



Green Plains

**Stephens Conference  
Investor Presentation**

November 18, 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.

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.

# Reinventing Green Plains

## Refining our Platform – Building for Growth

- 1 Deleveraged our platform through Portfolio Optimization; improving operating costs and carbon footprint through Project 24
- 2 Focusing on growing demand in the global protein market and value added ingredients
- 3 Executing on our Total Transformation Plan utilizing proven and emerging technologies and strategic partnerships
- 4 Long growth runway with ~\$305 - \$400 million of potential margin through opex savings, ultra-high protein products and high purity alcohols



### 2007 – 2017

#### Expansion

- Expanded from 4 to 17 plants
- Vertical integration up and down the value chain
- Expanded into Cattle and Vinegar

### 2018 – 2019

#### Optimization

- Deleveraged B/S by ~\$1B
- Monetized three ethanol plants
- Sold Fleischmann's Vinegar
- Divest 50% of Cattle and JGP Terminal
- Began investment in Shenandoah protein

### 2020 & Beyond

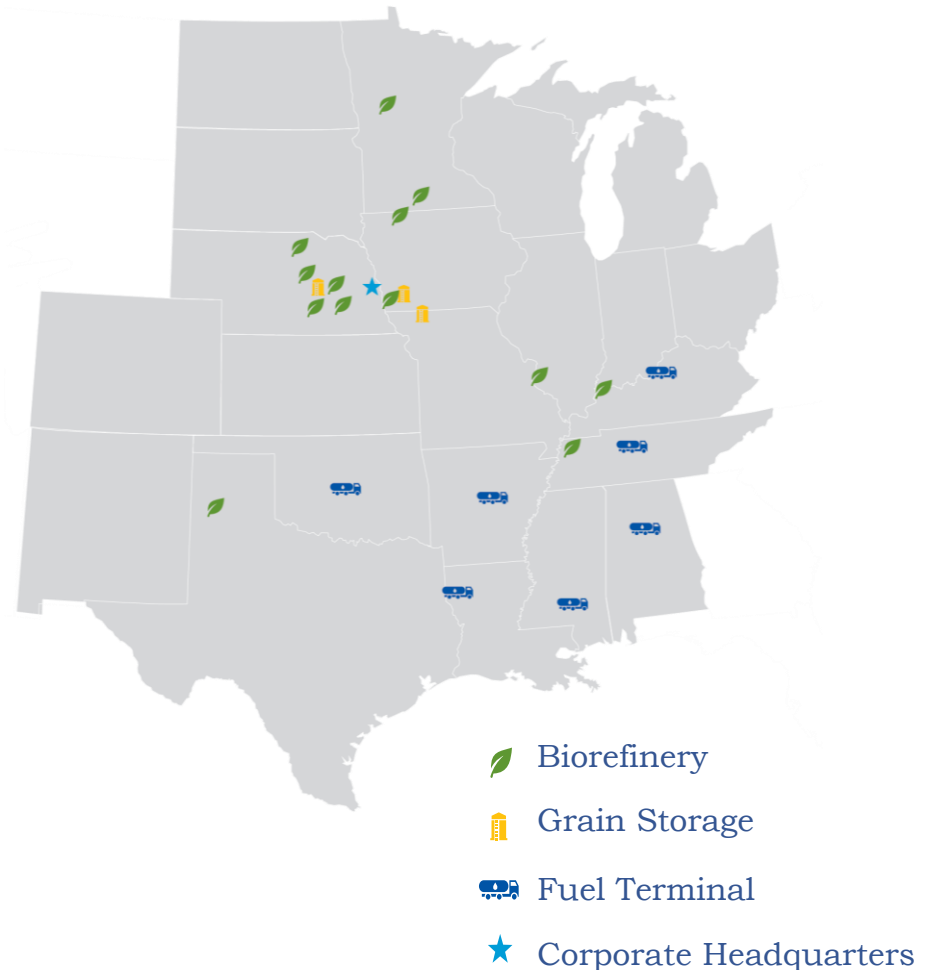
#### Transformation

- Project 24
- Shenandoah Aquaculture Center/York Innovation Center
- Strategic Partnership, ICM, Novozymes, FQT, Optimal Aqua, major aquaculture producers, others
- Complete Shenandoah/Began Wood River
- Entered into high purity alcohols business
- Selected Obion as 3<sup>rd</sup> installation location

