



Green Plains

**Jefferies Industrials Conference  
Investor Presentation**

August 5, 2020

# Forward-Looking Statements

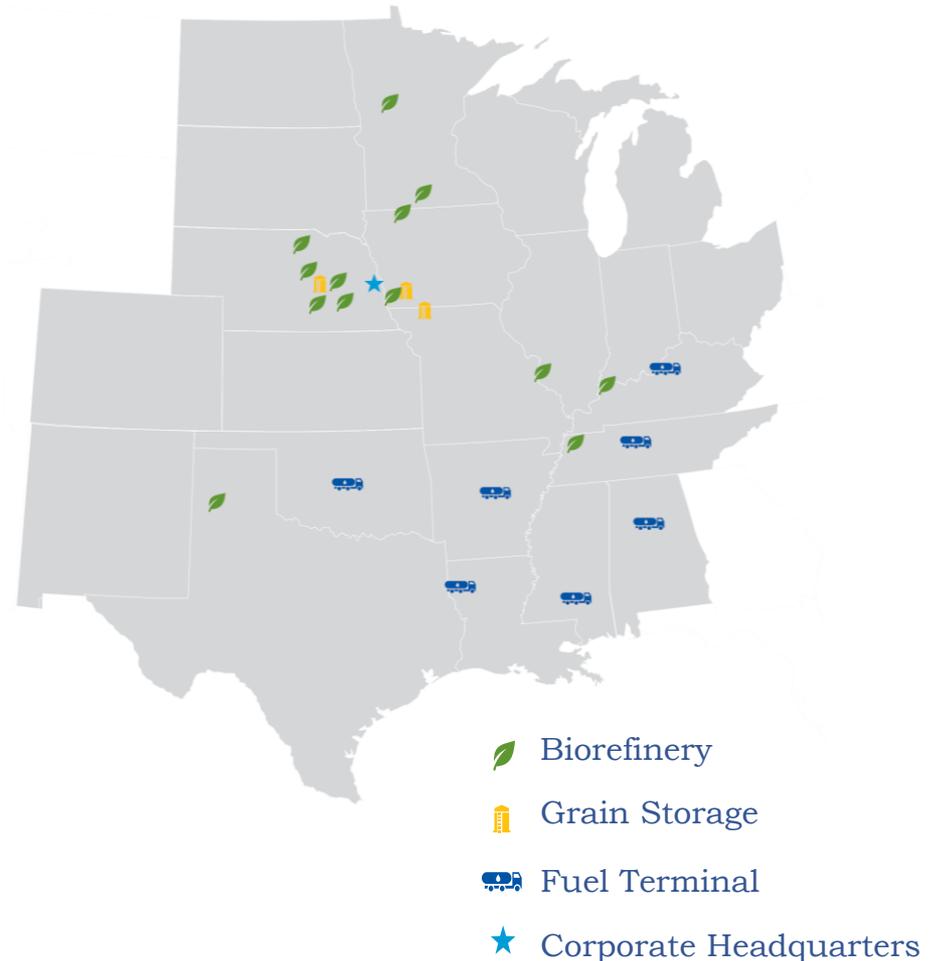
This presentation includes forward-looking statements that reflect management's current views of company performance, industry conditions and future economic environment. These statements are based on assumptions and various factors that are subject to risks and uncertainties.

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# 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 including 75 million USP grade upon completion
- 2.9** Million tons of distillers grains
- 300** Million pounds of corn oil
- 700** Thousand tons of high protein feed ingredient capacity upon completion
- 1,079** Dedicated employees inclusive of Cattle JV

## Strategically Located Assets



# Second Quarter 2020 Operating Results

## Results of Operations

- Net loss of \$8.2 million, or \$(0.24) per diluted share
- Adjusted EBITDA of \$17.9 million
- Cash, cash equivalents and restricted cash of \$183.6 million; availability under revolving credit agreements of \$289.0 million at June 30, 2020
- Total long-term debt of \$509.3 million, including \$126.9 million of Green Plains Partners debt

## Production Segment

- Processed 51.9 million bushels of corn
- Sold 149.9 million gallons of ethanol, or 53.5% of capacity
- Sold 383 thousand tons of distillers grains (dry equivalent)
- Sold 39.5 million pounds of corn oil
- Consolidated ethanol crush margin was \$13.9 million, or \$0.09 per gallon

