



Green Plains

**15<sup>th</sup> Annual Farm to Market Conference**

May 13, 2020



**Todd Becker**

President & Chief Executive Officer



Green Plains

# Forward-Looking Statements

This presentation includes forward-looking statements that reflect management's current views of company performance, industry conditions and future economic environment. These statements are based on assumptions and various factors that are subject to risks and uncertainties.

Green Plains has provided additional information about such risks and uncertainties that could cause actual results to differ materially from those expressed or implied in its reports filed with the Securities and Exchange Commission. Green Plains is not obligated nor intends to update its forward-looking statements at any time unless it is required by applicable securities laws. Unpredictable or unknown factors not discussed in this presentation could also have material adverse effects on forward-looking statements.

# Green Plains Today

**13** Sustainable biorefineries

**\$2.4** Billion revenue in 2019

**11** Millions tons of corn processed annually

**1.1** Billion gallons biofuel production capacity

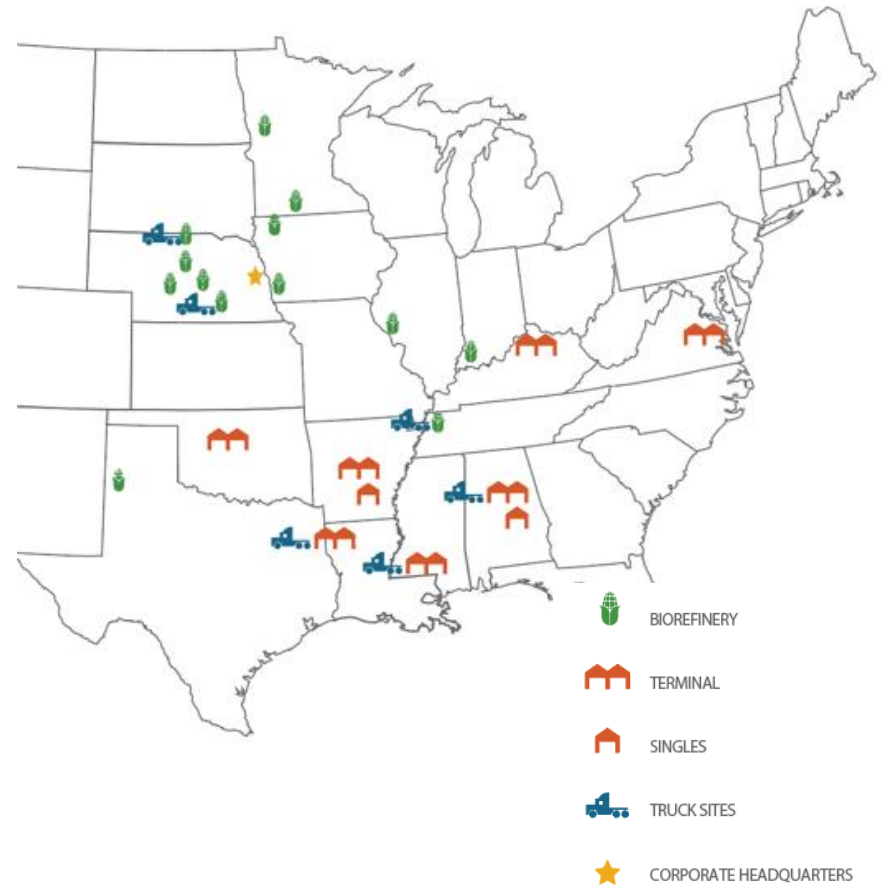
**2.9** Million tons of distillers grains

