

[Union of
Concerned Scientists

Diversity & Flexibility Key to Sustainability

David Babson, Ph.D.

Senior Engineer

Union of Concerned Scientists

Biofuels Pathways are Diverse

- General perception of biofuels are limited to corn ethanol and soybean biodiesel

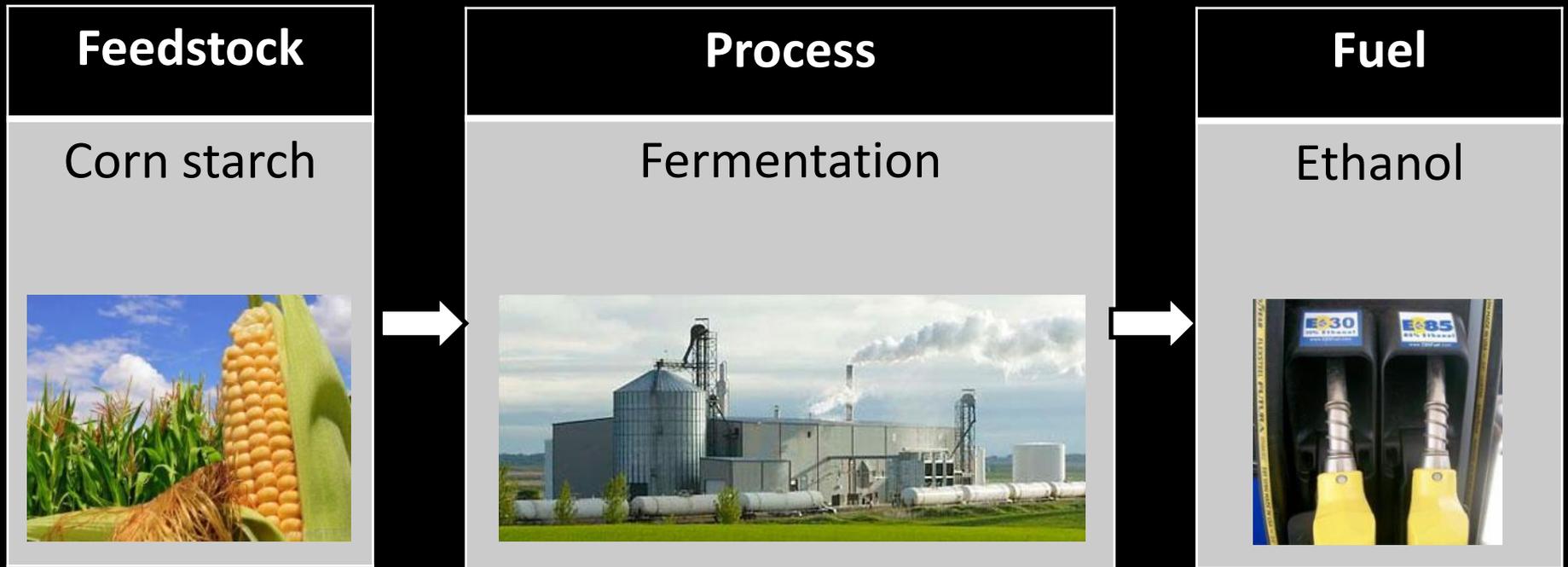
Biofuels Pathways are Diverse

- General perception of biofuels are limited to corn ethanol and soybean biodiesel
- Biofuels are important and they are so much more than corn ethanol and soybean biodiesel

Biofuels Pathways are Diverse

- General perception of biofuels are limited to corn ethanol and soybean biodiesel
- Biofuels are important and they are so much more than corn ethanol and soybean biodiesel
- Acknowledging biofuel diversity and evolving technology has important implications