# Business Activity

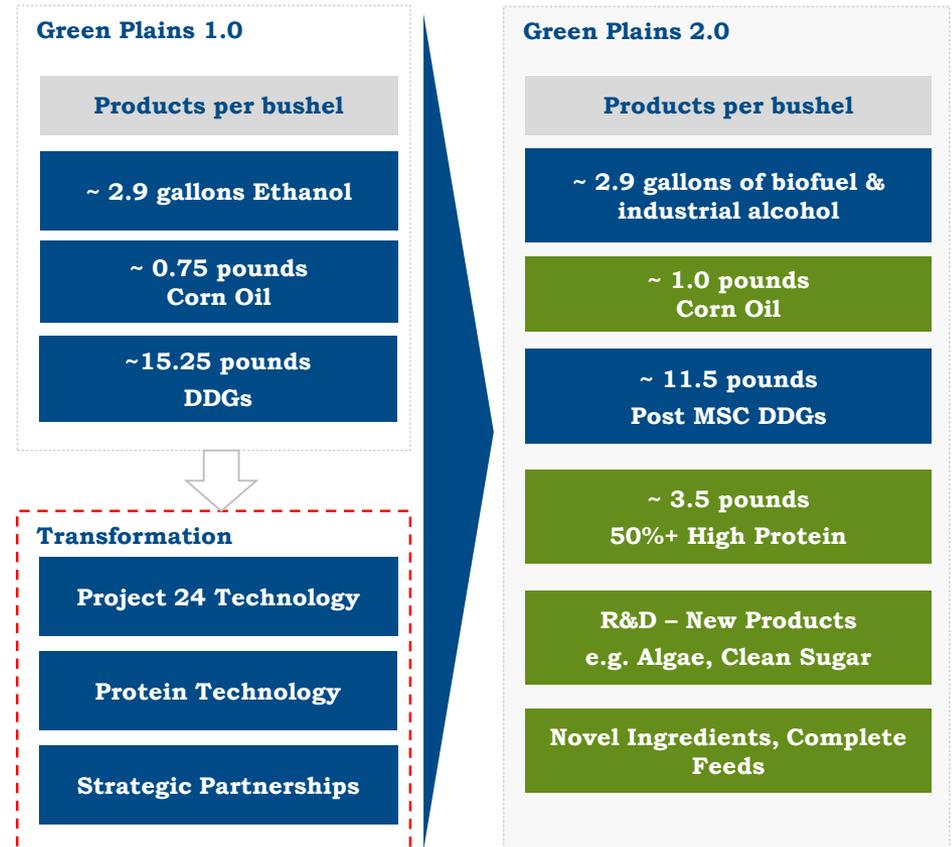
- Sold FCC Grade alcohol to strategic commercial counterparties for the production of hand sanitizer and disinfectants
- Announced USP Grade alcohol upgrades at Green Plains York and Green Plains Wood River resulting in a combined capacity of 75 million gallons of USP Grade alcohol upon completion
- Achieved 100% operating capacity levels for high protein ingredient production at Shenandoah
- Secured \$75 million, 15 year financing, expected to close by the end of the third quarter
- Announced Wood River as the second location to receive high protein technology, expected to be in service during Q2 2021
- Project 24 upgrade completed at Green Plains Fairmont
- Project 24 upgrade underway at Green Plains Mount Vernon
- Green Plains Partners completed refinancing of outstanding debt, extending maturity to Dec 31, 2021
- Green Plains Cattle Company achieved record results for the second quarter in a row

# 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 \$183 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 Q1 2021
  - Investing in sustainable, high protein technology
    - Shenandoah shipped first product in April
    - Wood River targeting to be complete during Q2 2021
    - Supported by \$75 million in approved financing
  - Developing 75 MGY of USP Grade alcohol at York and Wood River to further support sanitizer and disinfectant markets
  - Aligning protein production and feed strategy through Novozymes partnership, Optimal Aquafeed, and key strategic players

# 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:
    - Lower operating costs
    - Reduced carbon footprint
    - Production of higher protein
    - Better corn oil yields
    - Improved distillers grains
    - Optimizing valued components



# Total Transformation - Project 24

- Project 24 captures our goal to be at or below \$0.24 per gallon of operating expenses across the platform
- Developed an exclusive partnership with ICM for technology that will drive operational costs savings, and reduce energy consumption at our non-ICM plants
- Provides 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 is 55% complete with the recent completion of the Fairmont, Minn. location
- Capital cost of ~ \$0.09 per gallon with a payback of ~ one year

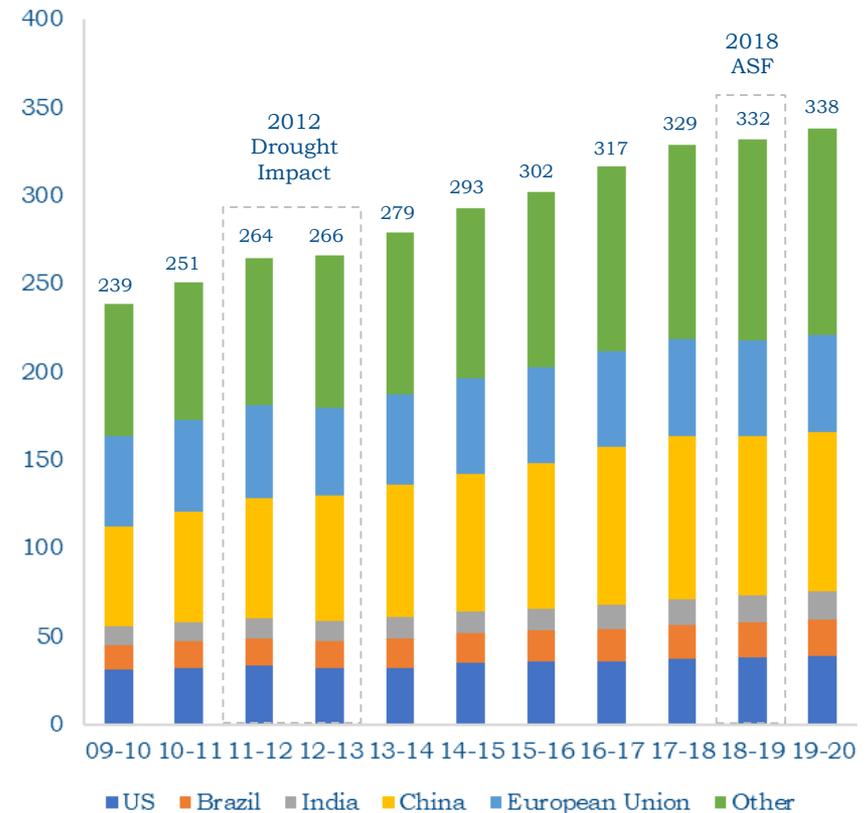
**Wood River OPEX per Gallon**  
(Illustrative Example)



# 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, at our Shenandoah, Iowa plant
- Produces 50+% protein animal feed ingredients from at least 20% of distillers grains produced today
- At capacity, Green Plains entire platform will produce ~ 0.7 MMT of high protein

Geographic World Protein Consumption (MMT)



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

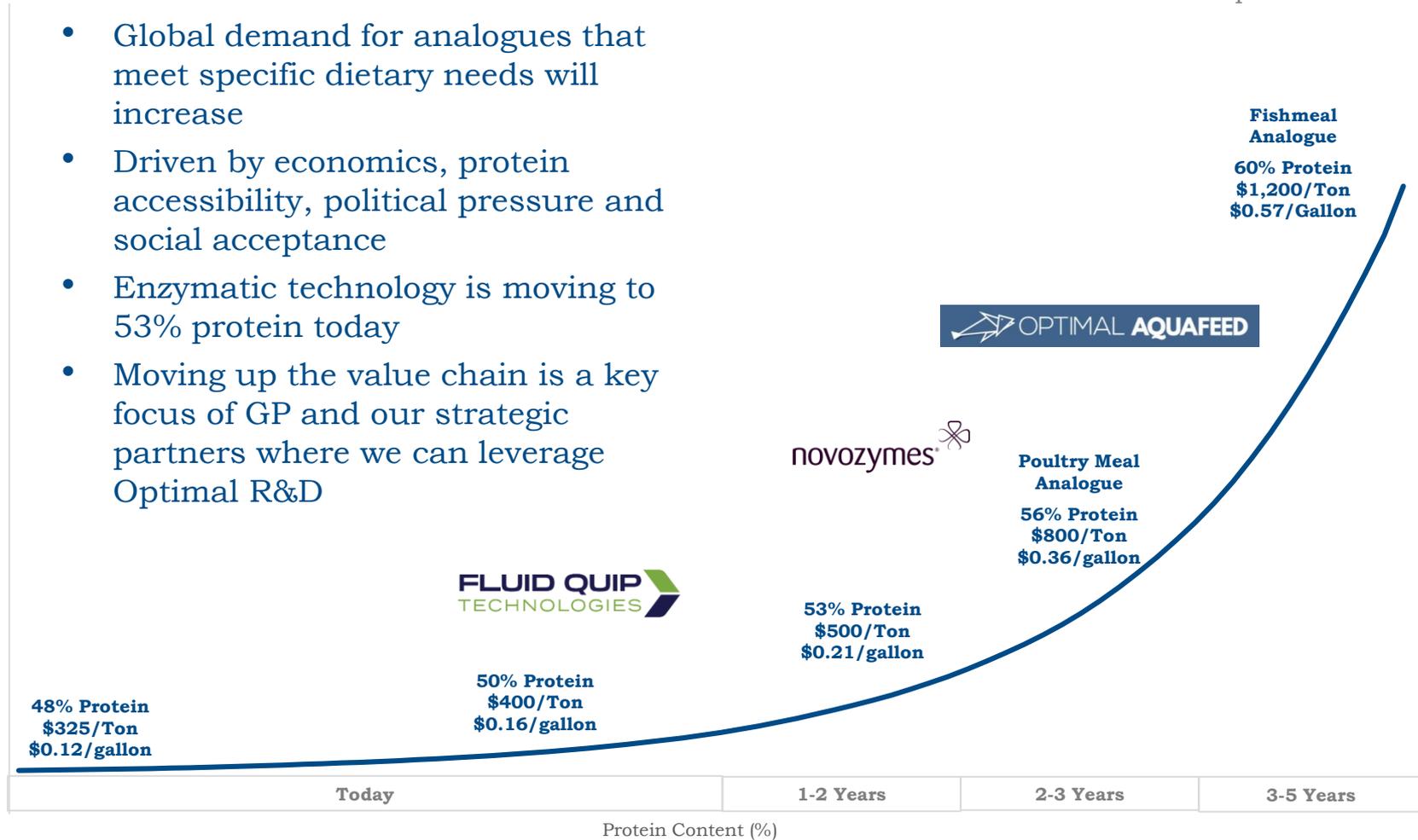
# Potential for Higher Margins Enhance Opportunity

## 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



- Expertise in enzyme and yeast technology
- Enhances value by helping produce feeds that exceed 50% protein content



- Enogen® corn technology
- Improves efficiency of our biorefineries
- Helps reduce our carbon emissions



- Exclusive partnership for Project 24
- Improves plant operations & efficiencies
- Helps reduce our carbon emissions



- Installed MSC™ system for high protein feed production at Shenandoah
- Wood River to be complete by Q2 2021



- Focused on aquaculture market
- World Class Aqualab in Shenandoah to prove value of product
- Establishing valuable relationships

## **PREMIER SUPPLIER to PET FOOD INDUSTRY**

- Premier raw material supplier to the pet food industry for nearly all of Shenandoah's high protein production

# High Protein, High Value, High Quality

- **Strategic ingredient in use today**

- MSC 50 is an optimal ingredient for aquaculture and companion animal diets
- Currently being used in the pet space and in aquafeed mixes
- Robust QA / QC program is critical

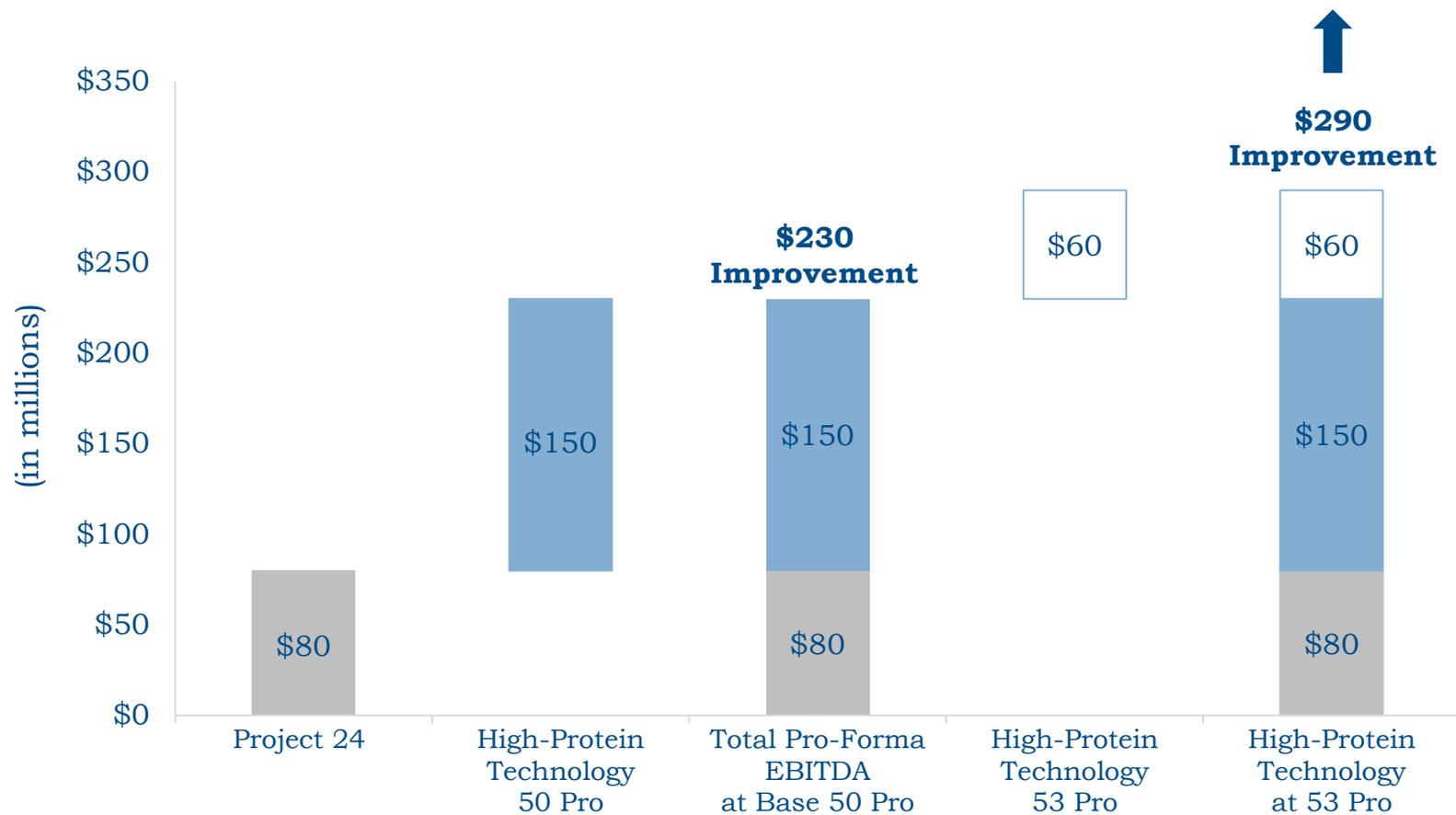
- **Nutritional advantage**

- Base product has 50% protein content, adding the high-value components from corn combined with the yeast, becoming a strategic ingredient with vegetable and fungal properties
- Cornerstone ingredient for developing new feed rations, eliminating the need to structure feeds around the deficiencies of other products
- Contains positive nutritional qualities which promotes gut health in aquaculture and companion animals and is highly digestible

- **Strategic partnerships provide growth and margin uplift**

- Use of MSC 50 in existing pet and aqua diets provides immediate margin uplift
- Application into specialty feeds and premixes through innovative aquafeed development provides additional uplift through Optimal Aquafeed
- Developing new products around our customer needs enables applications into the RAS market
- World class aqualab provides further validation for inclusion in commercial aquafeeds
- Strategic partnerships focus on increasing the protein levels as well as nutritional and digestibility profile, further raising margin potential

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

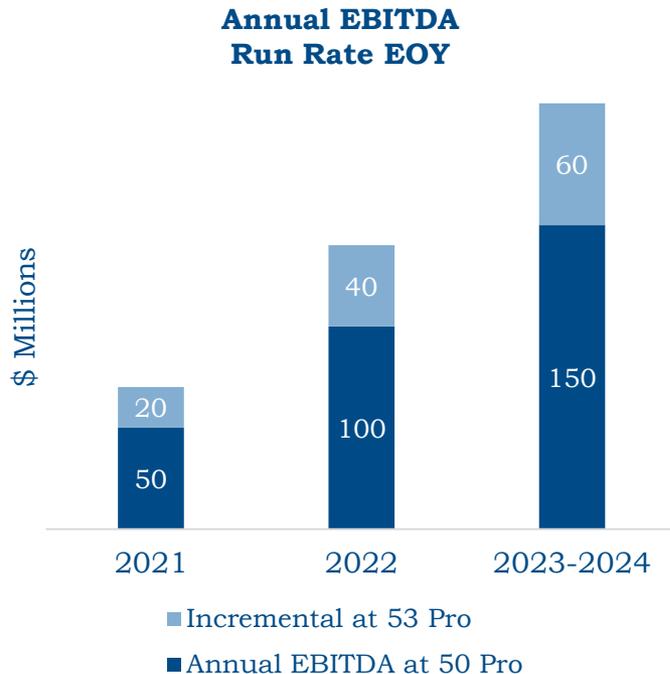


## Assumptions:

- 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

# Completing Protein Expansion

- Protein buildout is progressing consistent with our strategy, with Shenandoah complete, and Wood River in development along with \$75 million project based debt financing approved
- Margin from the completion of high protein projects can be allocated to self finance future projects, reducing the amount of additional external capital required
- Assumes \$350 - \$450 million in capital expenditures spread equally over 3 to 4 years, generating ~ \$150 - \$210 million in annual EBITDA contribution upon completion



# Why Green Plains?

Strong Asset Base	<ul style="list-style-type: none"><li>Tremendous asset base developed over the past 13 years which serves as the foundation for building Green Plains 2.0</li></ul>
Proven Track Record	<ul style="list-style-type: none"><li>Seasoned management team with proven track record of managing risk and allocating capital in various cycles</li></ul>
Financial Flexibility	<ul style="list-style-type: none"><li>Strong balance sheet with ample liquidity and levers available to execute our strategy, including recent approval of \$75 million project based debt to fund protein expansion</li></ul>
Low Cost Operator	<ul style="list-style-type: none"><li>Implementing Project 24 across platform to drive operating costs to, or below \$0.24 per gallon, while reducing our carbon footprint and realizing a total savings of ~<b>\$80 million</b> annualized impact upon completion</li></ul>
Value Added Opportunities	<ul style="list-style-type: none"><li>Executing our protein strategy and unlocking significant margin potential by producing new feeds for the pet and aquaculture space – anticipating a <b>\$150 - \$210 million</b> annualized impact upon completion</li></ul>
Strategic Partnerships	<ul style="list-style-type: none"><li>Cultivating strategic partnerships to drive additional value across our platform – driving out costs, reducing carbon footprint and developing better products</li></ul>
Innovation	<ul style="list-style-type: none"><li>Strong R&amp;D mindset to further diversify products into more stable and valuable margin streams to be deployed at our biorefineries in the coming years – York Research Facility and Shenandoah Aquaculture Center</li></ul>

# In Closing

- 1 Tremendous base platform to build upon for creating Green Plains 2.0
- 2 Seasoned management with proven track record of managing risk and allocating capital
- 3 Strong balance sheet with ample liquidity and numerous levers to manage volatility
- 4 Executing on Project 24 to reduce operating expenses and carbon footprint
- 5 Executing on protein & USP Grade alcohol strategy, unlocking significant margin potential
- 6 Aligned with strategic partners to create additional value across our platform
- 7 Strong R&D capabilities for developing new value-added products with upside potential



