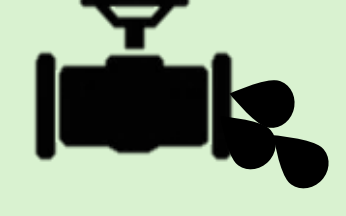


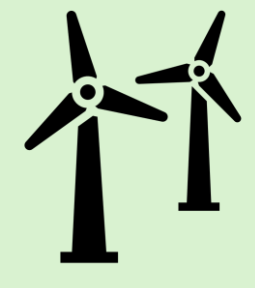
# Designing a Plant for Green Ammonia Production



## Goals:



64 tpd  
Green  
Ammonia



Utilize  
local  
renewable  
energy



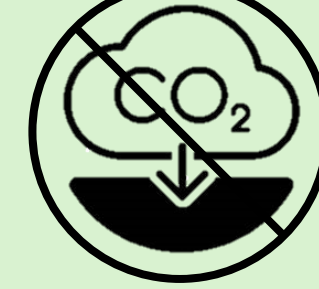
Utilize  
produced  
Ammonia



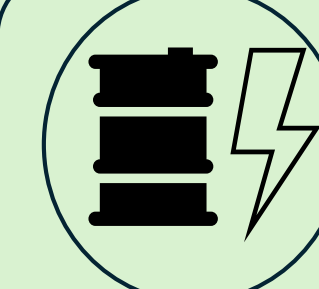
## Green Ammonia:



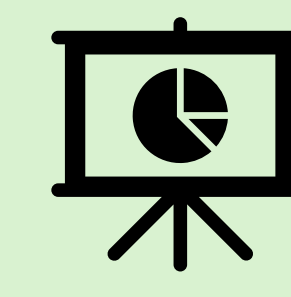
Zero  
Emissions



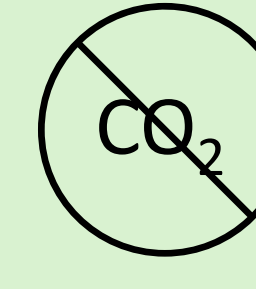
No CO<sub>2</sub>  
Capture  
unlike  
"blue"



