Oct 2026

NEXTCHEM

BEYOND AMMONIA

INTEGRATED HYDROGEN, AMMONIA, AND FERTILIZER COMPLEXES FOR THE LOW-CARBON ECONOMY

NEXTCHEM
MAIRE Sustainable Technology Solutions

SPEAKERS OF THE DAY



MAHAL PATEL
Lead Technology Engineer
Ammonia



DEEPAK SHETTY
Licensing Manager

AGENDA

01 WHO WE ARE

02 NX STAMI™ AMMONIA – PRODUCT ROUTES

03 NX STAMI™ AMMONIA – DISTINGUISHING FEATURES

04 COMMERCIAL PROJECTS – CONFIGURATION, ADVANTAGES

05 FULL LIFE-CYCLE SUPPORT

06 CONCLUSION

01

WHO WE ARE

MAIRE AT A GLANCE

We are a technology and Engineering Group that develops and implements innovative solutions to enable the Energy Transition.

We offer Sustainable Technology Solutions, optimizing conventional processes and creating new ones from non-fossil feedstock and Integrated E&C Solutions, bringing into reality complex plants and frontier project to provide access to the latest technologies.



7.1
Revenues (€ billion)

12.7
Backlog (€ billion)

284.5
Net Income (€ million)

50
Countries

~11,200
Employees*

~76,000
People engaged worldwide**

Data as of 31st December, 2025
* Data as of Ballestra Group acquisition closing
** Data includes employees, collaborators and sub-contractors

BRAND ARCHITECTURE

MAIRE

Integrated E&C Solutions

TECNIMONT
MAIRE Integrated E&C Solutions

KT
MAIRE Integrated E&C Solutions

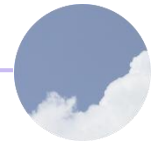
Project Development

MET DEVELOPMENT
MAIRE Project Development

Sustainable Technology Solutions

NEXTCHEM
MAIRE Sustainable Technology Solutions

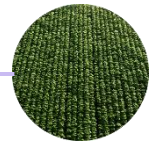
STAMICARBON
NEXTCHEM Sustainable Technology Solutions



Low-Carbon Energy Vectors Sustainable



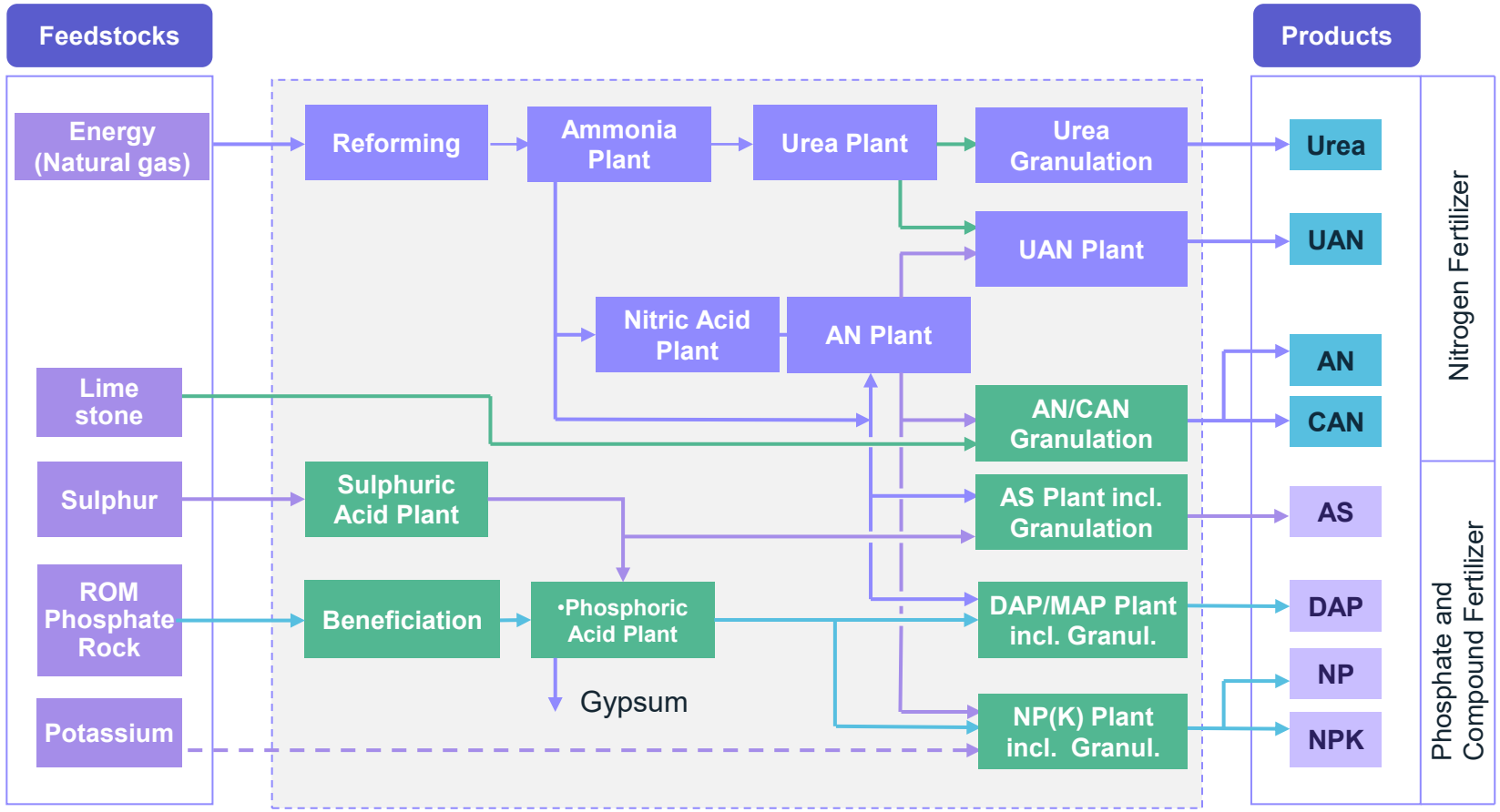
Sustainable Materials & Circular Solutions