The Traditional Biofuel Paradigm



The Traditional Biofuel Paradigm

Feedstock

~~Corn starch~~
Corn stover



Process

Fermentation



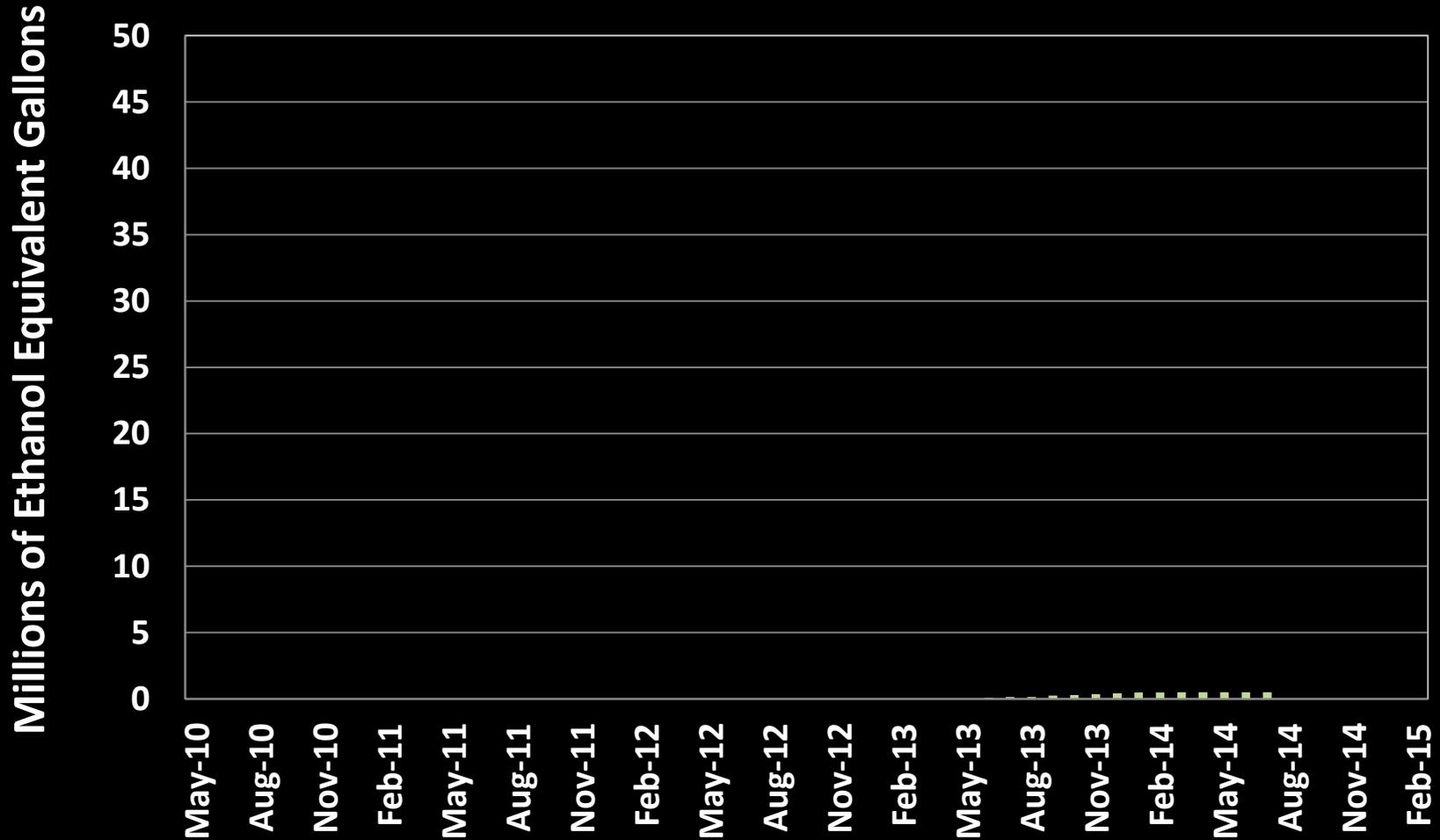
Fuel

Ethanol



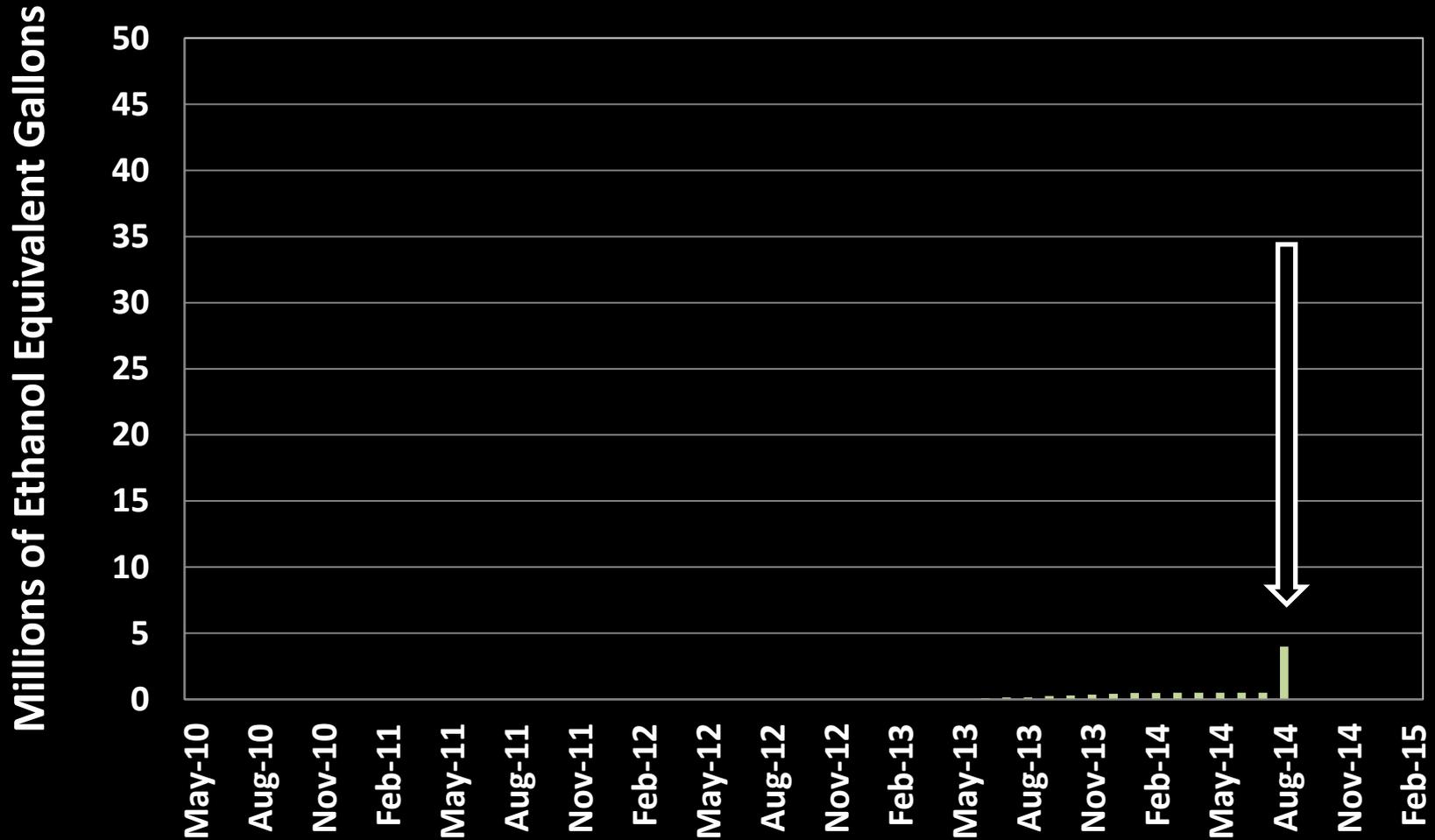
Cellulosics: The non-food fuels