Both Fuel  
and  
Feedstock



## Results:

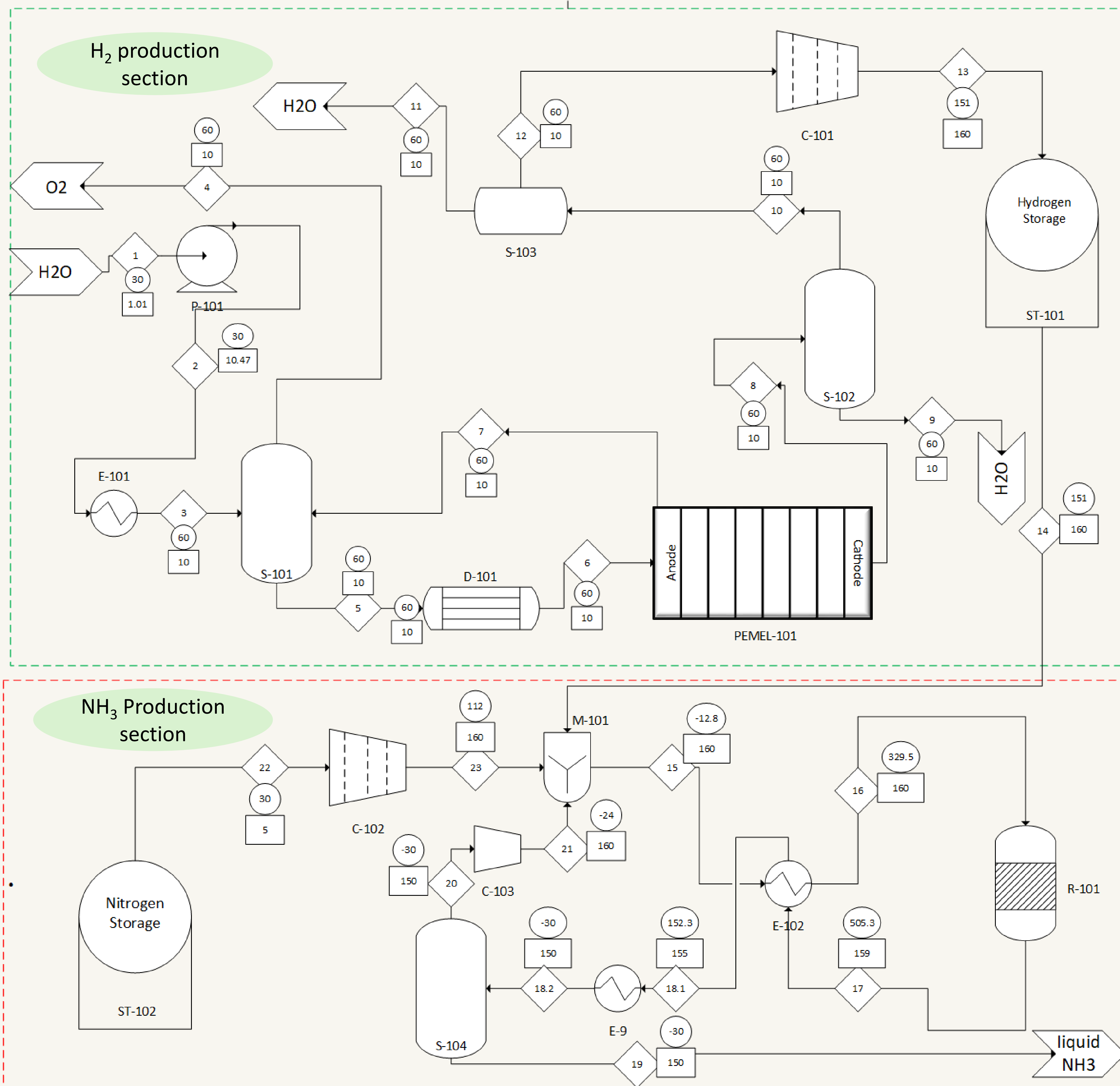


Offsetting  
86k-tonne  
CO<sub>2</sub> (base  
SMR)