# 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 capacity and growing
- 700 Thousand tons of ultra-high protein feed ingredient capacity upon completion
- ~900 Dedicated employees

## Strategically Located Assets



# Third Quarter 2020 Operating Results

## Results of Operations

- Adjusted EBITDA of \$8.8 million
- Cash, cash equivalents and restricted cash of \$182.3 million; availability under committed loan facilities of \$349.8 million at Sept. 30, 2020
- Total debt of \$526.0 million, including \$115.4 million of Green Plains Partners debt

## Production Segment

- Processed 65.3 million bushels of corn
- Sold 189.2 million gallons of ethanol, or 66.8% of capacity
- Sold 479 thousand tons of distillers grains (dry equivalent)
- Sold 51 million pounds of corn oil
- Consolidated ethanol crush margin was \$15.8 million, or \$0.08 per gallon

# Business Activity and Updates

- Announced an exclusive partnership with Hayashikane to focus on delivering nutritious and innovative aquafeed solutions
- Closed on \$75 million, 15-year delayed draw term financing with MetLife to fund continued expansion of ultra-high protein technology
- Closed on the sale of our remaining 50% interest in Green Plains Cattle Company for approximately \$80 million plus closing adjustments
- Began construction at Green Plains Wood River LLC, our second location to receive ultra-high protein technology, which is expected to be in service during Q2 2021
- Identified Green Plains Obion LLC as our third location to receive ultra-high protein technology, based on current schedules, is expected to be in service during Q4 2021
- Consistently achieving ultra-high protein levels near 53% at our Shenandoah location
- Project 24 upgrade at Green Plains Mount Vernon LLC is expected to be completed during Q1 2021 and once completed, Green Plains will have reduced operating expenses and lowered its carbon footprint on 445 million gallons of capacity

# Transforming Green Plains

- **Concluded Portfolio Optimization & Strengthened our Balance Sheet**
  - Realized ~ \$860 million in proceeds from asset sales
  - Debt reduced or deconsolidated by nearly \$1 billion
  - Continue to have strong liquidity position with over \$182 million in cash plus \$80 million from recent Cattle sale and \$56 million in proceeds from expected tax refund
- **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 Q2 2021
  - Investing in sustainable, high protein technology
    - Shenandoah shipped first product in April 2020
    - Wood River targeting to be complete during Q2 2021
    - Obion targeting to be completed by end of 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, with York moving to GNS by Q2 2021
  - Aligning protein production and feed strategy through strategic partnerships with Novozymes, Optimal Aquafeed, Hayashikane and key strategic players

# Portfolio Optimization

Portfolio Optimization Strategy will optimize our platform and drive shareholder value

- Divest select assets that are undervalued by the market or do not fit our protein and export strategy
- Significantly reduce leverage and our overall debt; refining and processing assets should have little or no leverage to handle volatility of today's markets
- Align our assets around high protein animal feed production and exports of ethanol, maximizing the opportunity of an end-to-end export supply chain
- Reduce controllable expenses across the platform, driving more efficiency in cost management to ensure we drive these results to our EPS
- Support our share price value through an active share re-purchase program to ensure recognition by the market of our portfolio value



# Monetize non-strategic assets for reinvestment

- ~\$860 million in proceeds from divestments
- Fleischmann's Vinegar Company
  - Purchased for \$250 million in Oct. 2016
  - Announced sale of 2018 for \$350 million
- Ethanol Plant Sales
  - Announced sale of Bluffton, Lakota and Riga to Valero in Oct 2018
  - 304 mmgy capacity for \$319 million
  - Permanently closed Hopewell Nov 2018
- 50% stake in JGP sold for \$29 million
- Cattle Sale Completed
  - Sold 50% in Sep 2019 for \$77 million
  - Sold remainder in Oct 2020 for \$80 million