Green Plains  
2.0

# Appendix



# Sustainability in What We Do

*Transforming capabilities and expanding impact*



**Help meet global renewable transportation fuel needs**



**Provide less expensive, renewable biofuel alternatives to regular gasoline for consumers<sup>1</sup>**



**Meet the world's growing food and dietary protein demands with high protein, plant-based feeds**



**Reduce the need to feed animals to animals and overfish our oceans**



**Improve the food system to be more secure with healthier livestock and aquacultures**



**Reduce need to further deforest land for agricultural purposes by using corn sustainably farmed and sourced locally**

*World class provider of sustainable, high protein and novel feed ingredients, and low carbon, closed loop and sustainable biofuels*

**8.4** billion gallons of low-carbon fuel produced \*

**33.6** MMT of reduced CO2 emission \*

**43%** lower GHG profile than regular gasoline

**50%** projected GHG reduction vs. gasoline

\* For the years 2011 - 2019

# Tailwinds in Washington Regulatory Policy

## 2020 Renewable Volume Obligations

- 15 billion gallons = 15 billion gallons
- Continue to watch EPA after 10th Circuit Court ruling

## Higher Blends

- \$100s of millions in USDA funding for higher blends
- E15 available year round
- Potential for EPA to allow E15 through E10 infrastructure
- Working with the EPA to improve the labeling for E15

## Trade

- Expect 1.1 – 1.5 billion gallons of exports in 2020
- Phase I Trade Agreement could lead to higher exports to China

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)

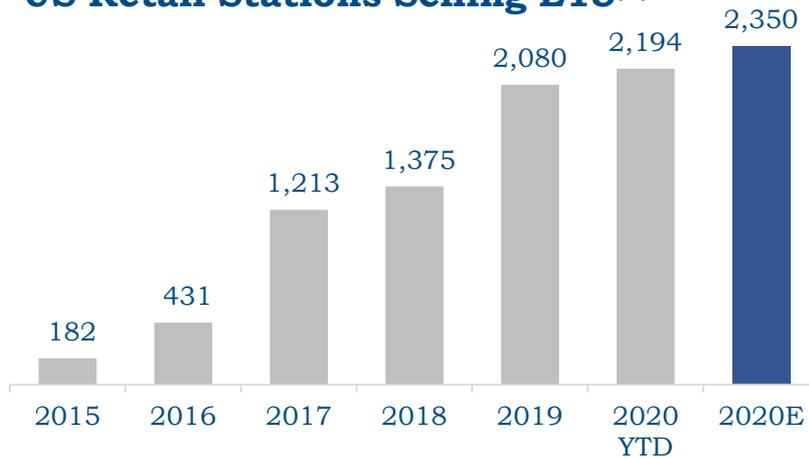
USDA Announces \$100 Million for American Biofuels Infrastructure

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

# Tailwinds Driving Demand Through Higher Blends

- E15 sold in 30 states at 2,194 retail stations as of June, 2020<sup>1</sup>
- Expect 2,350 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>



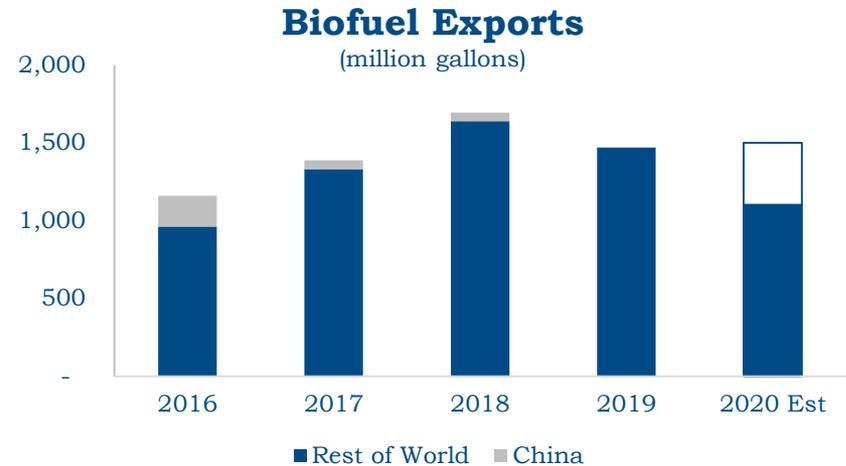
1) Source: Growth Energy as of June, 2020

2) Source: Based on analysis by RFA

# Tailwinds 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



# 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)**