Fertilizers & Nitrogen-Based Fuels

Urea
Nitrates
Ammonia
Specialty fertilizers
Sulphuric acid
Phosphoric acid

NEXTCHEM FERTILIZER TECHNOLOGIES







NEXTCHEM
MAIRE Sustainable Technology Solutions

PROVIDING TOMORROW'S TECHNOLOGY

Technology Licensing

Process Design Package
Basic Engineering Design

Proprietary Equipment & Catalysts

Services and Digital Solutions

Selected Specialty Solutions

02

NX STAMI™ AMMONIA

PRODUCT ROUTES

NX STAMI™ AMMONIA – PRODUCT ROUTES

No-Carbon

Carbon Feed stock

FEEDSTOCK*



PRODUCTS

Ammonia

Urea granulation, DEF

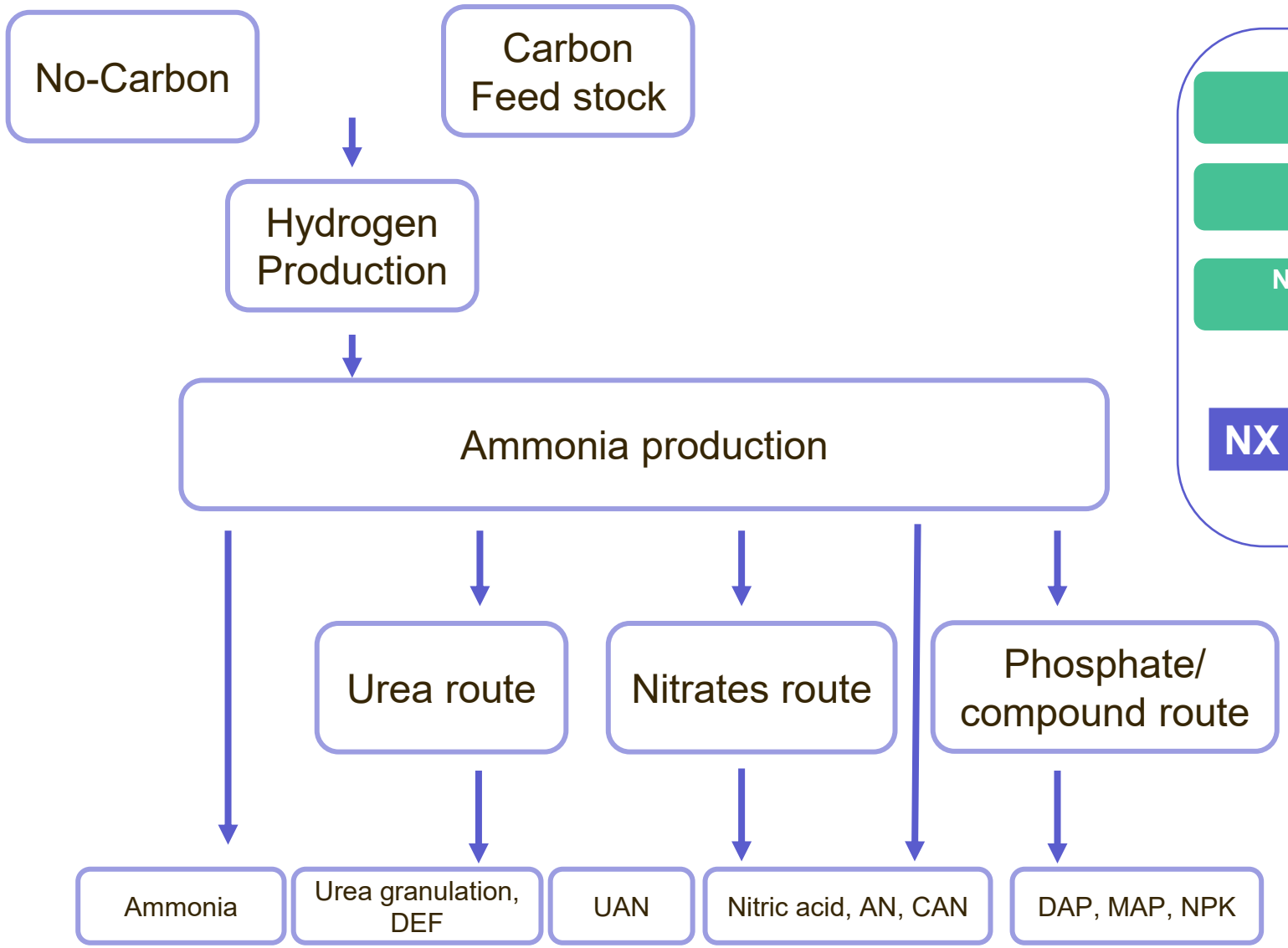
UAN

Nitric acid, AN, CAN

DAP, MAP, NPK

Natural gas, Demi water, Electricity

NX STAMI™ AMMONIA – PRODUCT ROUTES



NX STAMI™ AMMONIA

- NX FHYVE™ (ELECTROLYSIS)
- NX Reform™ (SMR)
- NX AdWinHydrogen ® (ATR)
- NX CPO™
- NX eBlue™

NX STAMI™ AMMONIA – HP/MP SYNLOOP

NX STAMI™ NITRATES

NX STAMI™ UREA

BALLESTRA

FROM FEEDSTOCK TO PRODUCTS – END USER BENEFITS

Process Integration

- Purge gas integration across units
- Reduced need for ancillary equipment
- Improved overall plant efficiency

Utility Integration

- Unified steam system
- Steam export, depending on plant configuration
- Reduced OPEX through energy recovery

CO_2 Integration

- CO_2 can be valorized in downstream products
- Helps reduce overall carbon footprint

Project Execution

- Single contract
- Single point of contact for execution
- Overall performance guarantee offered
- Tailored solution offered

EXTENSIVE LIST OF REFERENCES

References for **Hydrogen Production Unit**

No. of licensed units in total	More than 60
No. of units started in last 10 years	16
No. of units started in last 5 years	8
No. of units licensed in last 10 years	24
No. of units licensed in last 5 years	12

References for **Ammonia Synloop**

No. of licensed units in the last 15 years	More than 45
Plants above 1000 MTPD	7
Plants above 500-1000 MTPD	15
Plants above 300-500 MTPD	17
Plants above 50-300 MTPD	11

NX STAMI™ AMMONIA MP SYNTHESIS LOOP

CAPACITY

up to **3500 MTPD** ammonia

Largest converter in operation:

Shanxi Tianze Coal Corporation

ID: 3000 mm

TL-TL: 30 m

Operating capacity: 1650 MTPD
with 16% inert gases

Under low-inert operation maximum capacity of the basket: **2950 MTPD**

NEXANT AMMONIA REPORT (2024)

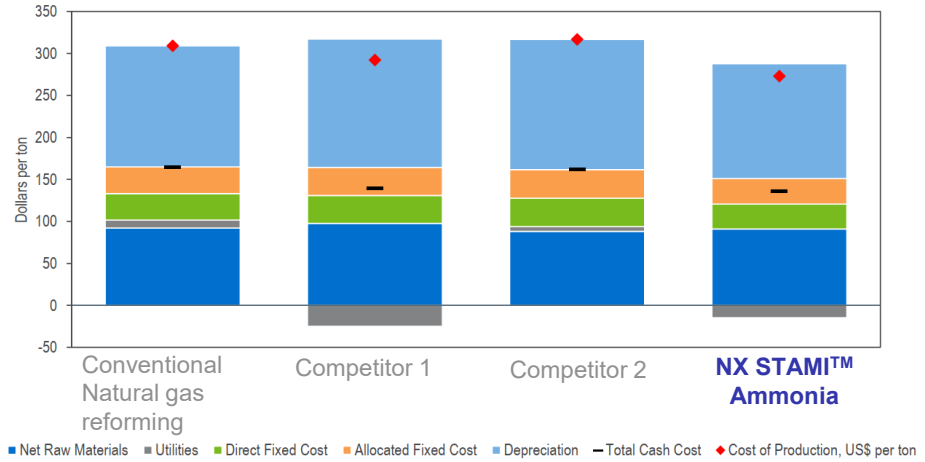
NX STAMI™ AMMONIA as Lowest Cost of Production

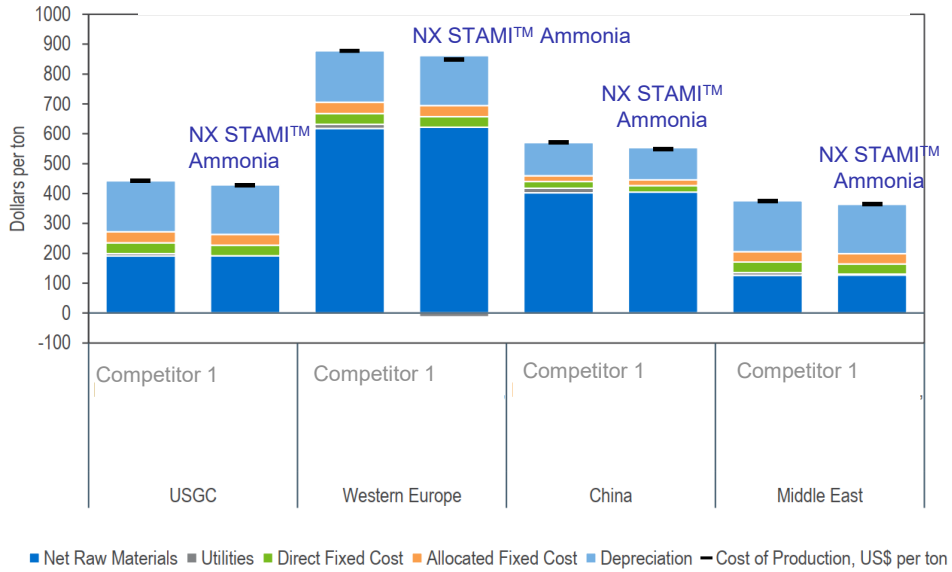
Nexant
Reimagine tomorrow.

Grey Ammonia Cost of Production
(USGC, $/ton)

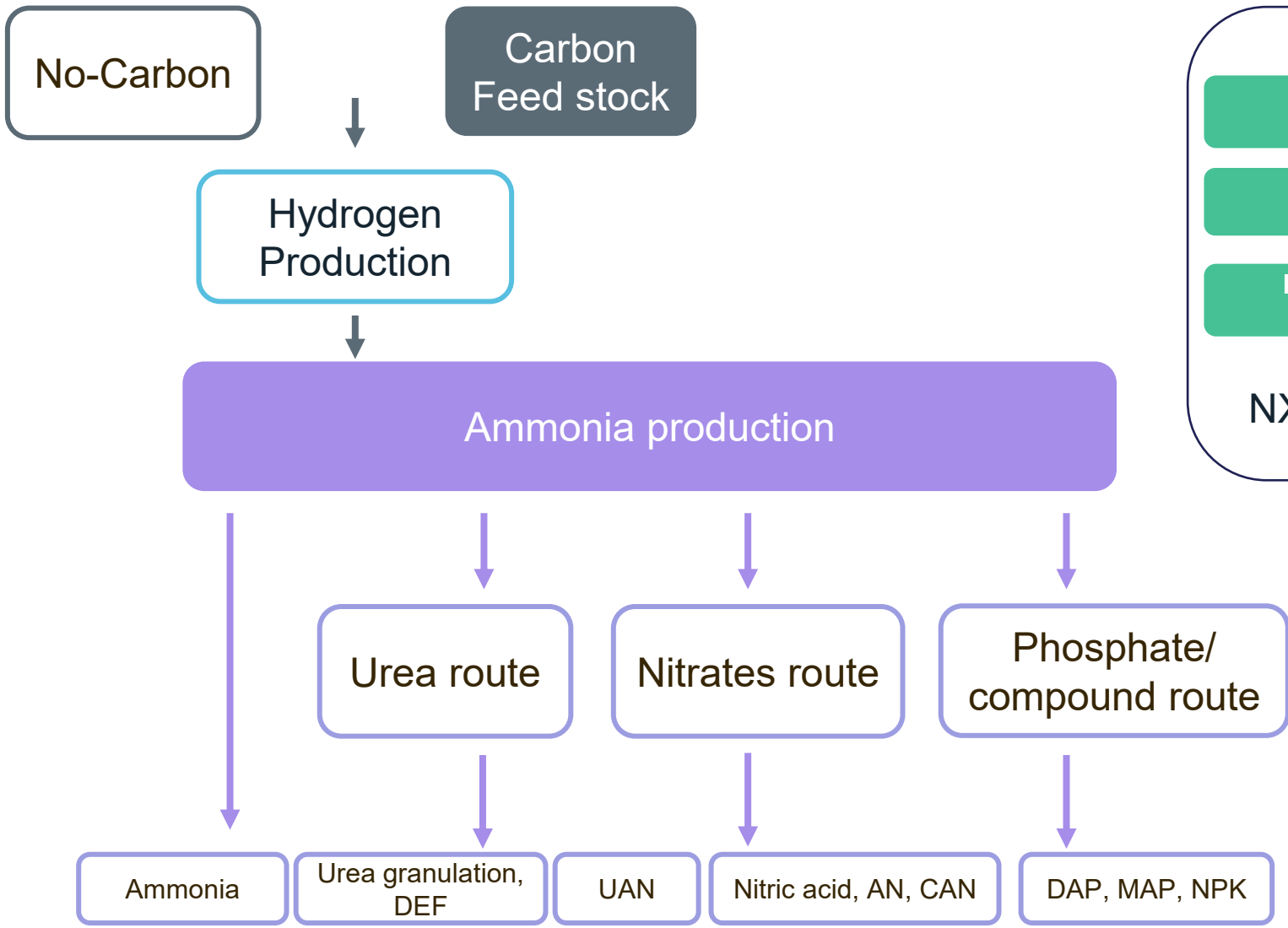
Blue Ammonia Cost of Production
(All regions, $/ton)