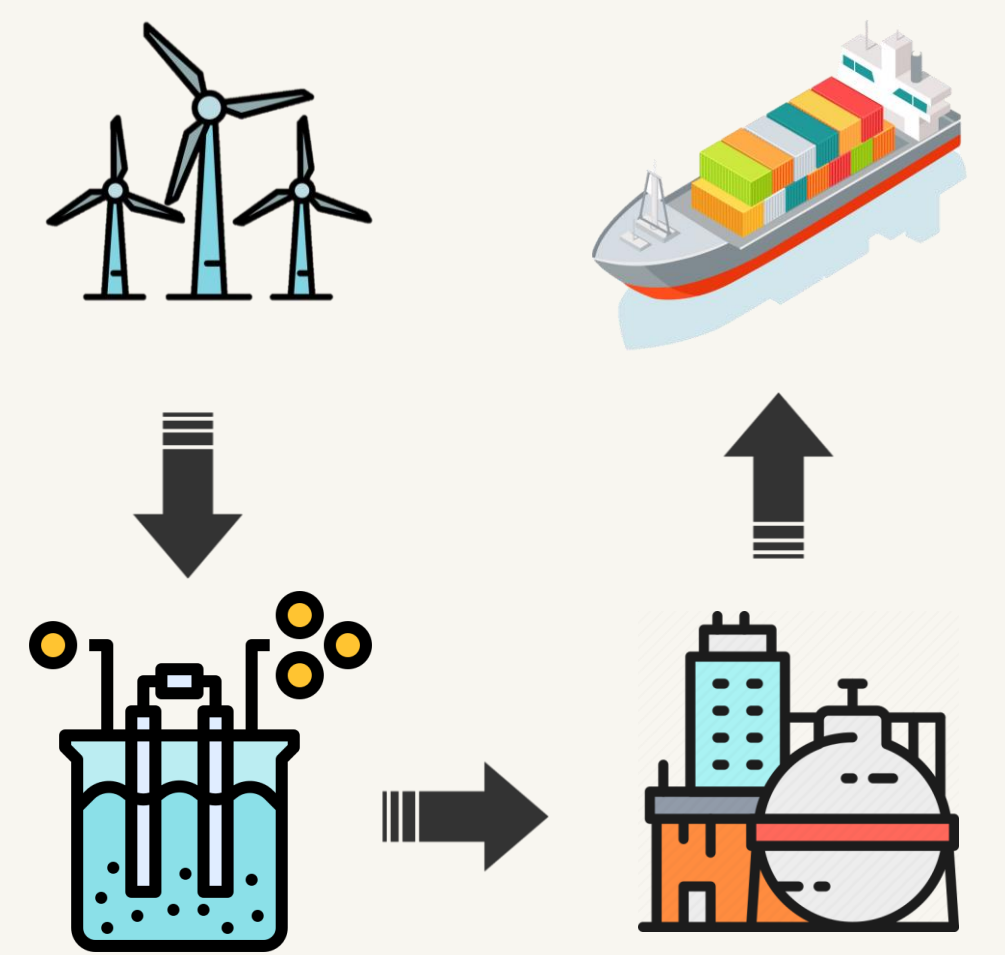


Gaining  
63M \$/Y

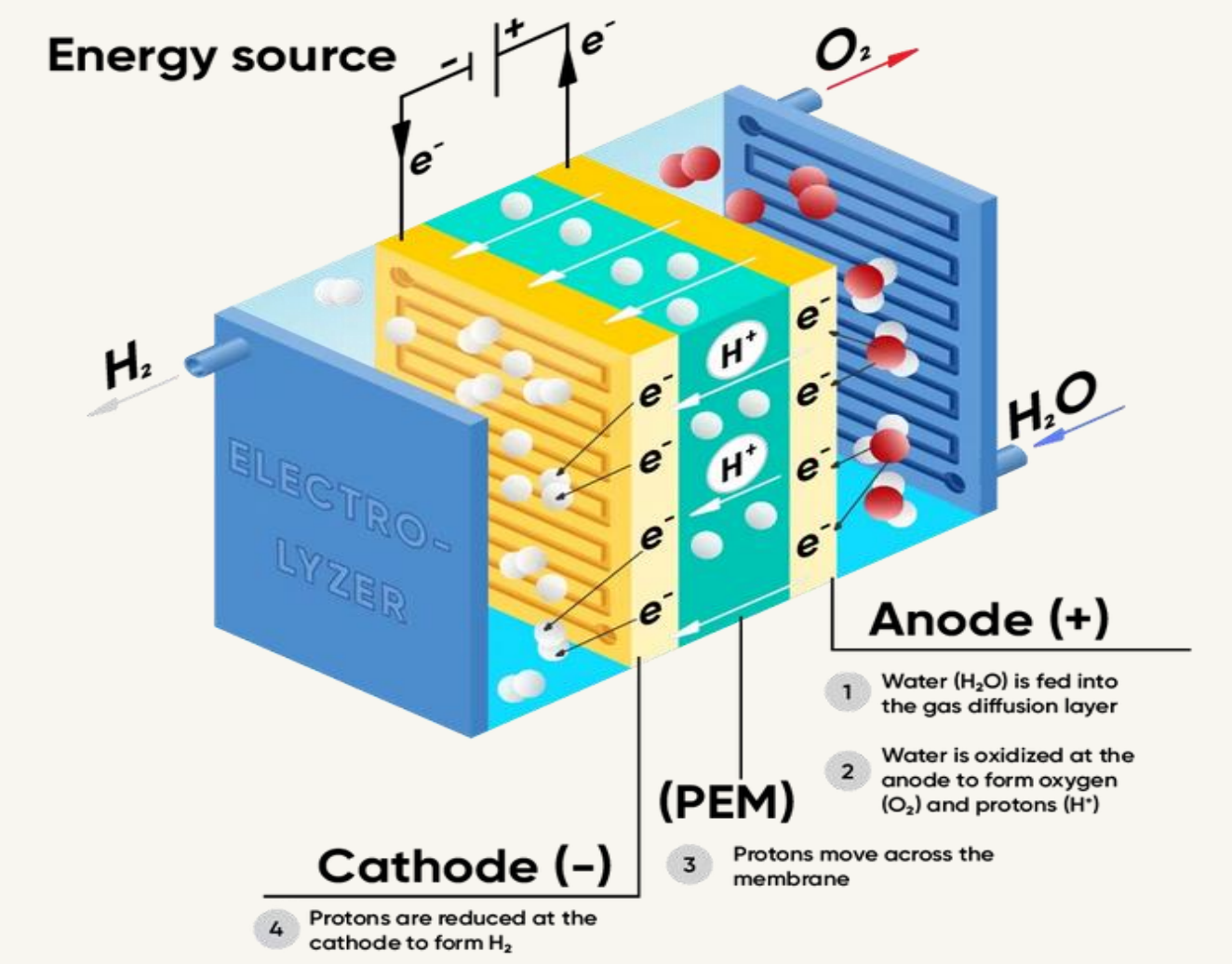
