Renewable Ammonia Markets/Policies
Building Renewable Ammonia Certificate Markets

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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)

Serial Number
GA1234-IA-05-2020-HTR5F9-1-500

M RETS ID
Vintage
GAC Range in industry standard measurement
Location
Unique Identifier
Renewable Ammonia Certificate Lifecycle

[Diagram showing the lifecycle of renewable ammonia from water, electrolysis, hydrogen, separation unit, nitrogen, Haber-Bosch process, ammonia, certificate creation, and certificate retirement.]

North American Market

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

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