Figure 8 Grey Ammonia Cost of Production, USGC
(dollars per ton)





NX STAMI™ AMMONIA – CAPACITY RANGE



NX STAMI™ AMMONIA

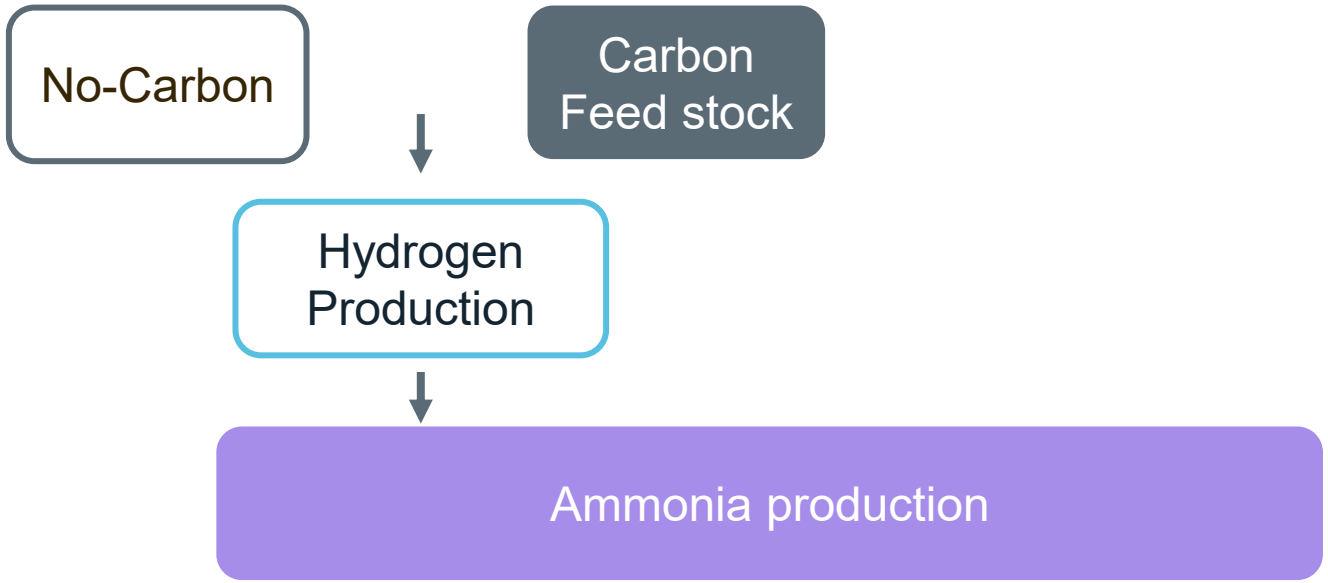
- NX FHYVE™ (ELECTROLYSIS)
- NX Reform™ (SMR)
- NX AdWinHydrogen ® (ATR)
- NX CPO™
- NX eBlue™

NX STAMI™ AMMONIA – HP/MP SYNLOOP

NX STAMI™ NITRATES
NX STAMI™ UREA

BALLESTRA

NX STAMI™ AMMONIA – CAPACITY RANGE



NX STAMI™ AMMONIA

- NX FHYVE™ (ELECTROLYSIS)
- NX Reform™ (SMR)
- NX AdWinHydrogen ® (ATR)
- NX CPO™
- NX eBlue™

NX STAMI™ AMMONIA – HP/MP SYNLOOP

HYDROGEN PRODUCTION	AMMONIA PRODUCTION
NX CPO™ (catalytic partial oxidation)	Up to 500 MTPD
NX Reform™ (Steam methane reforming)	500 – 1800 MTPD
NX AdWinHydrogen® (ATR)	1800 – 3500 MTPD

Ammonia | Urea granulation, DEF | UAN | Nitric acid, AN, CAN | DAP, MAP, NPK

ROUTES FROM HYDROGEN TO AMMONIA PRODUCTION

NX Reform™ Steam methane reforming	SMR technology for Hydrogen or Syngas applicable in conventional and blue hydrogen production
NX CPO™ Catalytic partial oxidation	Hydrogen or Syngas compact production via proprietary catalytic process versatile in different hard-to-abate and fuel synthesis applications
NX AdWinHydrogen® Autothermal reforming	ATR technology for Hydrogen or Syngas production applicable in hydrogen and syngas production for chemicals production
NX eBlue™ **Steam methane reforming**	Electric heated SMR technology with compact design and low CO_2 production applicable for grey and blue Hydrogen facilities
NX FHYVE™ **Electrolysis**	Reliable and cost-effective electrolysis modules for green Hydrogen production based on alkaline technology

NEXCTCHEM – Webinar – 19 October 2026

“Selecting the Optimal Hydrogen Technology for Decarbonized Industry”

Paolo Mazzara, Stefano Carenza, Andrea Gnagnetti, Leonardo Falbo, Matteo Mennella

03

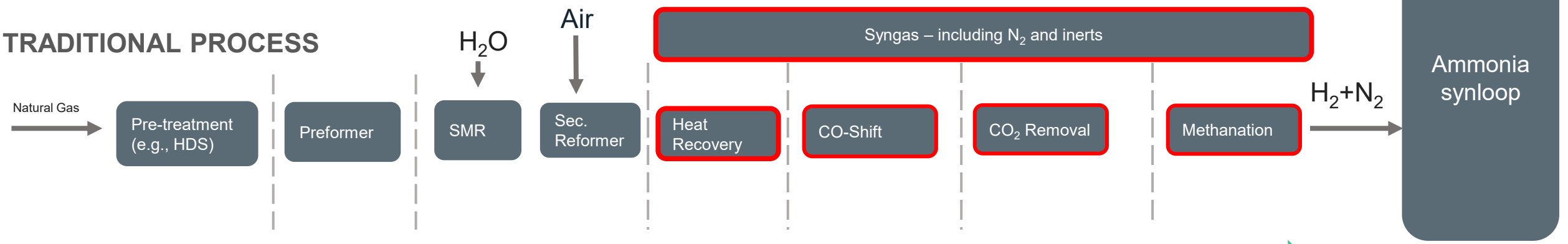
NX STAMI™ AMMONIA

DISTINGUISHING FEATURES

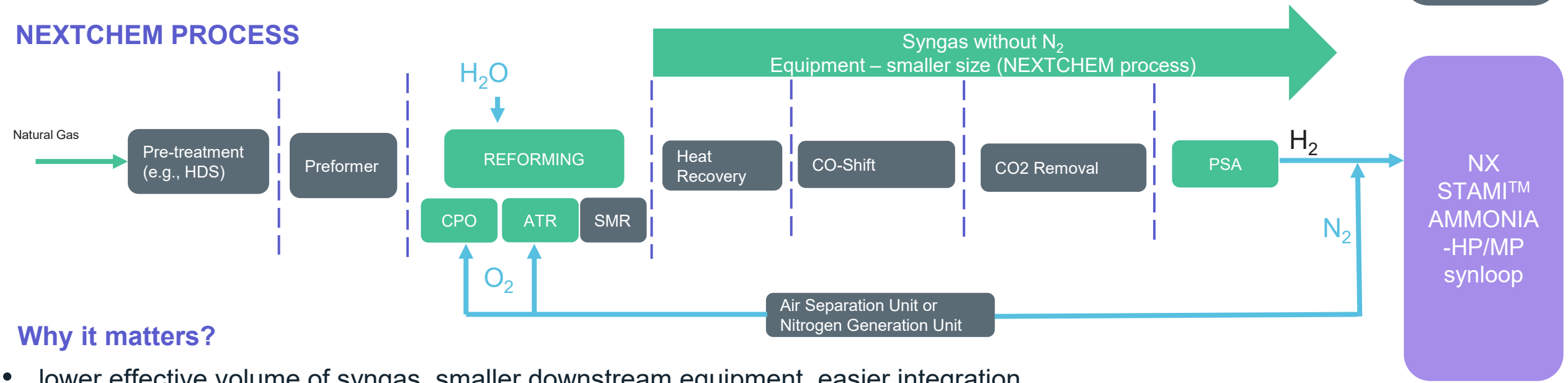
NEXTCHEM: NATURAL GAS TO AMMONIA – ADVANTAGES 1

Distinguishing feature For NEXTCHEM

TRADITIONAL PROCESS



NEXTCHEM PROCESS



Why it matters?