Cumulative Cellulosic Biofuel Produced



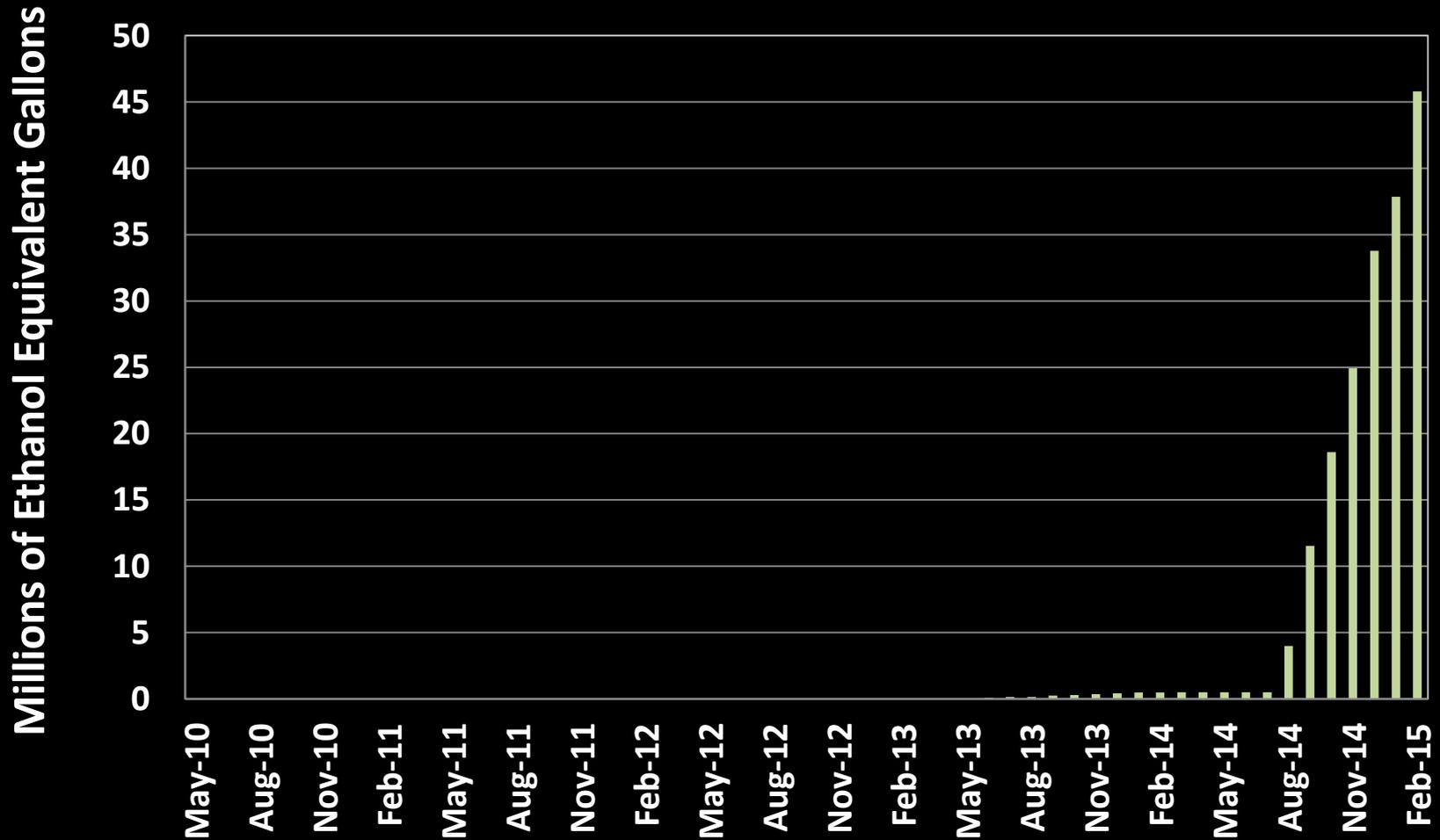
Cellulosics: The non-food fuels

Cumulative Cellulosic Biofuel Produced