**300** Million pounds of corn oil

**Transform** Toward high value, high protein feed ingredients

**1,079** Dedicated employees inclusive of Cattle JV

## Strategically Located Assets



# Transforming Green Plains

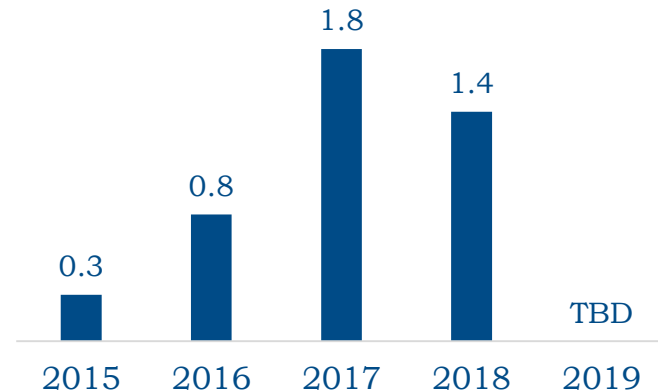
- **Concluded Portfolio Optimization & Strengthened our Balance Sheet**
  - Realized ~ \$780 million in proceeds from asset sales over previous six quarters
  - Debt reduced or deconsolidated by nearly \$1 billion
  - Continue to have strong liquidity position with over \$205 million in cash
  
- **Investing in our Future – Total Transformation Plan**
  - Reducing our operating costs and carbon footprint through Project 24
  - Project 24 on a path to be complete by end of Q3 2020
  - Investing in sustainable high protein and novel feed ingredients
    - Shenandoah shipped first product in April
    - Engineering underway at Wood River
  - Creating sustainable efficacious co-products to drive higher and more resilient margins
  - Aligning protein production and feed strategy through Novozymes partnership, Optimal Aquafeed, and key strategic players

# Headwinds and Tailwinds

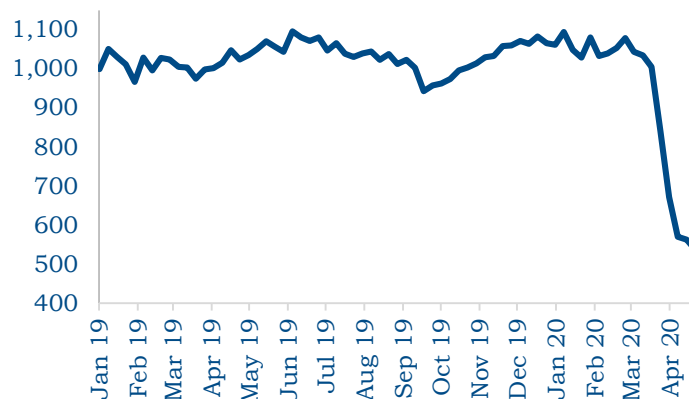
## ▪ Prior Headwinds

- EPA and Small Refinery Exemptions
  - Total of 85 waivers granted for compliance years 2016, 2017 and 2018
  - Over 4 billion gallons stripped from renewable fuels mandate
- Lack of access for E15
- China has been out of the market since 2018
- COVID-19

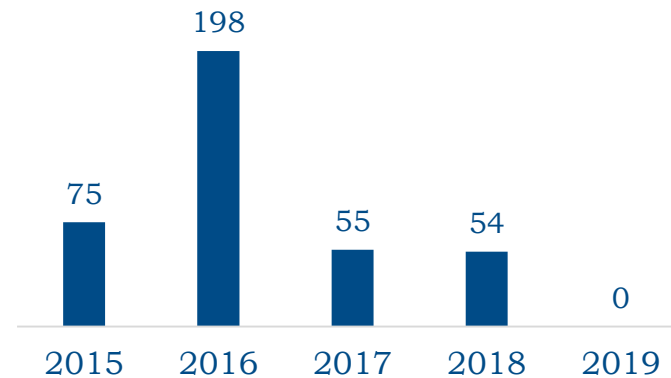
**Small Refinery Exemptions**  
(billions of gallons)