Green Plains Enters into Agreement to Sell Three Ethanol Plants to Valero Renewable Fuels

(Omaha, Neb, Oct 10, 2018)

Green Plains Announces Agreement to Sell Fleischmann's Vinegar to Kerry Group

(Omaha, Neb, Oct 25, 2018)

Green Plains completes the sale of 50% of Green Plains Cattle Company for \$77 Million

(Omaha, Neb, Sep 09, 2019)

Green Plains Inc. Completes Sale of its 50% Stake in JGP Energy Partners LLC to Jefferson Energy Holdings LLC for \$29 Million

(Omaha, Neb, Dec 12, 2019)

Green Plains Sells Remaining 50% of Green Plains Cattle Company for \$80 Million

(Omaha, Neb, Oct 13, 2020)

# Reduce operating costs and controllable expenses

- Non strategic assets either sold or closed
  - Fleischmann's, Various Ethanol Plants, JGP Terminal, Green Plains Cattle
  - Hopewell site closed
- Overhead Expense reductions
  - Novozymes partnership improved chemical spend
  - Office expenses reduced across the board
  - Annualized expense reductions ~ \$19 million
- Project 24
  - Exclusive partnership with ICM to reduce opex to \$0.24/gallon or below
  - \$0.09/gallon capital expenditure with less than one year paybacks
  - Currently 55% complete
  - Mount Vernon expected to start up early Q1 2021, Madison expected by mid 2021

Green Plains Announces Permanent Closure of Hopewell, Va. Ethanol Facility

(Omaha, Neb, Nov 15, 2018)

During Q1 2019 Earnings Release Green Plains Announced Opex Equalization Project with ICM

(Omaha, Neb, May 08, 2019)

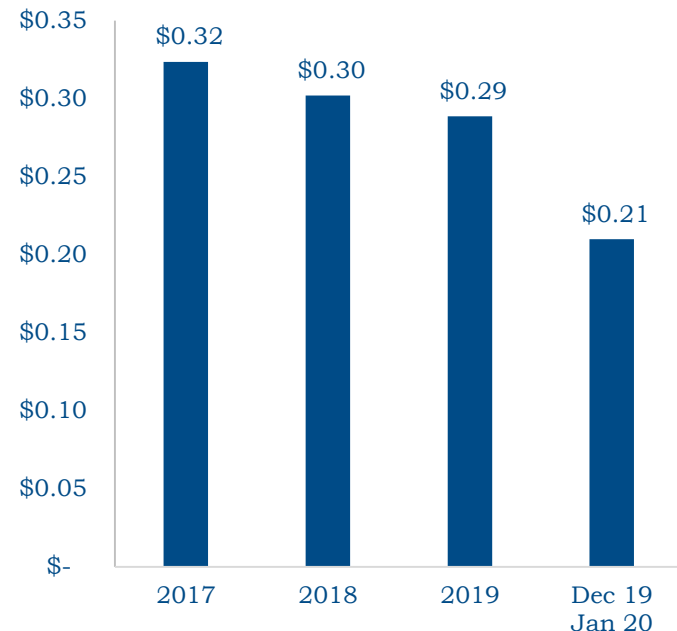
Green Plains and Novozymes Partner in Protein Production

(Omaha, Neb, Dec 16, 2019)