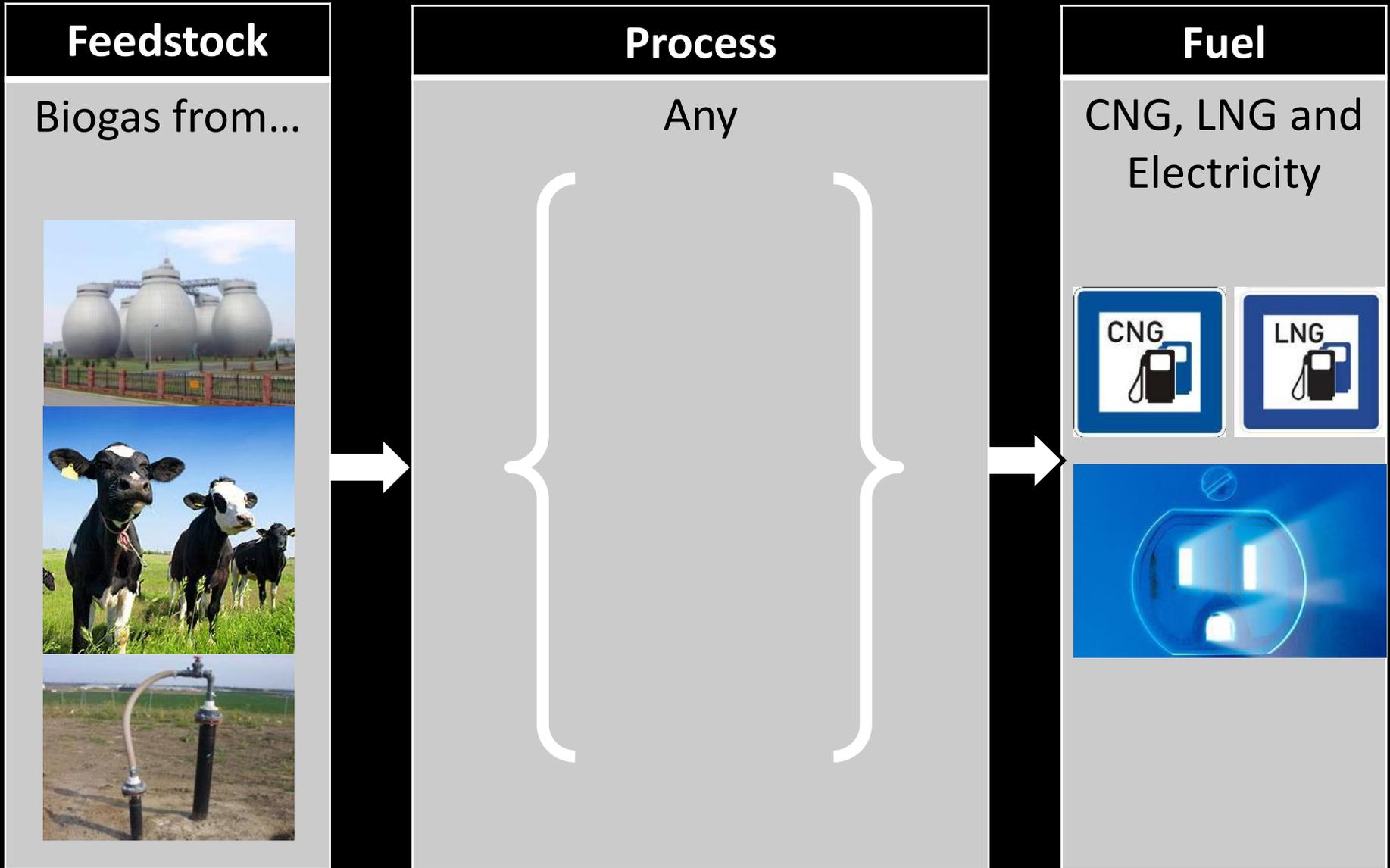


Cellulosics: The non-food fuels

Cumulative Cellulosic Biofuel Produced



This is different... Right?