**Weekly Production**  
(thousand barrels per day)



**Exports to China**  
(millions of gallons)

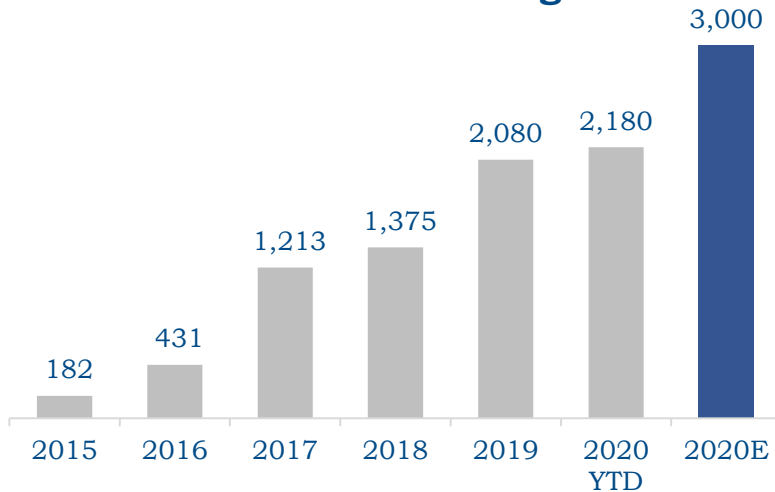


Source: EIA, EPA, USDA

# Tailwinds are Driving Demand Through Higher Blends

- E15 sold in 30 states at 2,180 retail stations as of April, 2020<sup>1</sup>
- Expect 3,000 sites by the end of 2020<sup>1</sup>
- \$100s of millions of USDA infrastructure funding to accelerate rollout
- EPA reviewing E15 through E10 infrastructure and labeling
- Automakers approve the use of E15 in more than 90% of 2020 models<sup>2</sup>

US Retail Stations Selling E15<sup>(1)</sup>



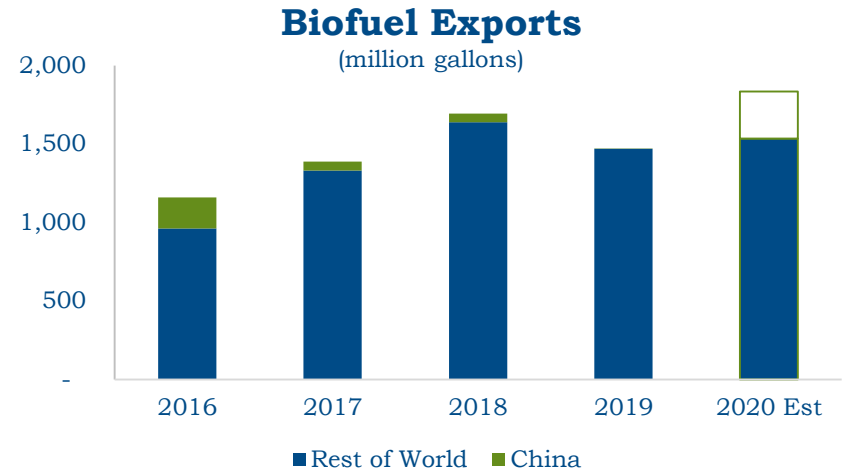
1) Source: Growth Energy as of April, 2020

2) Source: Based on analysis by RFA

# Tailwinds are Expanding Export Markets

## Biofuel Exports

- Cleaner air, higher octane
- Anticipate 1.1 - 1.5 billion gallons of exports in 2020 without China demand
- Brazil and Canada accounted for ~45% of exports
- China could take gallons in 2020



## Distillers Exports

- 10.8 million metric tons of DDGs exported in 2019, or ~25% of production
- Mexico, Vietnam, South Korea and Thailand accounted for ~41% of exports
- Anticipate exports to be similar in 2020 as China comes back into the market



Source: USDA Foreign Agriculture Service and Company estimates



# Tailwinds in Washington Regulatory Policy

- 2020 Renewable Volume Obligations
  - 15 billion gallons = 15 billion gallons
  - Continue to watch EPA after 10th Circuit Court ruling
- Trade
  - Expect 1.1 – 1.5 billion gallons of exports in 2020
  - Phase I Trade Agreement could lead to higher exports to China
- \$100s of millions in USDA funding for higher blends
- E15 available year round, with potential for EPA to allow E15 in E10 infrastructure
- Working with the EPA to improve the labeling for E15

EPA Delivers On President Trump's Promise To Allow Year-Round Sale Of E15 Gasoline And Improve Transparency In Renewable Fuel Markets

WASHINGTON (May 31, 2019)

EPA Fulfills Another Trump Administration Promise: Finalizes RFS Volumes for 2020 and Biomass Based Diesel Volumes for 2021

(WASHINGTON, Dec 19, 2019)

Court forces U.S. EPA to reconsider three refinery biofuel waivers

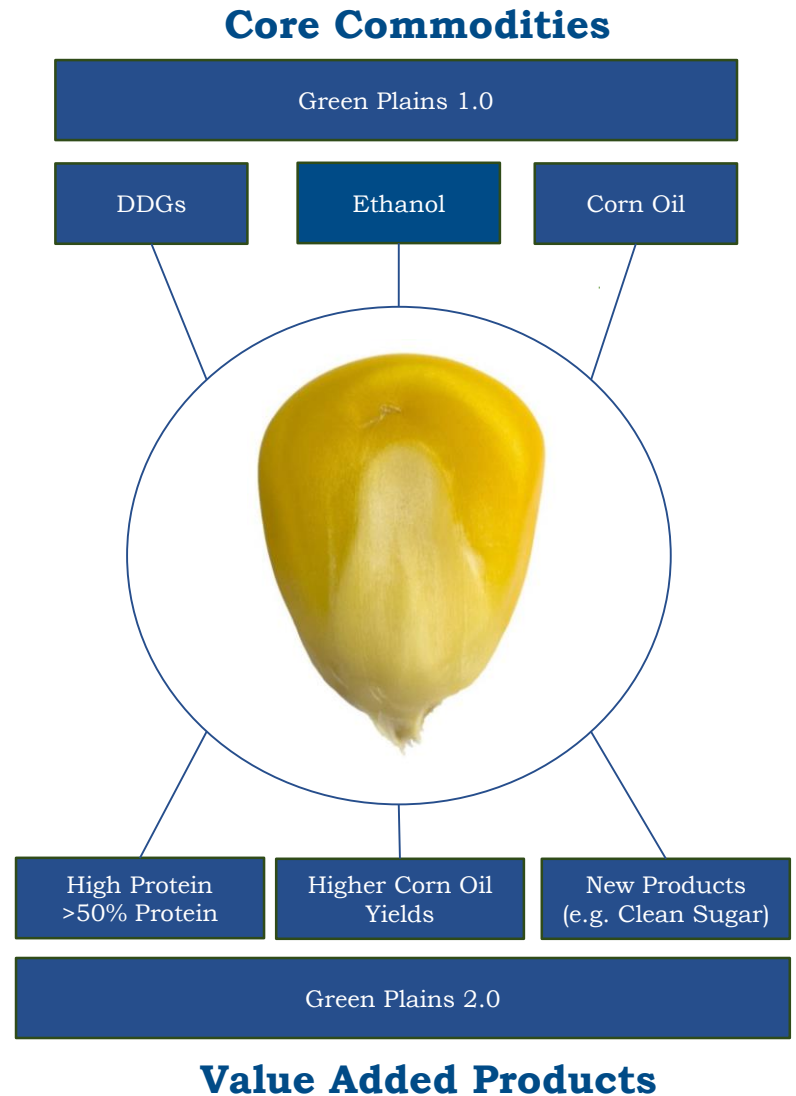
(Reuters - Jan 24, 2020)

USDA Announces \$100 Million for American Biofuels Infrastructure

(Washington, D.C., May 4, 2020)

# Total Transformation Plan

- **Our processing plants as biorefineries**
  - Use mechanical and enzymatic processes to “crack” a commodity into its most valuable components
  - Aligned with key technology players through exclusive collaborative partnerships to drive transformation
- **Extracting more value**
  - Focus on driving higher values from what we process every day:
    - Production of higher protein
    - Better corn oil yields
    - Improved distillers grains
    - Lower operating costs
    - Reduced carbon footprint
    - Optimizing valued components

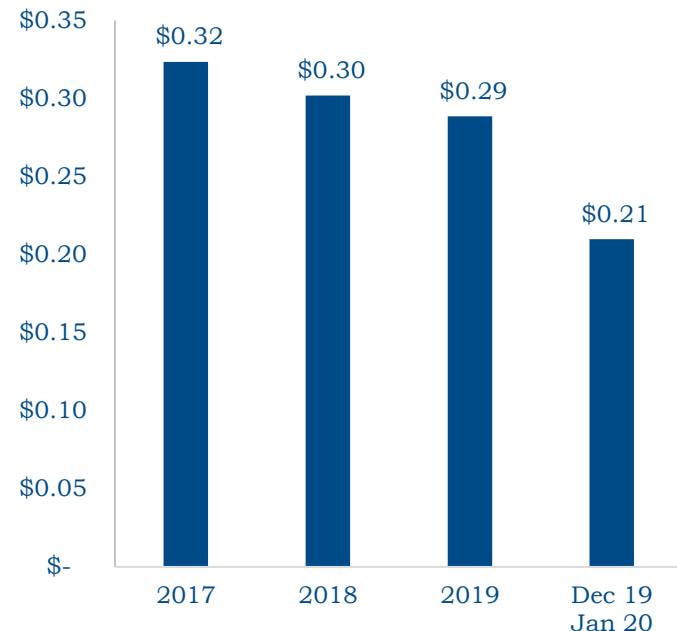


# Total Transformation - Project 24

## You better be really good at Gen 1

- Developed an exclusive partnership with ICM to develop technology that will drive operational costs savings, and reduce energy consumption at our non-ICM plants
- Project 24 will give us a distinct advantage in operational costs and transform Green Plains into a low cost, low carbon, closed loop sustainable biofuels producer
- Anticipate being a top 15% or 20% low cost producer upon completion
- Project 24 continues to move forward with the completion of Wood River, NE, Superior, IA and Fergus Falls, MN with Fairmont, MN to be complete in the next 60 days
- Capital cost per gallon is \$0.08 or \$0.09 per gallon with a one year payback

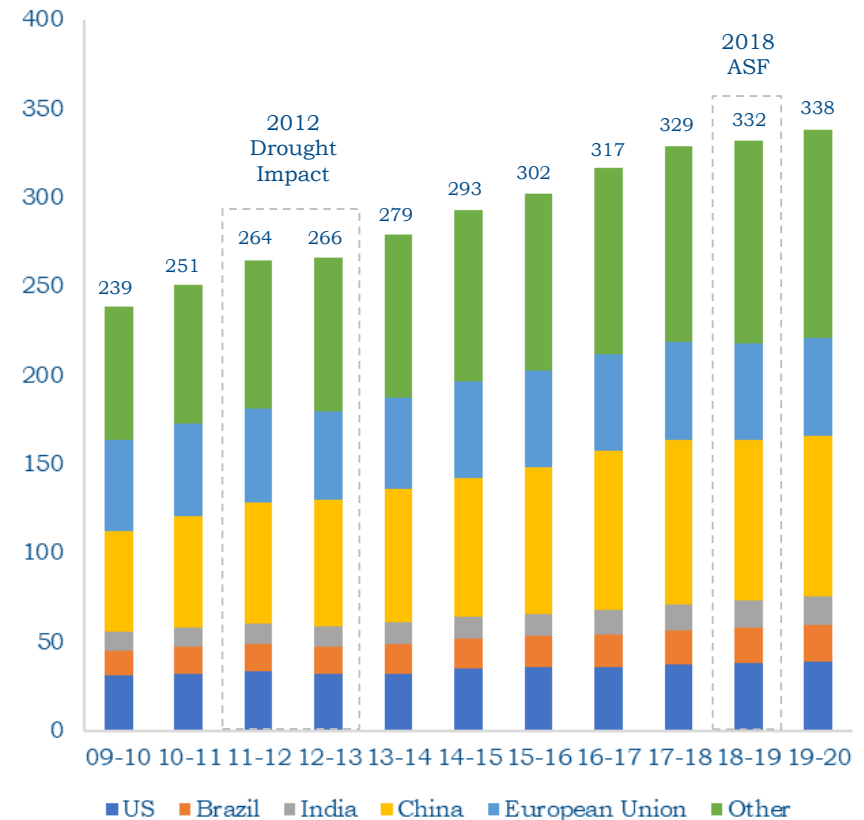
**Wood River OPEX per Gallon**  
(Illustrative Example)



# Thesis: World Protein Demand is Growing

- World demand in protein is growing across every major sector driven by population growth, economics and availability
- Increase protein production without acreage expansion
- Installed Fluid-Quip Process Technology, Maximized Stillage Co-Products™ System, a bolt-on technology to provide initial hi-pro technology at our Shenandoah, IA plant
- Produce 50+% protein animal feed ingredients from at least 20% of distillers grains produced today

Geographic World Protein Consumption (MMT)



Source – USDA World Protein Report  
MMT is defined as million metric tons

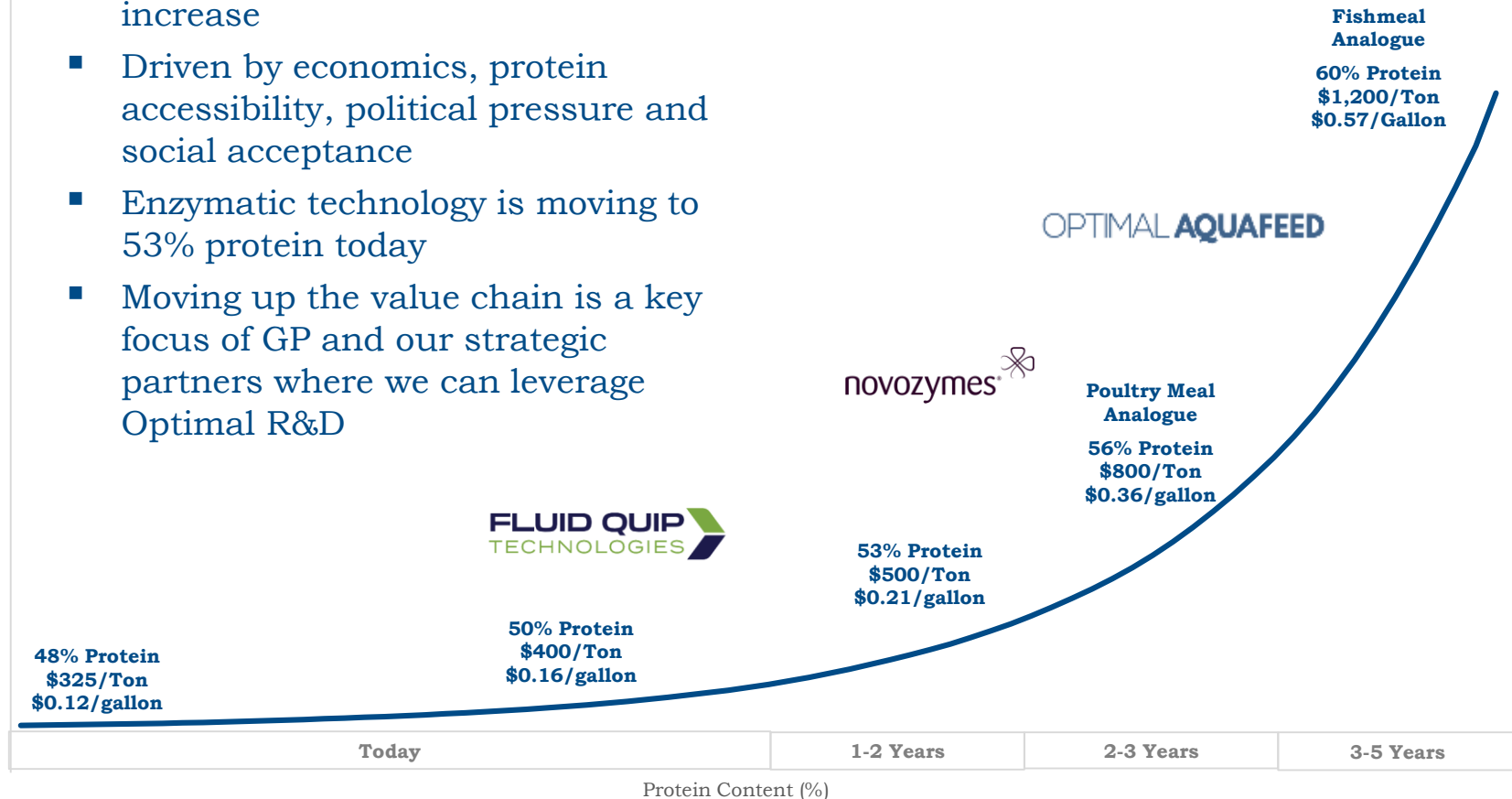
# Potential for Higher Margins Enhance Opportunity

## J-Curve of Protein Opportunity

Gen II Developments

- Global demand for analogues that meet specific dietary needs will increase
- Driven by economics, protein accessibility, political pressure and social acceptance
- Enzymatic technology is moving to 53% protein today
- Moving up the value chain is a key focus of GP and our strategic partners where we can leverage Optimal R&D

Feed Price (\$ / Ton)



# Using Partnerships to Further Enhance Values

novozymes 

- Exclusive partnership with Novozymes
  - Provides expertise through enzyme and yeast technology
  - Further enhances value by producing feeds that exceed 50% protein content

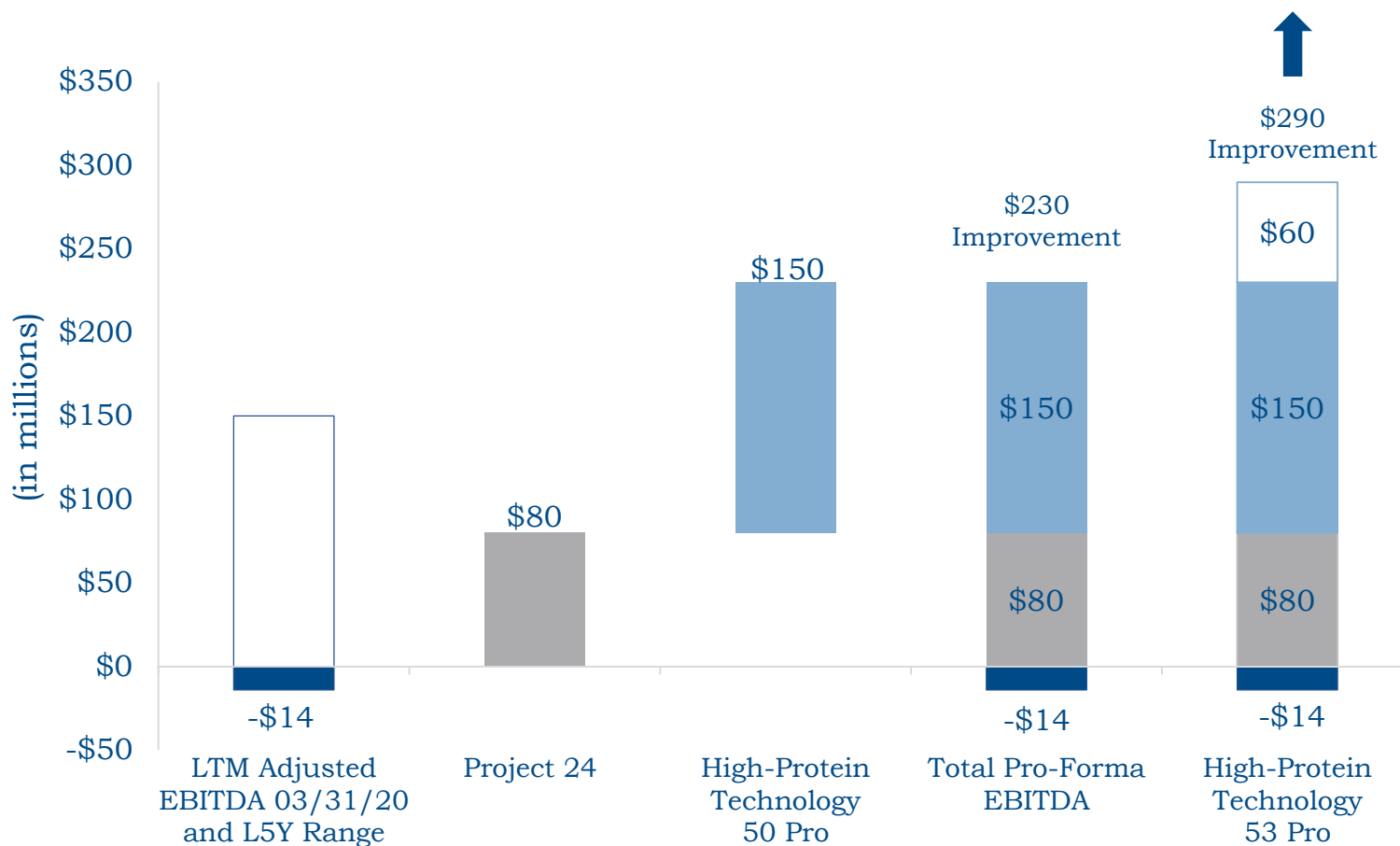
syngenta 

- Syngenta's Enogen<sup>®</sup> corn technology improves efficiency of our biorefineries and reduces carbon emissions

OPTIMAL AQUAFEED

- Optimal Aquafeed
  - Focused on the aquaculture market - one of the most sustainable and efficient sources of animal protein for human consumption
  - Introducing sustainable high protein novel ingredients into the aquaculture space
  - Leveraging world-class aqualab in Shenandoah to prove value of our product while establishing valuable customer/producer relationships
- Partnership with premier raw material supplier to the pet food industry for nearly all of Shenandoah's high protein production

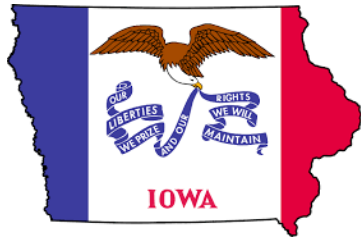
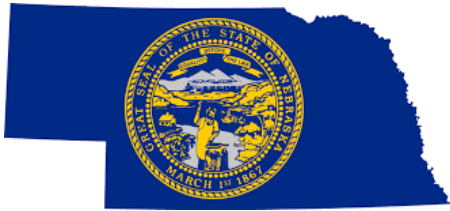
# Significant Margin Potential Exists From Project 24 and High-Protein Technology



## Assumptions:

- Assets produce at 90% of capacity on 1.123 billion gallons
- Project 24 with operating expense of \$0.24/gallon across the platform
- Crush margin lift of \$0.15/gallon for high-protein technology at base 50 Pro; \$0.21/gallon at 53 Pro
- Project 24 ~ \$60 million & High-Protein ~ \$350 - \$450 million of capital investment based on 13 ethanol plants

# Responding to COVID-19



- Donated 40,000 pounds of hamburger to local food pantries and across the communities we serve
- Donated FCC Grade alcohol toward hand sanitizer production for hospitals and other key facilities
  - State of Nebraska
  - State of Iowa
  - University of Nebraska Lincoln
- FCC Grade alcohol sales to key strategic players for production of hand sanitizer
  - Higher in quality and purity than traditional fuel grade ethanol



## In Closing

Green Plains is executing a Total Transformation Plan to unlock and capture significant value imbedded in our platform through cost efficiencies and technological advances in protein that will transform our company and help meet the worlds growing need for sustainable low carbon fuels and sustainable protein feed and novel feed ingredients.



# Green Plains

**Green Plains Inc. | NASDAQ: GPRE | [www.gpreinc.com](http://www.gpreinc.com)**

**Green Plains Partners LP | NASDAQ: GPP | [www.greenplainspartners.com](http://www.greenplainspartners.com)**