## Flowsheet



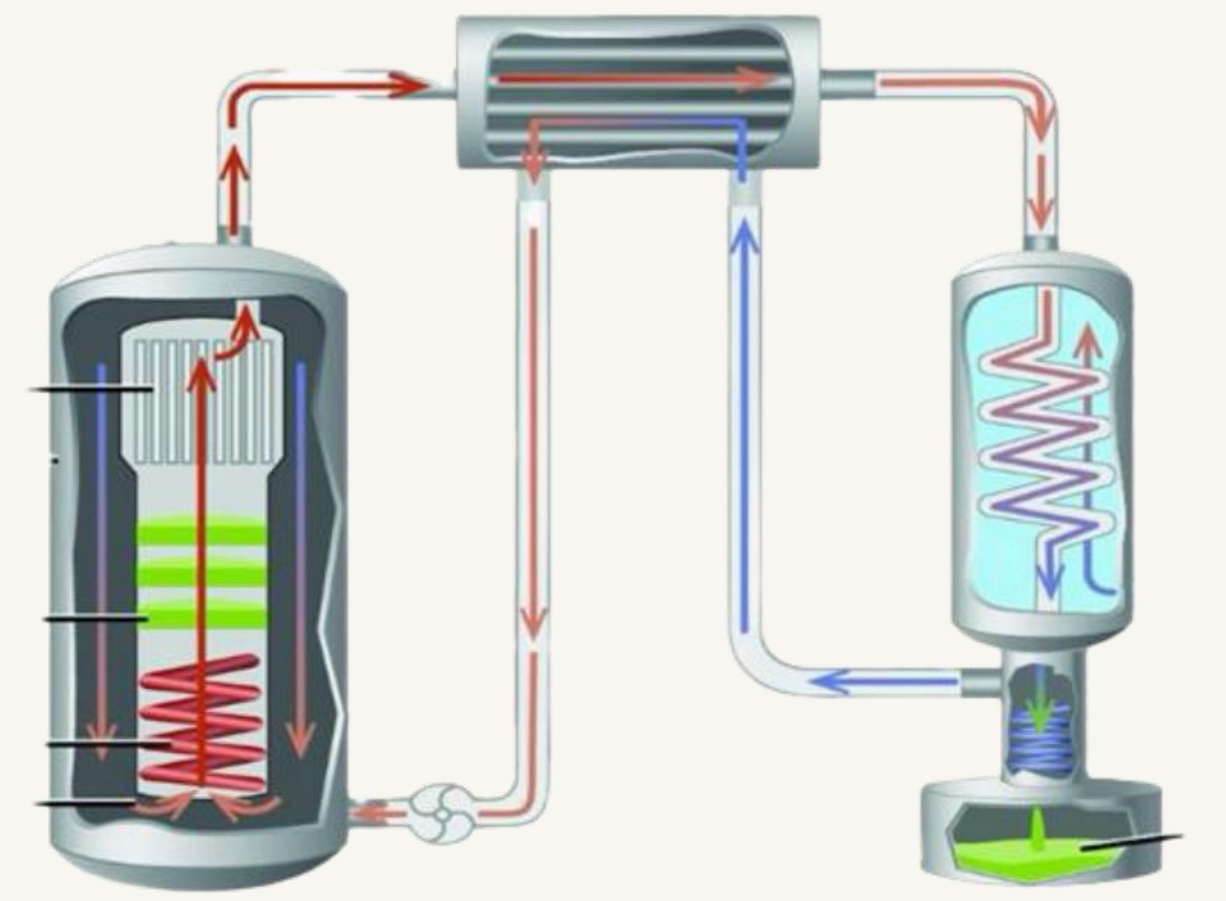
## Hydrogen to Ammonia for global shipping.