- lower effective volume of syngas, smaller downstream equipment, easier integration.

NEXTCHEM: NATURAL GAS TO AMMONIA – ADVANTAGES 2

H_2 SEPARATION – PSA OVER METHANATION

- PSA = physical separation
- High purity of H_2, up to 99.9 vol% increasing the efficiency of the ammonia synthesis
- Avoids operational challenges with methanator:
  - Start-up heater requirement
  - H_2O poison to NH_3 catalyst for excess CO, CO_2
  - Mitigation - Additional dryers required
  - Temperature runaway risk

Papers at AIChE Ammonia Safety Symposium

-Methanator temperature runaway results in a fire (Chevron Products, 2022)

-Installation and Start-Up Experiences of Synthesis Gas Dryers in an Existing Ammonia Plant (1984)

NEXTCHEM: NATURAL GAS TO AMMONIA – ADVANTAGES 3

Integrated System – Process And Utilities

Process

Purge gas utilization → increasing the overall efficiency of the plant

Utilities

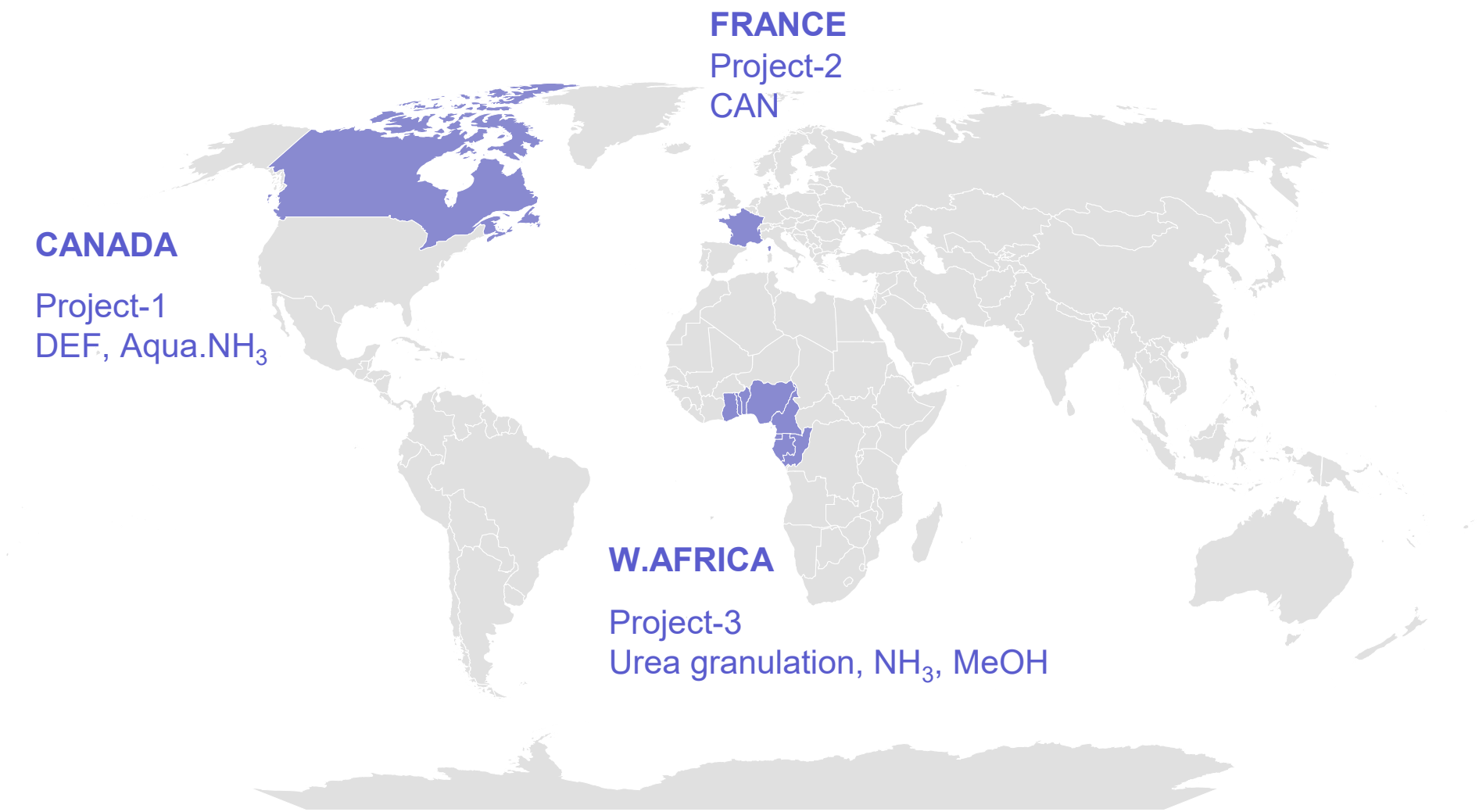
Unified steam system

- Rotary equipment (electricity/turbine)
- Common deaerator

04

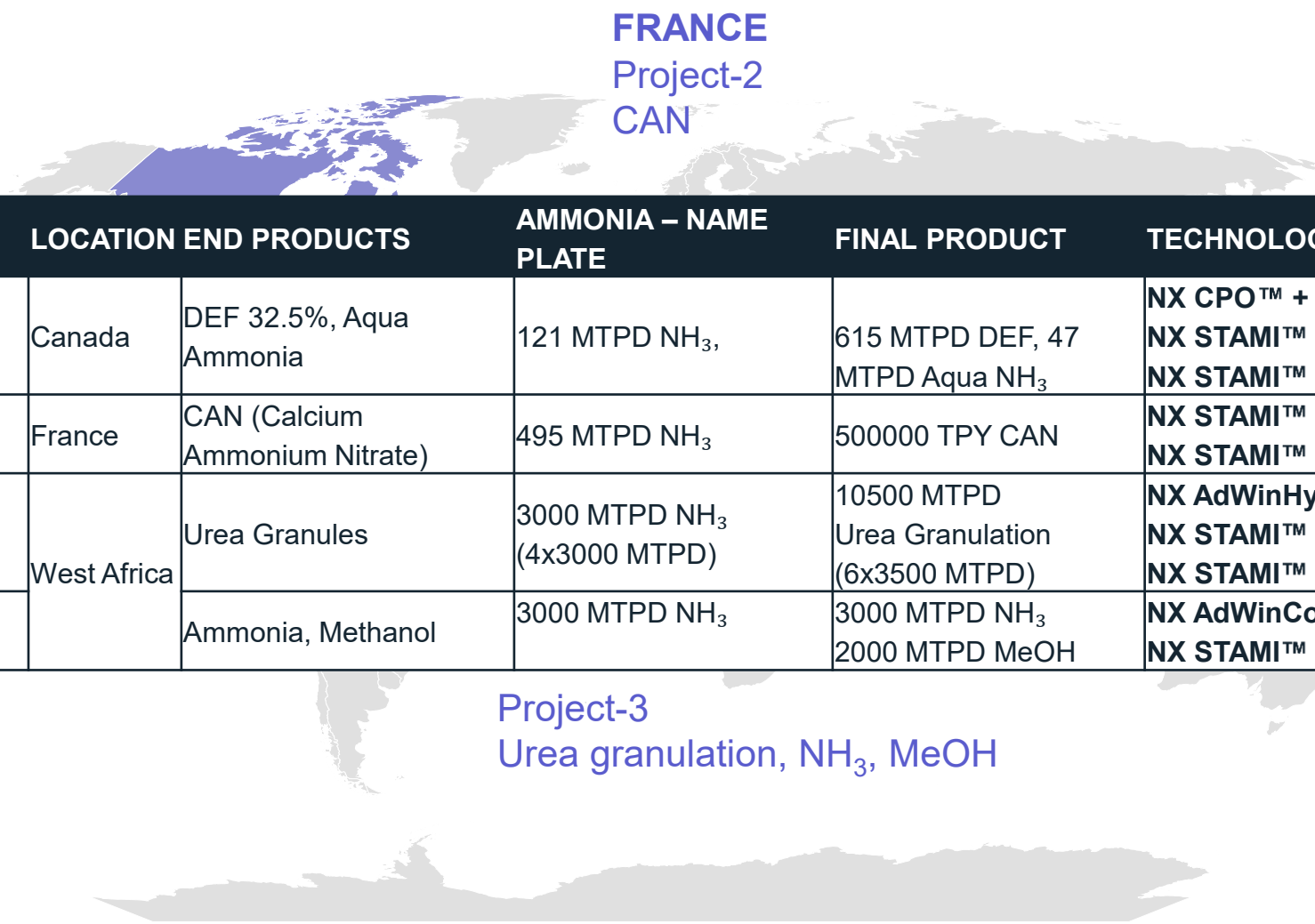
COMMERCIAL PROJECTS – CONFIGURATION, ADVANTAGES

COMMERCIAL PROJECTS AND PRODUCTS



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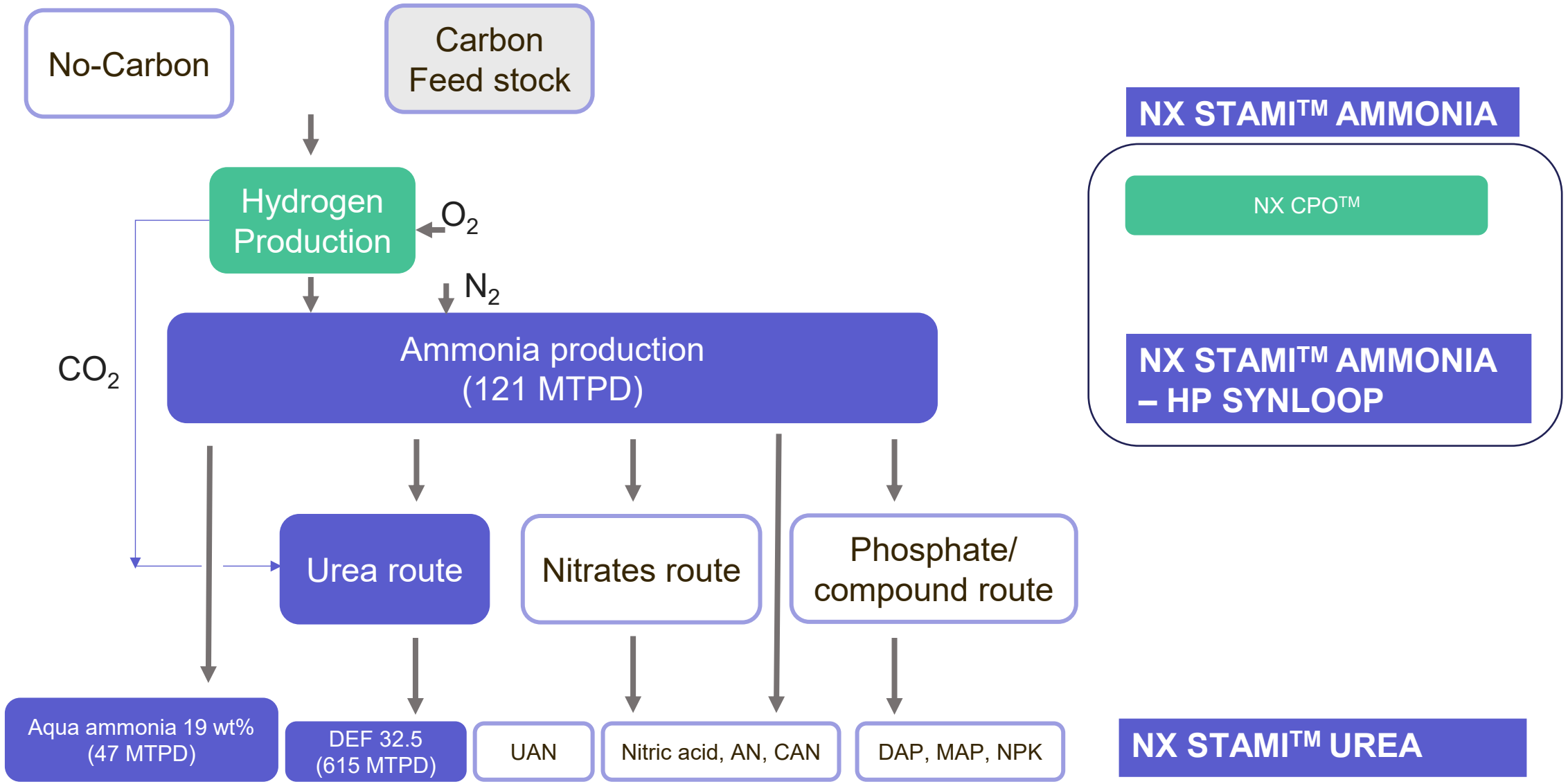
COMMERCIAL PROJECTS AND PRODUCTS



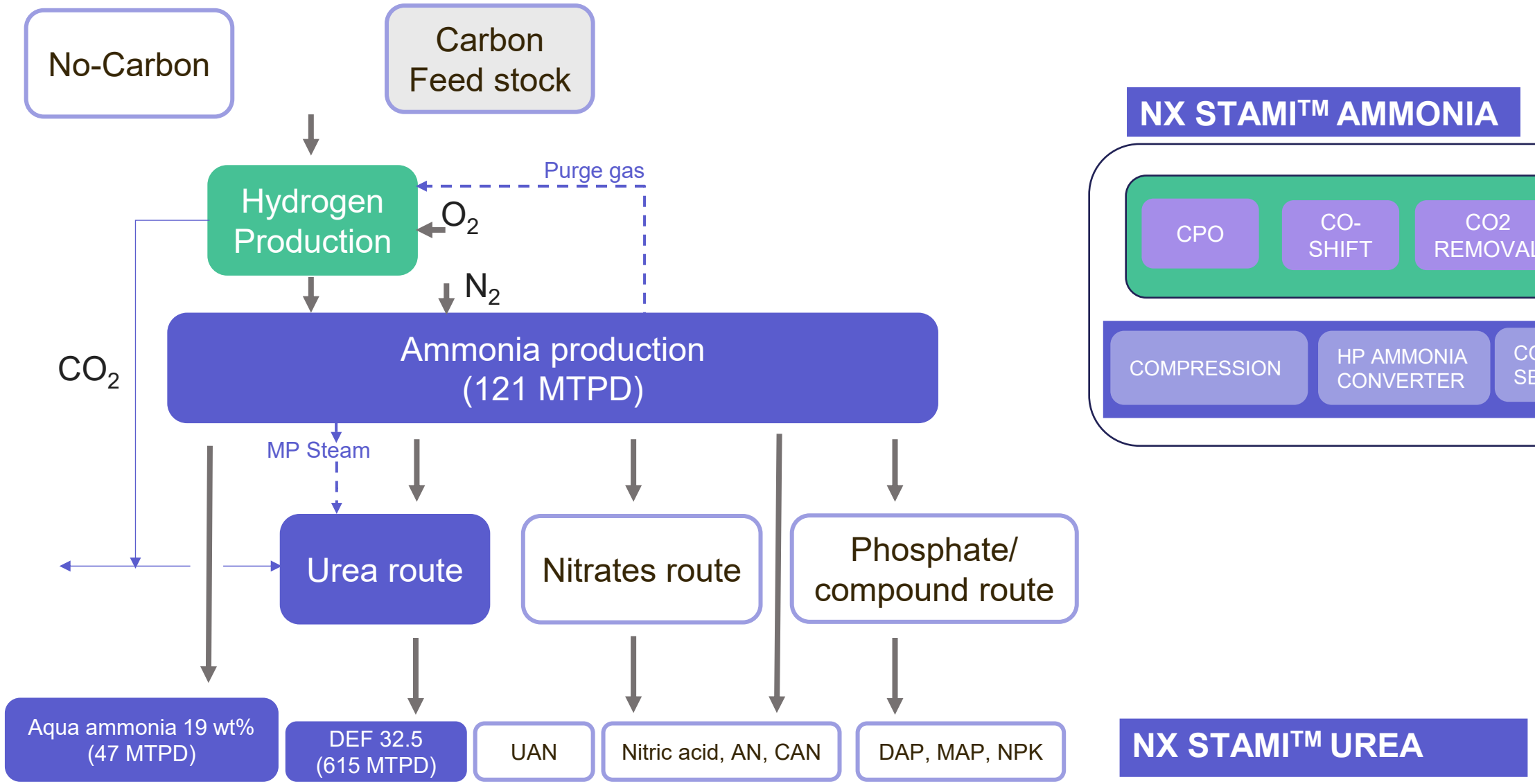
PROJECT	LOCATION	END PRODUCTS	AMMONIA – NAME PLATE	FINAL PRODUCT	TECHNOLOGY ROUTE
Project 1 – DEF Production	Canada	DEF 32.5%, Aqua Ammonia	121 MTPD NH_3,	615 MTPD DEF, 47 MTPD Aqua NH_3	**NX CPO™ + NX STAMI™ Ammonia HP Synloop + NX STAMI™ Urea**
Project 2 – CAN Production	France	CAN (Calcium Ammonium Nitrate)	495 MTPD NH_3	500000 TPY CAN	**NX STAMI™ Ammonia HP Synloop + NX STAMI™ Nitrates**
Project 3 – Integrated Ammonia-Urea Complex	West Africa	Urea Granules	3000 MTPD NH_3 (4x3000 MTPD)	10500 MTPD Urea Granulation (6x3500 MTPD)	**NX AdWinHydrogen® (ATR) + NX STAMI™ Ammonia MP Synloop + NX STAMI™ Urea**
		Ammonia, Methanol	3000 MTPD NH_3	3000 MTPD NH_3 2000 MTPD MeOH	**NX AdWinCombined® (ATR) + NX STAMI™ Ammonia MP Synloop**

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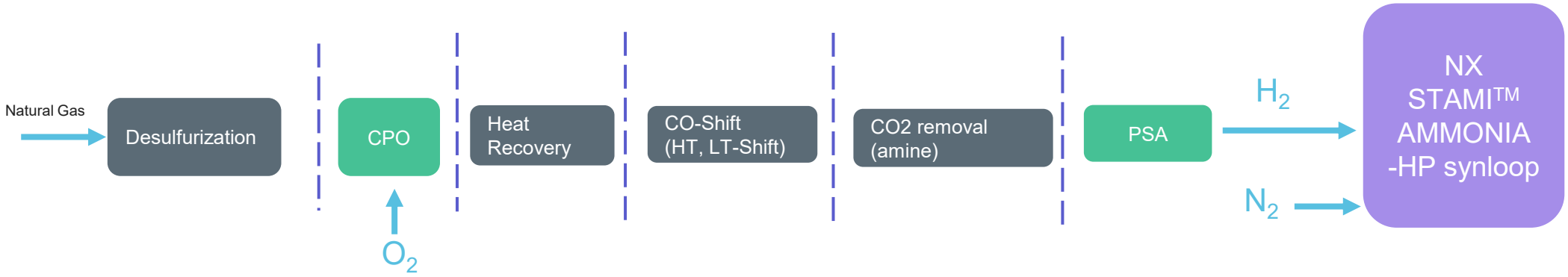
PROJECT -1 – PRODUCTION OF DEF



PROJECT -1 – PRODUCTION OF DEF

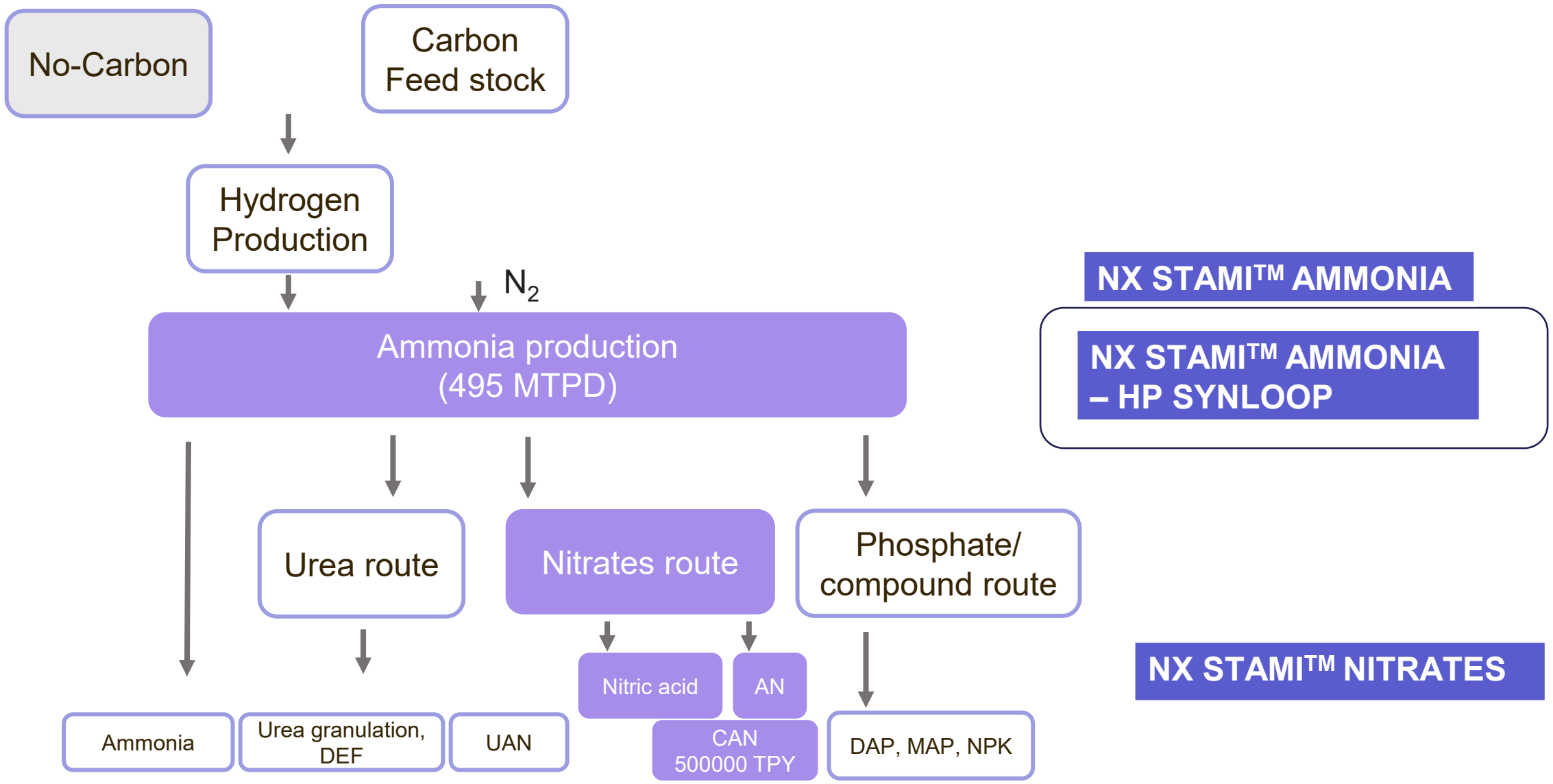


PROJECT -1 – PRODUCTION OF DEF - ADVANTAGES



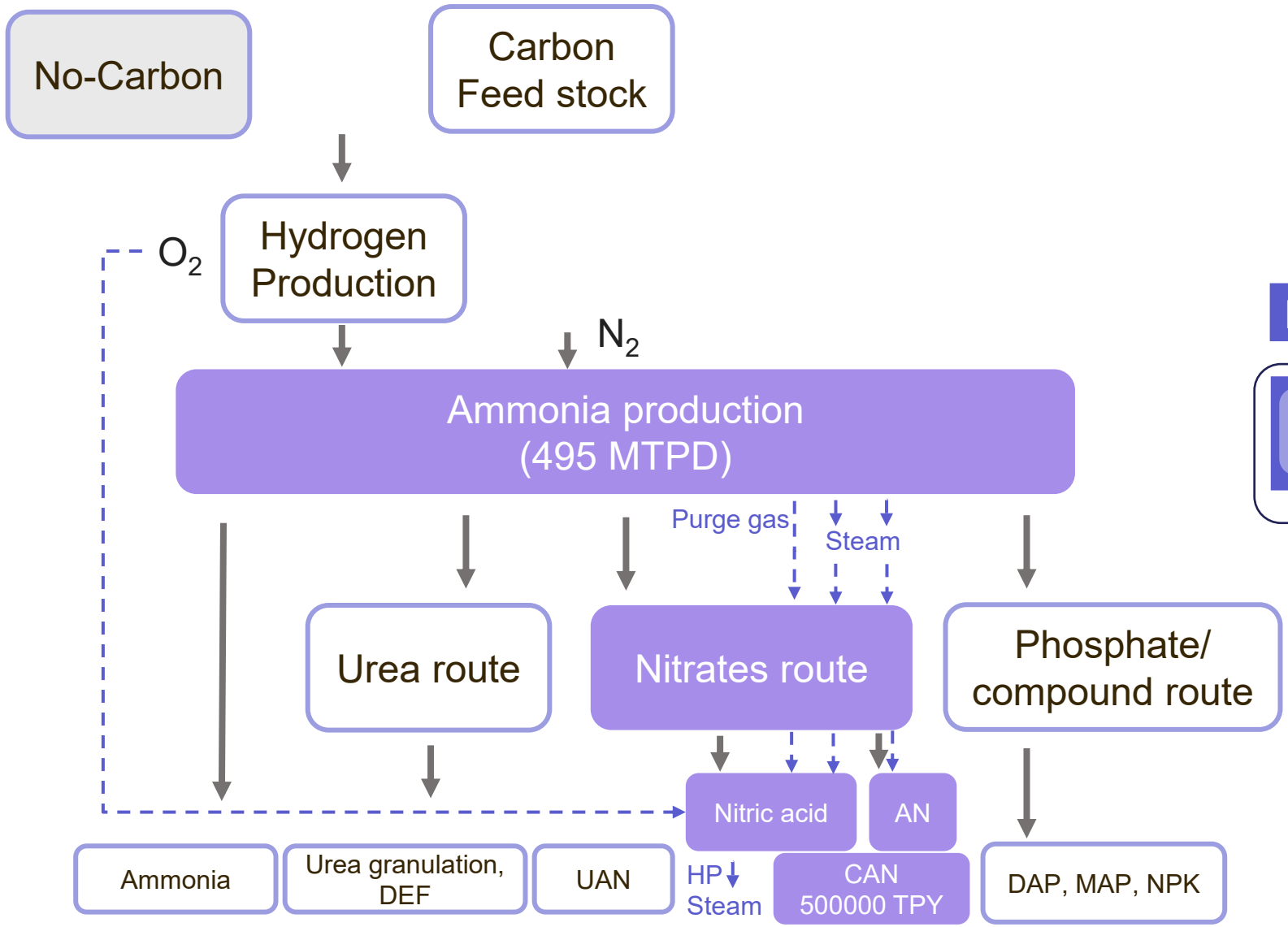
Units	Advantages	Target
NX CPO™	-No 'external burner' required for catalytic partial oxidation (CPO) -CO2 captures in precombustion step as required by Urea. Reduced CO2 footprint -PSA: (a) No methanation-dryer required (b) High purity H2 up to 99.9 mol% (c) reuse of PSA tail gas → reduced NG consumption	CAPEX OPEX CAPEX/ OPEX
NX Stami™ Ammonia HP synloop	-HP Ammonia Converter offers ~32% single pass H2 conversion -Overall H2 efficiency up to 99.5% -High pressure synloop: Lean design, min. Equipment, small footprint, low CAPEX	OPEX OPEX CAPEX
Integration – process	-Purge gas integration	OPEX
Integration - Utility	-Self-sufficient steam production across HPU, ammonia, urea	OPEX
Overall	-Competitive overall Gcal/ton	OPEX

