

# Renewable Ammonia Markets/Policies Building Renewable Ammonia Certificate Markets

Benjamin L. Gerber CEO, M-RETS May 6, 2021



M-RETS creates and tracks Renewable Thermal Certificates (RTCs) and Renewable Electricity Certificates (RECs) across North America.



M-RETS RECs are able to contain hourly data information and peak/off-peak and RTC's may include verified carbon intensity data.

M-RETS supports RTC and REC compliance and voluntary markets in one easy to use platform that utilizes the latest software.

## Agenda

- M-RETS Background
- Why an ammonia certificate market/tracking system?
- Certificate Structure/Lifecycle
- Market Considerations, Complications, Metrics



## Why use a certificate tracking system?

# The goal is Simplicity & efficiency for all parties

#### Generate.

Streamline credit management and prevent double counting and provide the opportunity to include scientifically validated carbon values to facilitate GHG reduction claims

#### Compliance.

Provide regulators with an independent, easy to use, and reliable source to verify compliance

#### Liquidity.

Provide a mechanism to manage holdings, effectuate transactions, and maintain claims



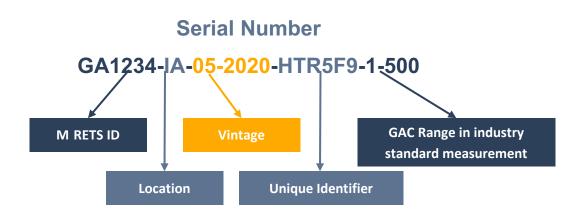
### **Green Ammonia Certificate Example Structure**

1 Tonne of Renewable Ammonia 1 Green Ammonia Certificate ("GAC")

Certificate Details include:

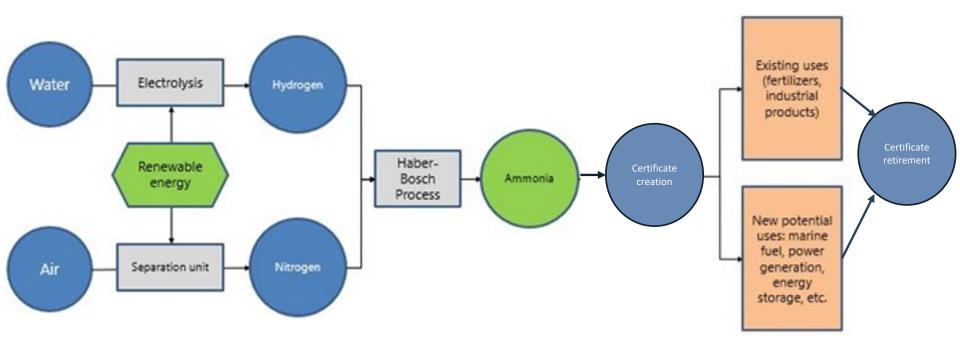
- Serial Number (See example)
- Account
- Project
- Feedstock (solar/wind/nuclear/hydro/etc.)
- Vintage (date of creation or injection)
- Location (generator or pipeline injection)
- Eligibility (If Applicable)
- Quantity (tonne?

Carbon Pathways (If Applicable) IRE Verification (If Applicable)





## **Renewable Ammonia Certificate Lifecycle**

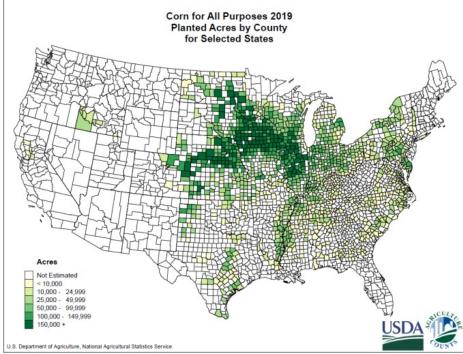




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## **North American Market**

<figure>

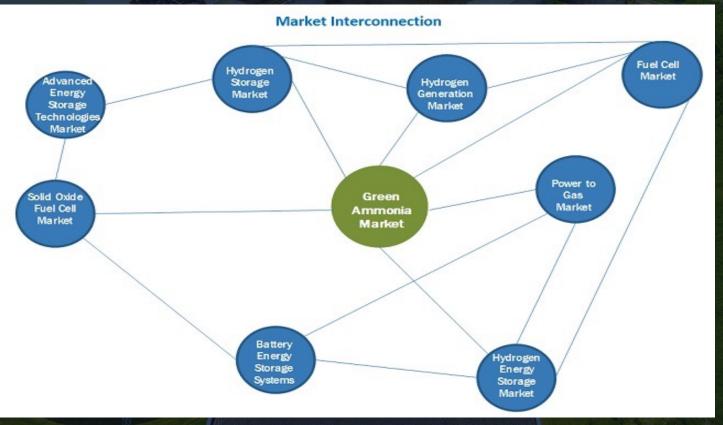


US wind resource is synergistic with Midwest corn production and nitrogen fertilizer demand – inherently distributed



## **Important Metrics/Considerations**

- First North American commercial deliveries likely in 2023-2024
- Volume Short tons in rural areas but global market is metric tons
  Data quality and regulation





https://www.marketsandmarkets.com/Market-Reports/green-ammonia-market-118396942.html



# THANK YOU

Contact: ben@mrets.org