# 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)



# Reduce leverage, strengthen balance sheet and support our share price

- Debt Reduction
  - \$500 million Term Loan B Repaid in Nov. 2018 using proceeds from asset sales
  - \$500 million Cattle revolver removed from balance sheet after sale of 50% of Green Plains Cattle Co. in Sept. 2019
  - GPP Reduced distribution by 75% and allocated it to repayment of term debt - \$55 million amortization by Dec. 2021
- Share Price Support
  - Reallocated capital by eliminating GPRE dividend in June 2019
  - Allocated \$76 million over the past three years to repurchase ~6.5 million shares
- Current Debt of \$526.0 million with cash balance of \$182.3 as of Q3 2020
  - Net term debt zero after sale of cattle business for \$80 million
  - \$238.4 million convertible notes
  - \$10.0 million delayed draw term loan
  - \$115.4 million non-recourse GPP debt
  - \$146.6 million working capital financing backed by A/R and inventory collateral

Green Plains Repays \$500 Million Senior Secured Term Loan due 2023

(Omaha, Neb, Nov 28, 2018)

Green Plains Announces Suspension of Quarterly Cash Dividend

(Omaha, Neb, Jun 18, 2019)

Green Plains Prices Offering of \$105 Million Aggregate Principal Amount of 4.00% Convertible Senior Notes due 2024

(Omaha, Neb, Jun 18, 2019)

Green Plains Partners Reduces Quarterly Distribution

(Omaha, Neb, Apr 16, 2020)

# Align Assets Around Ultra-High Protein and Novel Ingredients

- Formed JV and later acquired Optimal Aquafeed
  - Aquaculture is a key market for utilizing ultra-high protein
  - Aqualab in Shenandoah helps validate feed formulations and novel ingredients
- Exclusive Partnership with Novozymes
  - Combined expertise enables moving up the margin curve through nutrition and performance
- Fluid Quip MSC – Ultra-high Protein
  - Shenandoah started up in late March
  - Offtake with companion animal feed provider
  - Announced Wood River construction
  - Announced Obion location
  - Obtained favorable financing with MetLife to fund additional growth

Green Plains and Optimal Fish Food Announce Formation of Aquafeed Joint Venture

(Omaha, Neb, Dec 12, 2018)

Green Plains and Novozymes Partner in Protein Production

(Omaha, Neb, Dec 16, 2019)

Green Plains Announces High Protein Ingredient Production at its Shenandoah Biorefinery

(Omaha, Neb, Apr 14, 2020)

Green Plains Completes \$75 Million Loan Facility

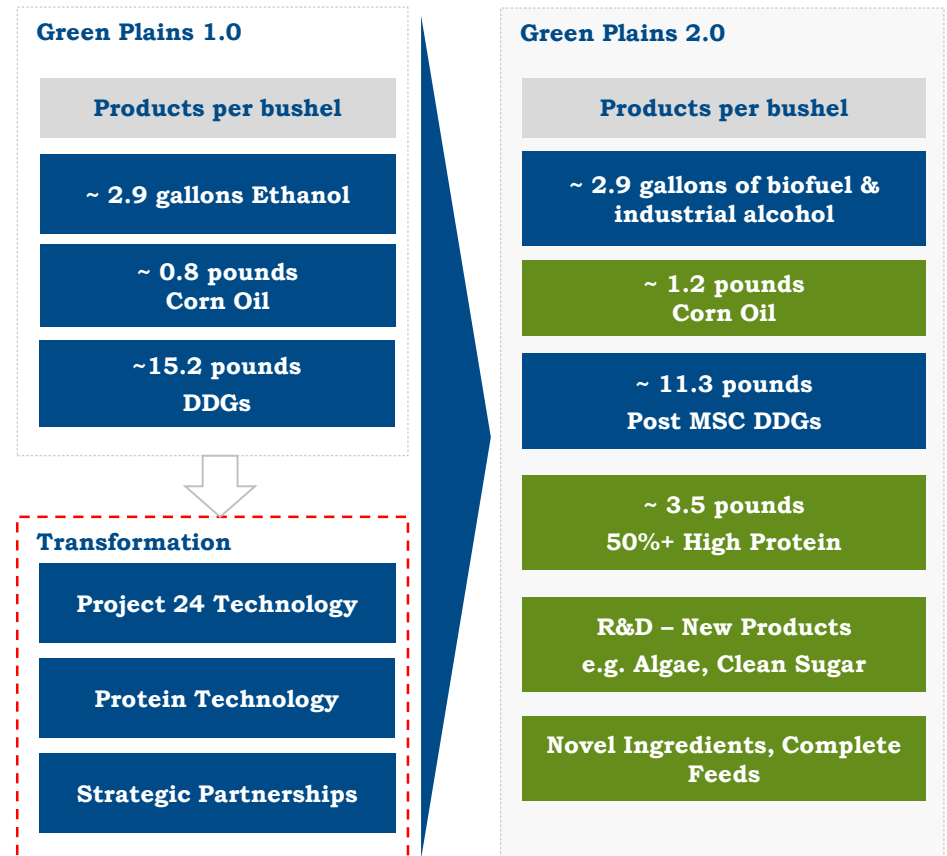
(Omaha, Neb, Sep 08, 2020)

Green Plains Announces Groundbreaking at Second High Protein Project

(Omaha, Neb, Sep 28, 2020)

# Total Transformation Plan

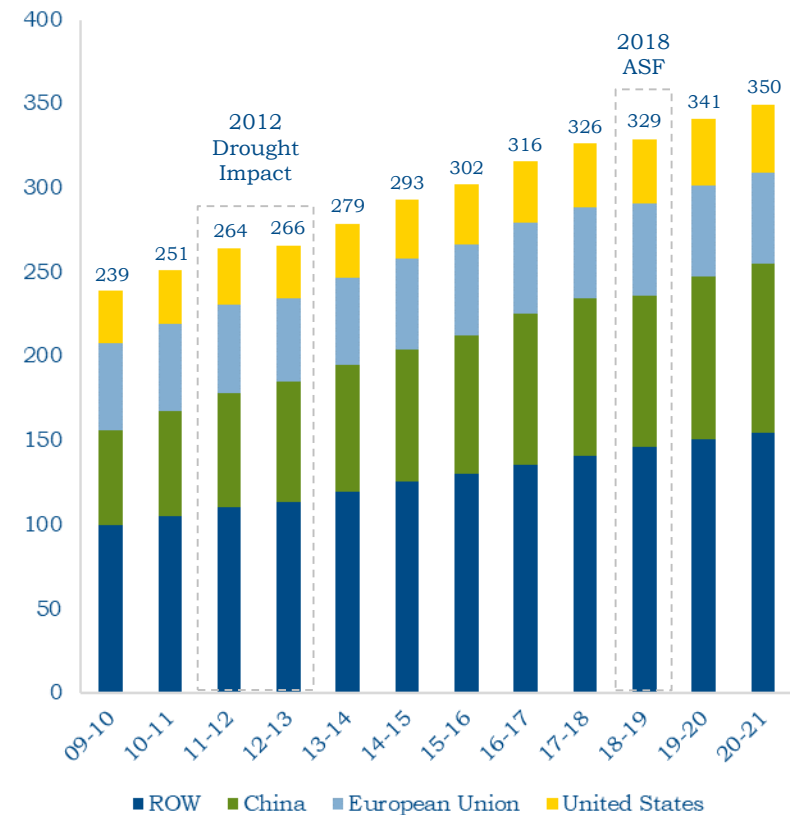
- **Our processing plants as biorefineries**
  - Use mechanical and enzymatic processes to “crack” a commodity into its most valuable components
  - Aligned with key technology players through exclusive collaborative partnerships to drive transformation
- **Extracting more value**
  - Focus on driving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



# 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 Technologies MSC System, a bolt-on technology, at our Shenandoah, Iowa
- 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)

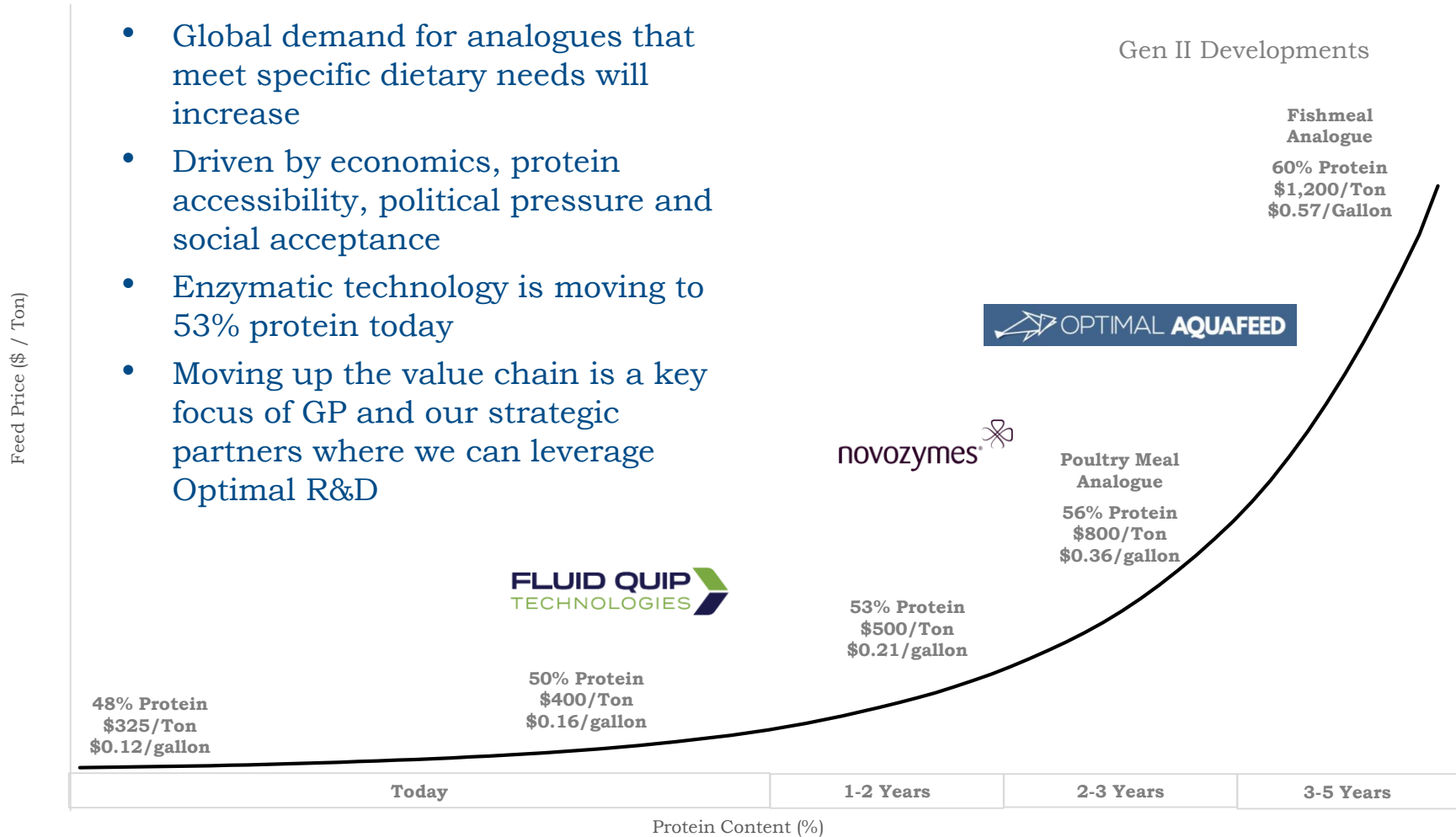


Source – USDA World Protein Report  
MMT is defined as million metric tons

# Potential for Higher Margins Enhance Opportunity

## J-Curve of Protein Opportunity

- 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





# 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
- Announced Obion location



- 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

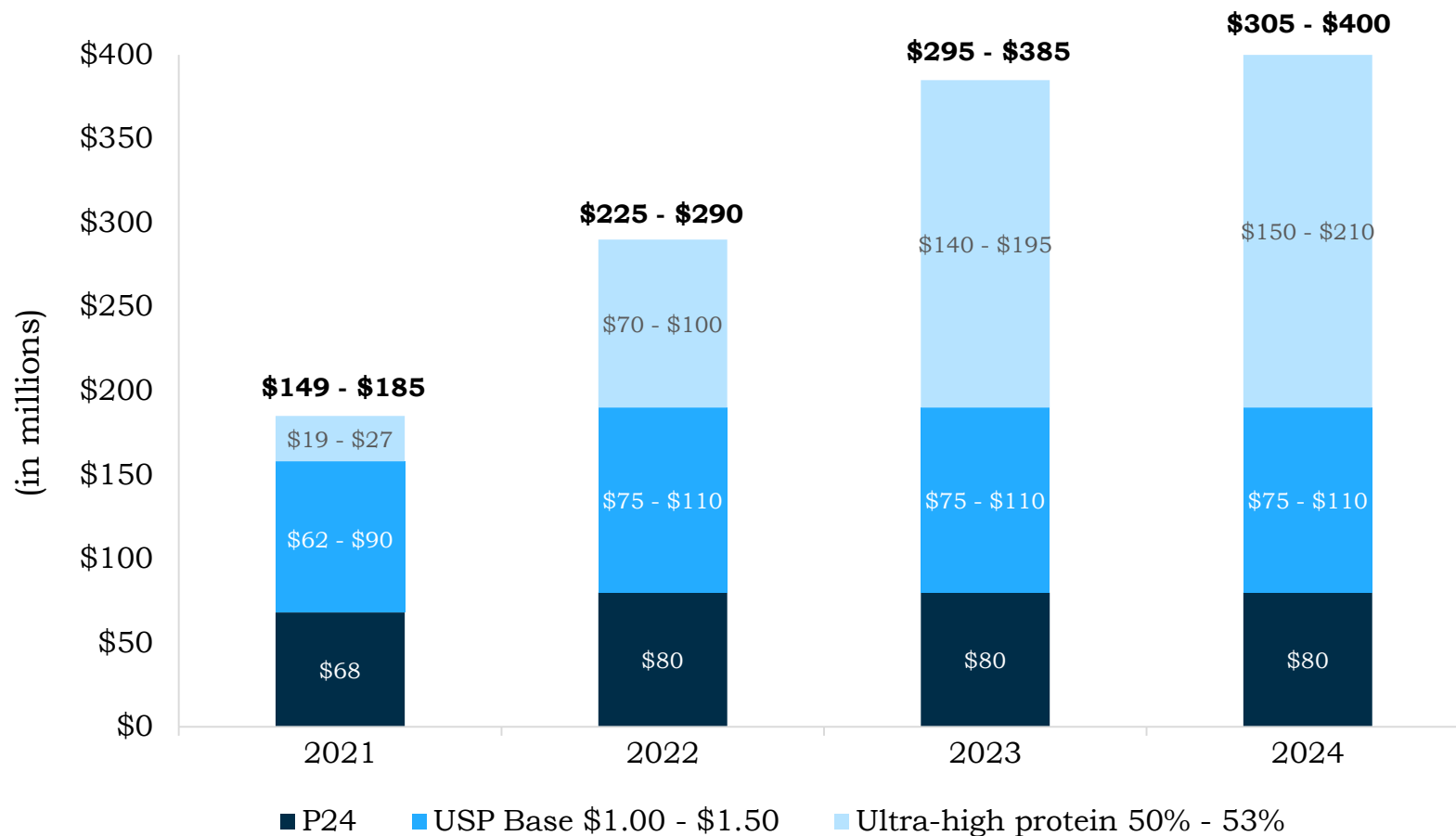
- **Nutritional advantage**

- 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

# Path to 2024 Baseline EBITDA prior to Ethanol Economics



## Assumptions:

- Assets produce at 90% of capacity on 1.123 billion gallons
- Project 24 with operating expense of \$0.24/gallon across the platform, which is embedded in ethanol crush economics
- Crush margin uplift of \$0.15/gallon for high protein technology at base 50 Pro; \$0.21/gallon at 53 Pro
- Project 24 completed by mid 2021, Protein installations staged to be completed by mid 2023, USP at York completed during Q4 2020, USP at Wood River complete by Q2 2021
- Protein capital investment of ~\$450 million of capital investment based on 13 ethanol plants, with ~\$400 million remaining to be spent