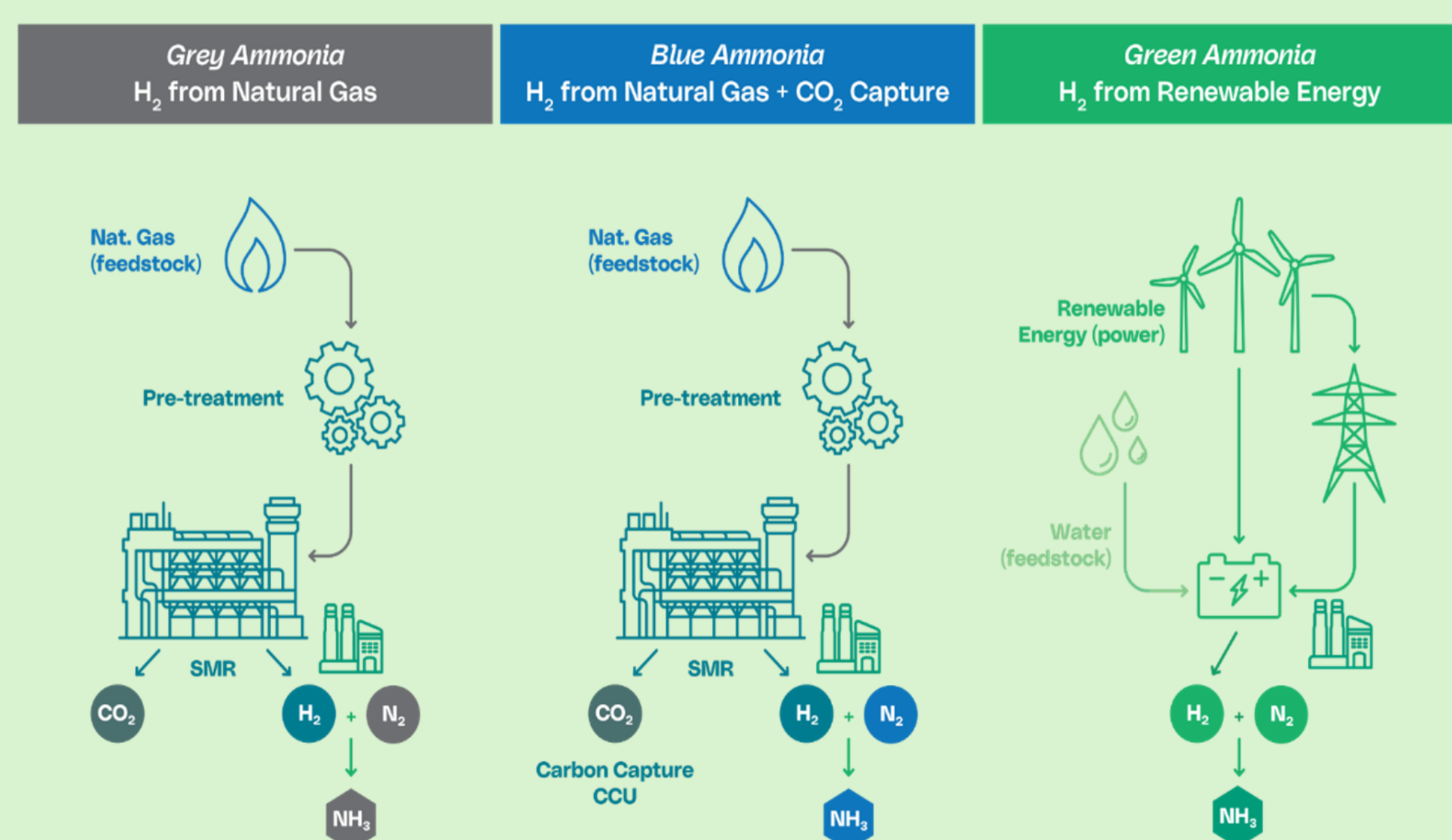
## PEMEL to produce Hydrogen from water and electricity.



## Haber-Bosch process to produce liquid Ammonia



## Types of Ammonia:



## Levelized Cost of Ammonia (LCOA):

**3 \$/kg**

Represent the average cost to produce 1 kg of Ammonia over the project lifetime, it includes both capital and variable costs.

## Economical Analysis:

