



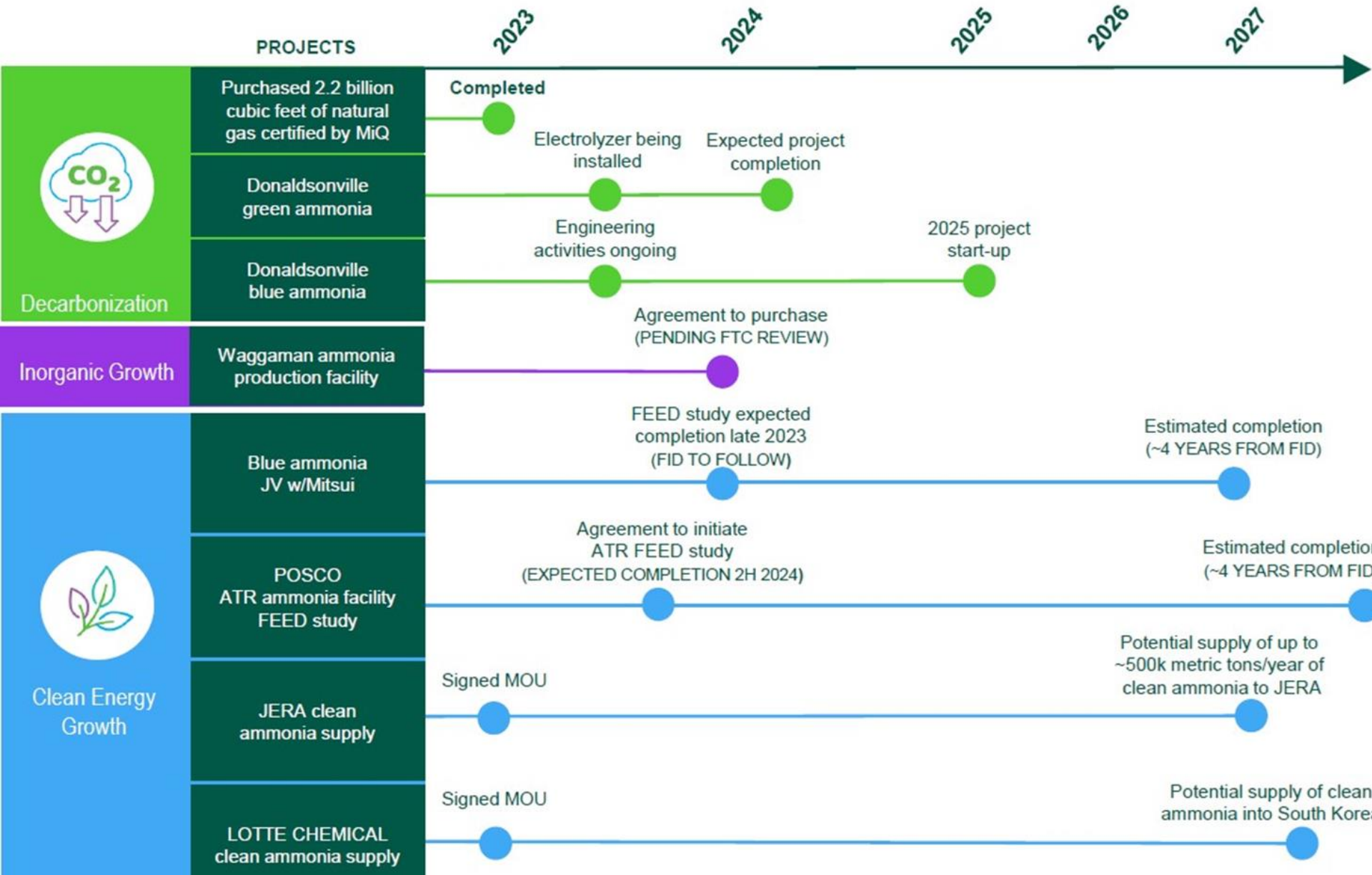
# Certification for Data not Labels

Linda Dempsey, Vice  
President, Public Affairs



# CF Industries

*With a mission to provide clean energy to feed and fuel the world sustainably*



**Who we are**

*Leading global manufacturer of hydrogen and nitrogen products for clean energy, emissions abatement, fertilizer, and other industrial applications*

# U.S. 45V Tax Credit for Clean Hydrogen Production

*Credit value tiered based on the qualifying clean hydrogen's lifecycle greenhouse gas (GHG) emission rate*

## 45V Credit Value

Kg of CO <sub>2</sub> per kg of H <sub>2</sub>	Credit Value (\$/kg of H <sub>2</sub> )
4-2.5 kg CO <sub>2</sub>	\$0.60
2.5-1.5 kg CO <sub>2</sub>	\$0.75
1.5-0.45 kg CO <sub>2</sub>	\$1.00
<0.45 kg CO <sub>2</sub>	\$3.00

- ▶ **Carbon Intensity Calculation Methodology** based on Argonne National Laboratory's GREET<sup>1</sup> model to calculate the "lifecycle greenhouse gas emissions" of clean hydrogen
- ▶ **Lifecycle Assessment Boundary** "only include emissions through the point of production (well-to-gate)" as determined under the GREET model
- ▶ **Full value of credit** requires compliance with *prevailing wage rate and apprenticeship requirements*, otherwise credit values reduced by 80%

<sup>1</sup> GREET - Greenhouse gases, Regulated Emissions, and Energy use in Transportation

## Guidance expected by year end on further methodological details

- ▶ Key issues include the following related to clean electricity accounting, including:
  - **Temporal Matching.** The timeframe in which renewable power used in clean hydrogen production must be matched to its source (hourly vs. annual)
  - **Additionality.** The permissibility of allowing existing renewable energy assets to be used in clean hydrogen production, or whether only new renewable sources may be used
  - **Deliverability.** The extent to which renewable power supply must be in the same geographic area as the clean hydrogen production facility

# Producer Perspective: Data Needs Are Significant, Growing, and Varied

Data demands come from multiple sources for different purposes

## ▶ *Internal*

- Multiple processes within plants, multiple plants with different processes

## ▶ *Sustainability reporting*

- Little definition of reporting methodology (at least in U.S.), but expected to grow in specificity

## ▶ *Government requirements*

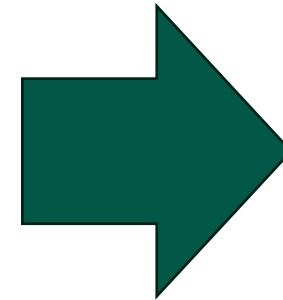
- Specific and differential data requirements in reporting and support schemes

## ▶ *Customers requirements*

- Continuing to be defined, with differences likely for in agriculture, fuel, hydrogen carrier and other purposes

## ▶ *Stakeholder requirements*

- Continuing to be defined, but strong emphasis on transparency and rigor of the data



- ▶ Cover all permutations
- ▶ Allow for apple-to-apple comparisons
- ▶ Recognized and accepted internationally
- ▶ Fit for multiple purposes
- ▶ Credibility