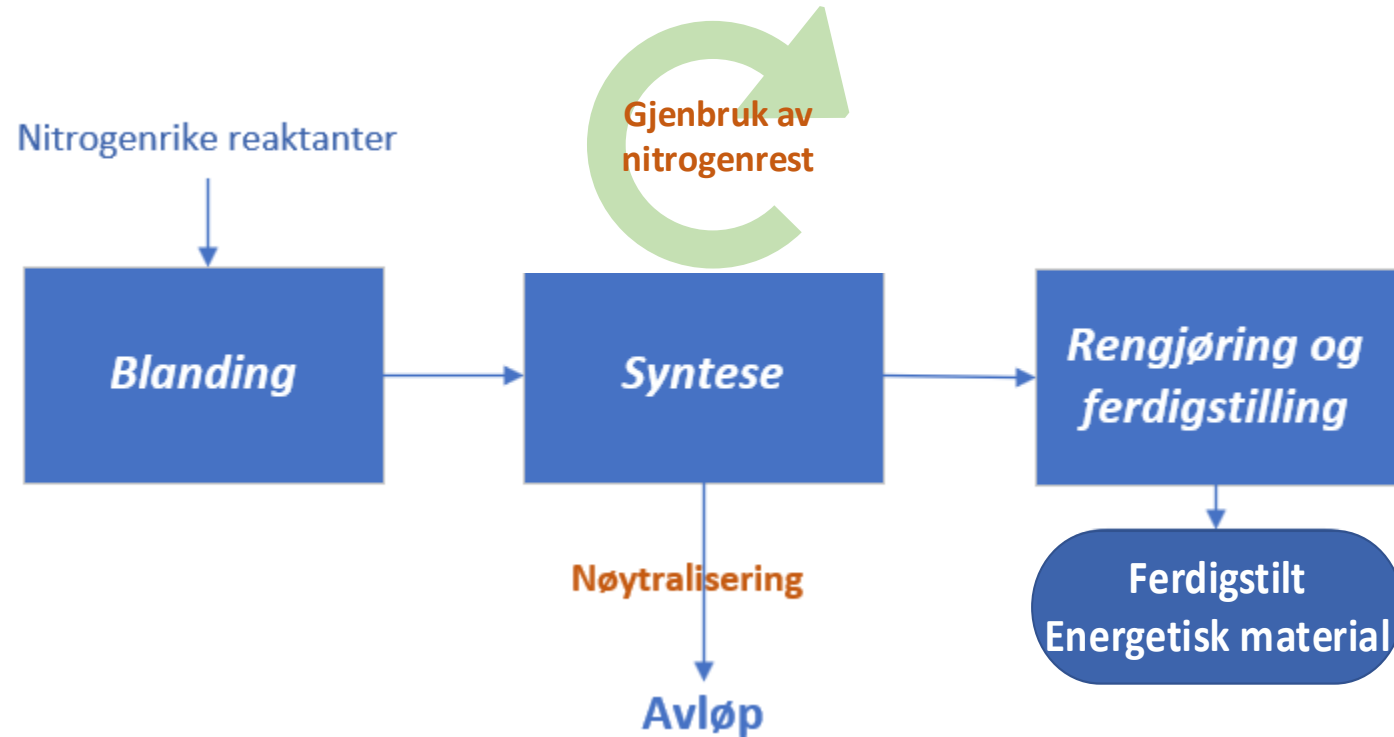
SEDIMENTASJON, BUFFER OG MBBR-TEKNOLOGI

- Sedimentasjonstanker i parallell.
- Buffertank
- Moving Bed Bio-Reactor (MBBR)
- KOF vs Suspendert Stoff (SS)

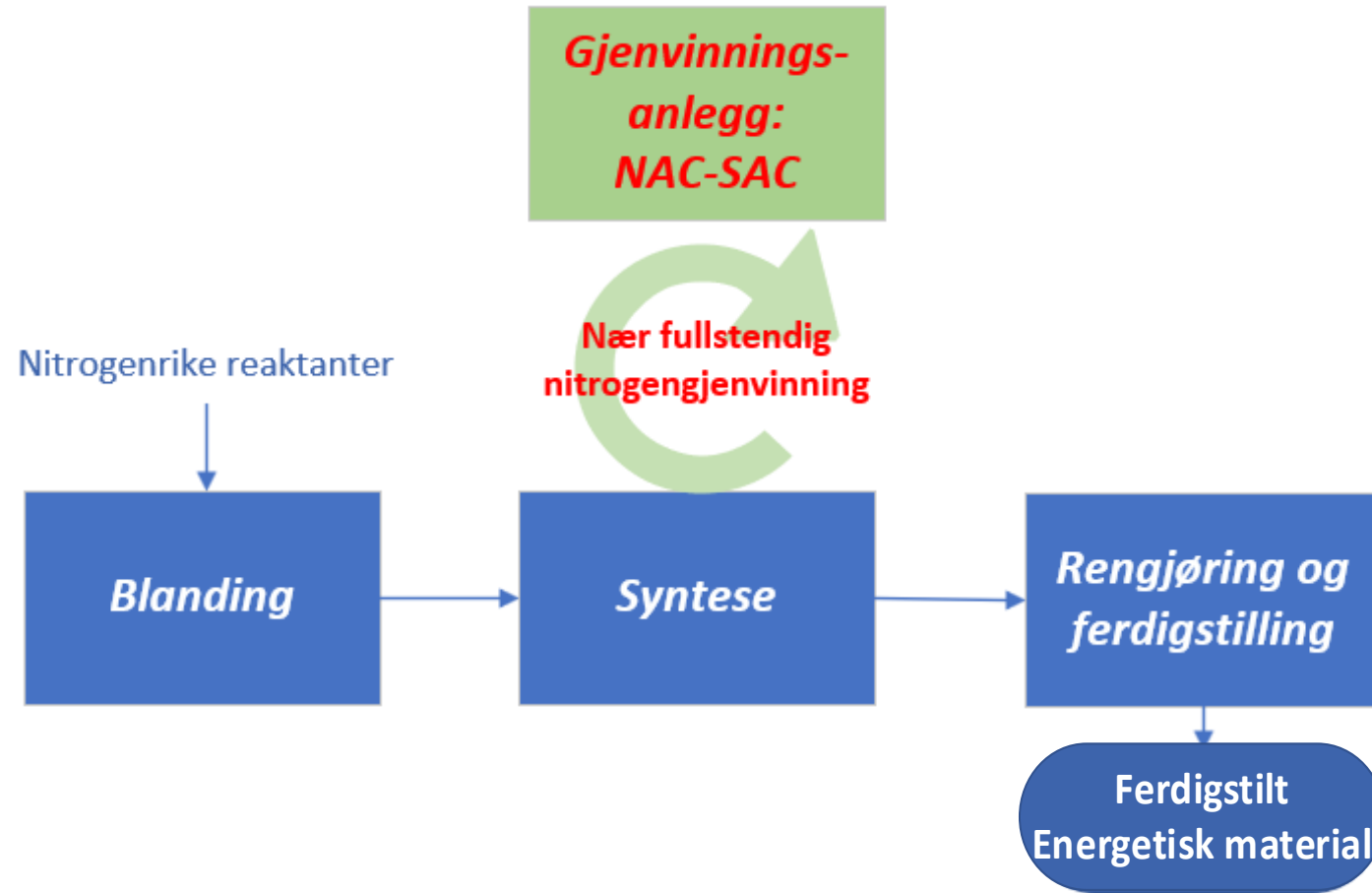
80 % KOF REDUKSJON



EKSISTERENDE RENSE/GJENVINNINGSLØSNINGER: LINJE 2



PLANLAGTE RENSE/GJENVINNINGSLØSNINGER: LINJE 2



PRODUKSJONSLINJER HOS CHEMRING NOBEL

OPPSUMMERING

Linje 1

Eksisterende og planlagte rense- og gjenvinningsløsninger:

- Eddiksyre gjenvinning 95 %
 - Øke oppetid: >95 % gjenvinning
 - Salg av eddiksyre 60 % til sirkulære formål
 - Kortreist bruk
- Nitrogenreduksjon 80 %
 - Salg som jordforbedringsprodukt for sirkularitet
- Løsningsmiddelgjenvinning 95-99 %
 - Øke gjenvinning
- Renseanlegg
 - KOF reduksjon 80 %
 - Øke stabilitet opp mot batch-vis produksjon

Linje 2

Eksisterende og planlagte rense- og gjenvinningsløsninger:

- Gjenbruk av nitrogenrest
- Nøytralisering
- Nytt gjenvinningsanlegg
 - NAC-SAC

SPØRSMÅL?

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