PROJECT -2 – PRODUCTION OF CAN



PROJECT -2 – PRODUCTION OF CAN

FertigHy



NX STAMI™ AMMONIA-HP SYNLOOP

COMPRESSION | HP AMMONIA CONVERTER | CONDENSATION-SEPARATION

NX STAMI™ NITRATES

PROJECT -2 – PRODUCTION OF CAN - ADVANTAGES

INTEGRATED SYSTEM – PROCESS AND UTILITIES

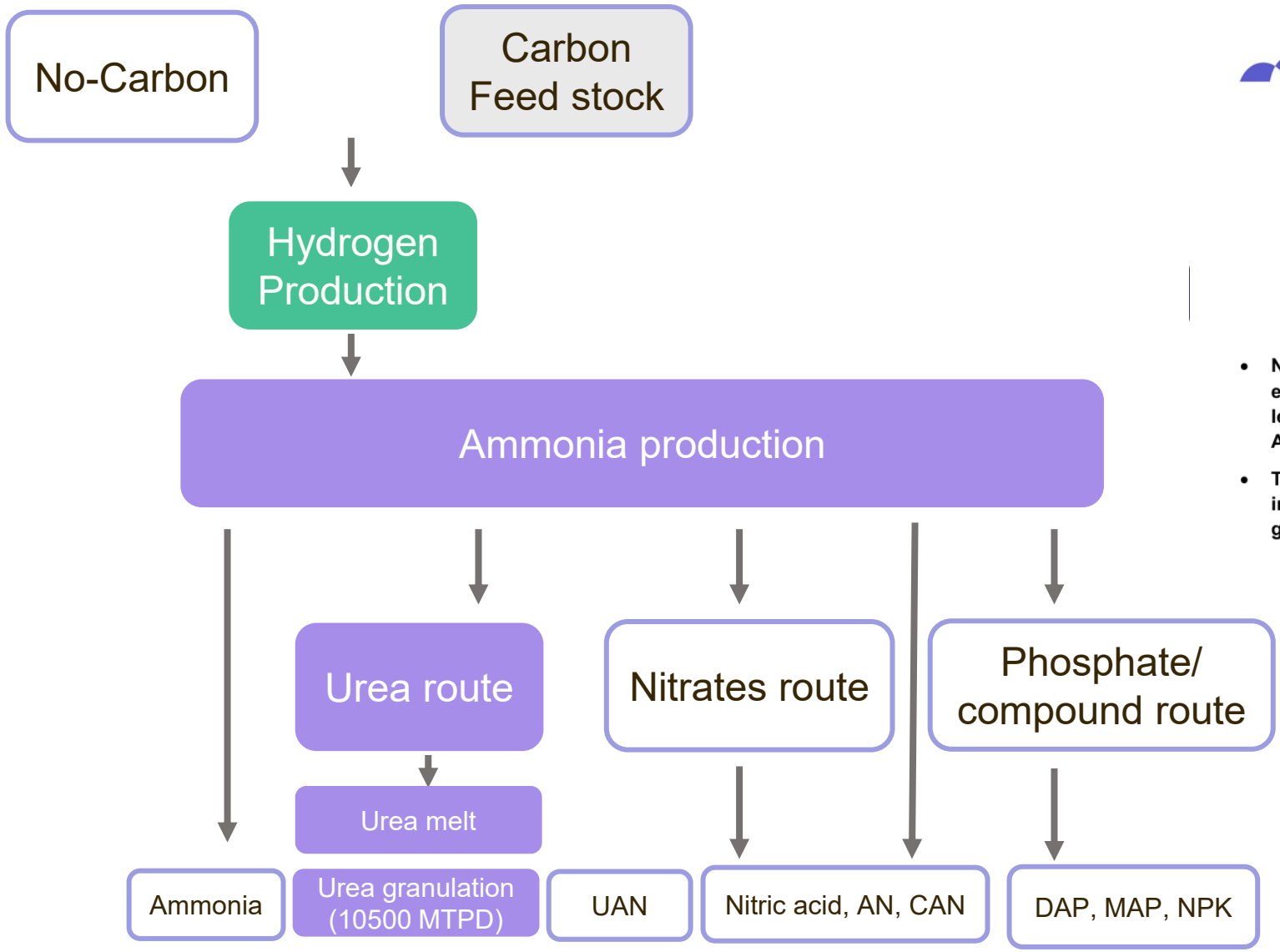
Process

- Purge gas from ammonia synloop to nitric acid.
  - No need of purge gas absorber and ancillary equipment → CAPEX-OPEX advantage
- O2 integration from electrolyser to nitric acid.

Utilities

- LP and LLP steam integration from ammonia synloop to downstream units
- Maximizing HP steam export for power generation

PROJECT -3 – PRODUCTION OF UREA – WEST AFRICA



MAIRE

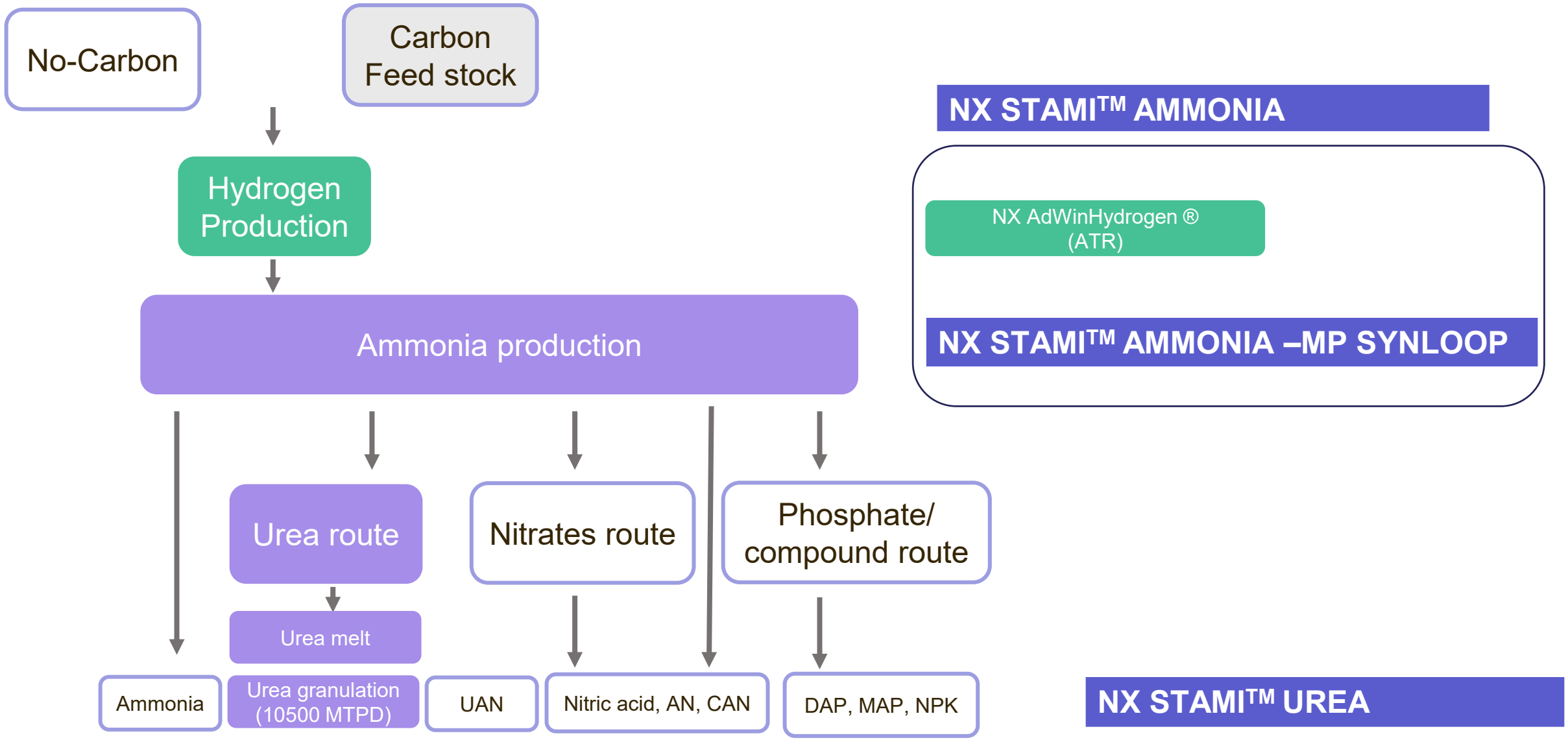
PRESS RELEASE - No. 13
04/03/26

NEXTCHEM (MAIRE) AWARDED €485 MILLION CONTRACT FOR LICENSING, PDP AND CRITICAL PROPRIETARY EQUIPMENT BASED ON ITS PROPRIETARY HYDROGEN, AMMONIA, UREA, AND METHANOL TECHNOLOGIES FOR THREE WORLD-SCALE COMPLEXES IN WEST AFRICA

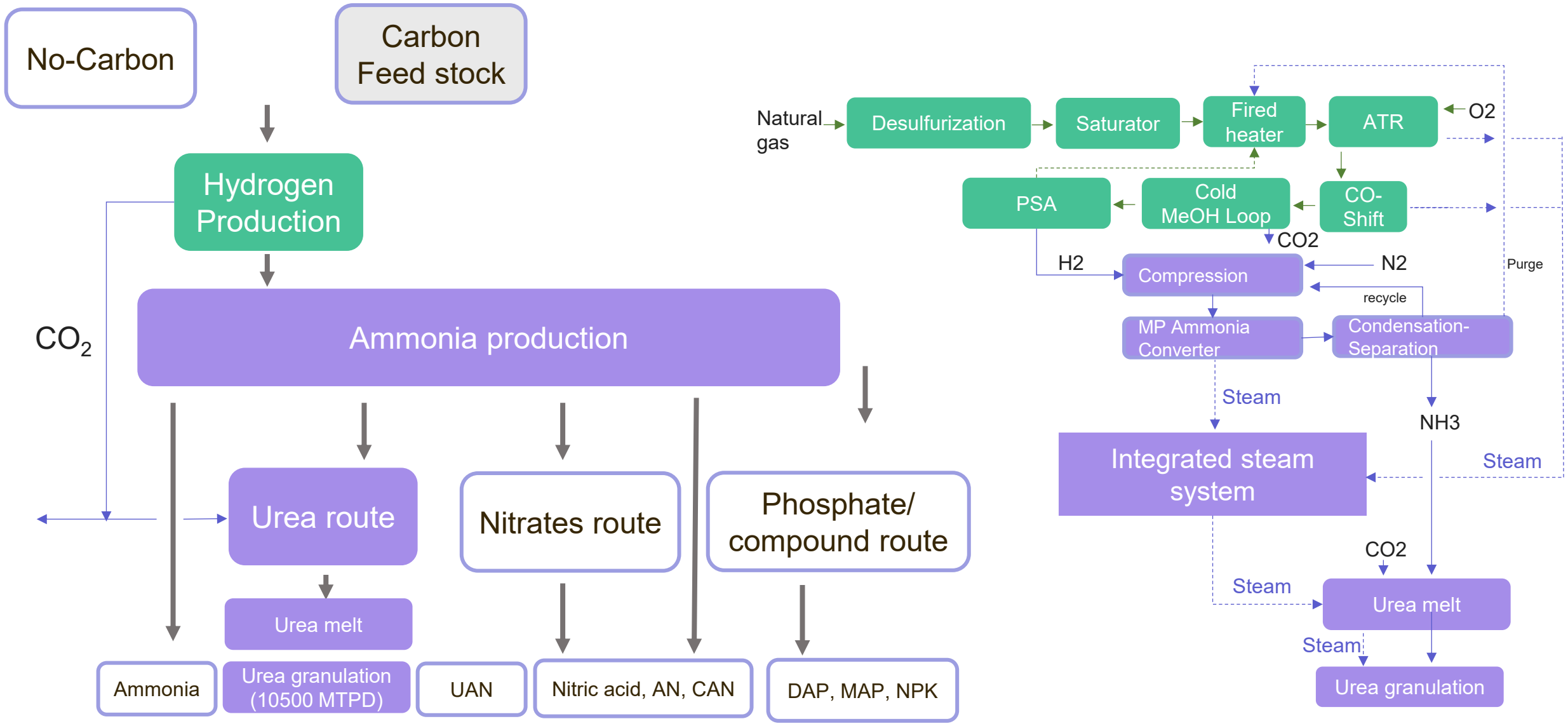
- **NEXTCHEM will provide licensing, process design packages (PDP) and critical equipment supply for three world-scale plants for nitrogen fertilizers in West Africa, leveraging its NX AdWinHydrogen®, NX AdWin® Combined, NX STAMI™ Ammonia, AND NX STAMI™ Urea technologies**
- **The overall project scope includes five hydrogen units, five ammonia units, including one ammonia-methanol co-production unit, four urea melt and six urea granulation units, across multiple production lines in three distinct locations**

Plant 1	Plant 2	Plant 3
10500 MTPD Urea granulation	10500 MTPD Urea granulation	3000 MTPD NH3 2000 MTPD MeOH

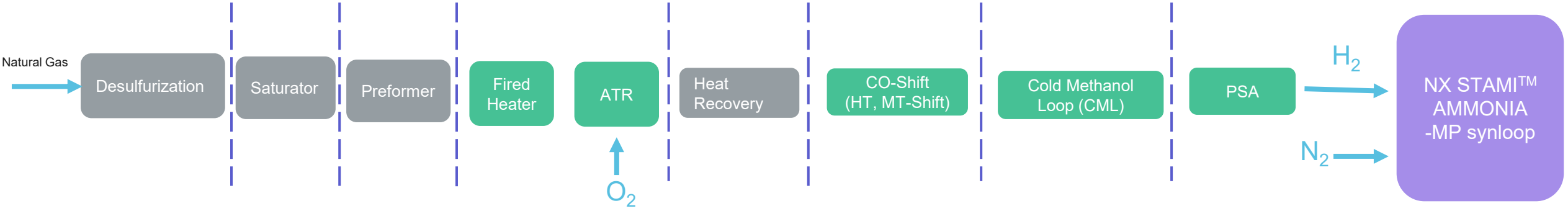
PROJECT -3 – PRODUCTION OF AMMONIA, UREA



PROJECT -3 – PRODUCTION OF AMMONIA, UREA



PROJECT -3 – PRODUCTION OF AMMONIA, UREA



Units	Advantages	Target
NX AdWinHydrogen®	-No air in process; reduced equipment size downstream of reforming -Smaller equipment size due to high pressure (>60 bara) -No expensive LT-Shift catalyst required -PSA: (a) No methanation-dryer required (b) High purity H2 > 99.9 mol% -CML: (a) No proprietary solvent (b) Up to 40% less solvent circulation	CAPEX CAPEX CAPEX CAPEX OPEX
NX Stami™ Ammonia MP synloop	-H_2 and N_2 available at 55 bara; reduces compression duty by ~46% (kWh/ton)* -MP Ammonia Converter offers ~32% single pass H2 conversion; min ΔP -Overall H_2 efficiency > 99.5%	OPEX OPEX
Integration – process	-Purge gas integration	OPEX
Integration - Utility	-Integrated steam system; all major rotating equipment driven by steam	OPEX
Overall	-Competitive overall Gcal/ton	OPEX

**For Syngas compressor, compared to H_2, N_2 available at 21 bara*

05

LIFE CYCLE SUPPORT

LIFE CYCLE SUPPORT - AMMONIA

WE HELP YOU THROUGHOUT THE ENTIRE LIFE CYCLE OF YOUR PLANT:



LIFE CYCLE SUPPORT - AMMONIA

WE HELP YOU THROUGHOUT THE ENTIRE LIFE CYCLE OF YOUR PLANT:



LAUNCH™

Launch a new plant, with all the technologies, products, and services needed for successful, sustainable ammonia production

ADVANCE™

- Plant inspections
- Mechanical services
- Lifetime assessment
- Plant staff training
- Troubleshooting

EVOLVE™

- **EVOLVE CAPACITY™**: increasing your plant output
- **EVOLVE EMISSION™**: reducing emissions according to international standards
- **EVOLVE ENERGY™**: minimize energy consumption

AMMONIA CONVERTER BASKET REPLACEMENT

Technology Licensor

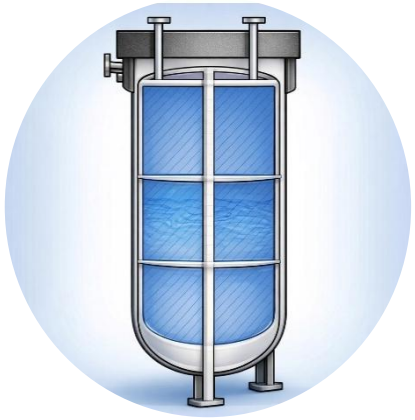
Process optimization and simulation expertise

Equipment Specialist

Basket design, fabrication and quality assurance

Services Provider

Installation support, commissioning, and performance validation



11
Proven References

Up to 28%
Production Increase

06

CONCLUSION

NEXTCHEM: ONE STOP SHOP

INTEGRATED FERTILIZER COMPLEX – FROM HYDROGEN PRODUCTION TO AMMONIA AND DOWNSTREAM FERTILIZERS

Integrated project, Simplified interface

- Single point of contact for project execution
- Single contract
- Overall guarantee offered
- Tailored solution offered
- Full life cycle support



Stamicarbon B.V.

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AMMONIA SOLUTIONS

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