It's Complicated

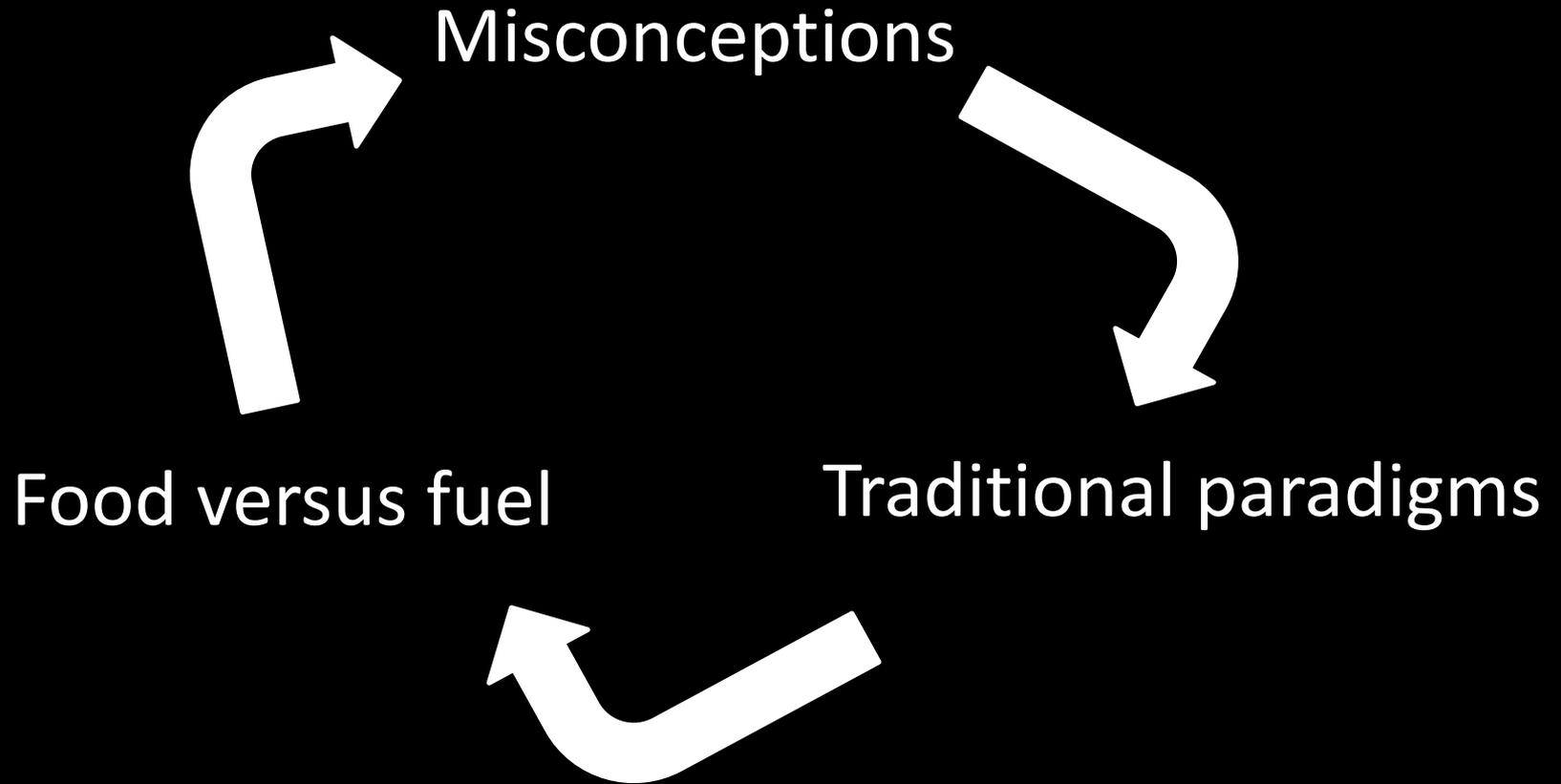
Feedstock

Conversion Process

Fuel



Harmful Cycle of Misinformation



Embrace Diversity & Work Together

- Ask how biofuels can be made better – support research

Embrace Diversity & Work Together

- Ask how biofuels can be made better – support research
- Embrace technical complexity and regulatory nuance – approve appropriate pathways

Embrace Diversity & Work Together

- Ask how biofuels can be made better – support research
- Embrace technical complexity and regulatory nuance – approve appropriate pathways
- Push the biofuels debate beyond food versus fuel – look forward not back

Thank You

Contact:

David Babson, Ph.D.

Senior Engineer, Clean Vehicles Program

– DBabson@ucsusa.org