# 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 Innovation Center 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



# Appendix



# Green Plains Biofuels = Cleaner, Greener Planet



## 857 Million Gallons

of ethanol produced in 2019 which resulted in

# 2,940,000

metric tons



of **carbon reduction**

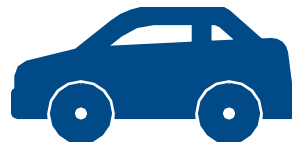
## EQUIVALENT TO



CARBON DIOXIDE  
SEQUESTERED BY

### 3.8M

ACRES OF U.S.  
FORESTS IN 1 YEAR



CARBON DIOXIDE  
EMMISSIONS FROM

### 634K

PASSENGER VEHICLES  
DRIVEN FOR 1 YEAR



CARBON DIOXIDE  
EMMISSIONS FROM

### 7.3B

MILES DRIVEN BY A  
PASSENGER VEHICLE

Source: EPA greenhouse gas equivalency calculator and RFA

# 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**



**Meet the world's growing food and dietary protein demands with ultra-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, ultra-high protein and novel feed ingredients, and low carbon, closed loop and sustainable biofuels*

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

**32.2** MMT of reduced CO2 emission \*

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

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

\* Since merger in 2008 through 2019



# Tailwinds in Washington Regulatory Policy

## 2020 Renewable Volume Obligations

- 15 billion gallons = 15 billion gallons
- EPA did not appeal 10th Circuit Court ruling and denied 54 gap year SREs

## Higher Blends

- E15 available year round
- \$100 million in USDA funding for higher blend infrastructure
- EPA directed to allow E15 through E10 infrastructure
- EPA directed to modify the E15 label

## Trade

- Expect 1.2 – 1.3 billion gallons of exports in 2020, down from 1.45 in 2019
- Phase I Trade Agreement could lead to significantly 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)

Trump Denies Oil Refiners' Push for "gap year" Biofuel Exemptions

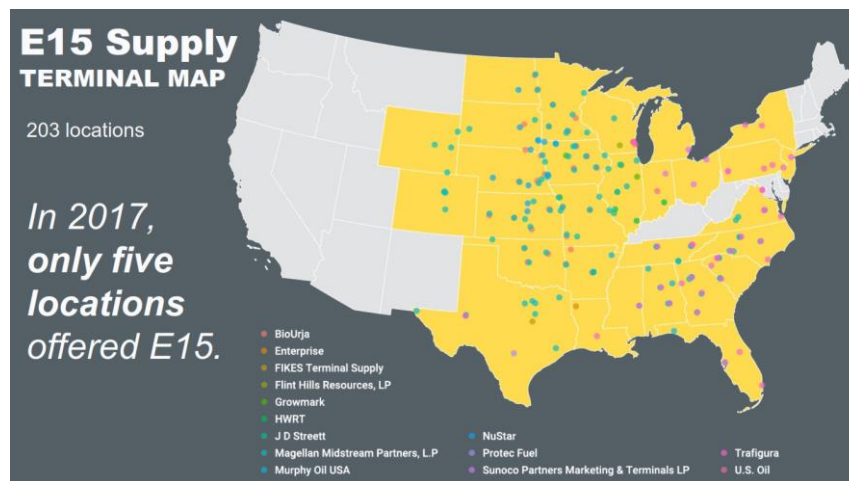
(WASHINGTON, - Sep 14, 2020)

USDA Grants Fund Biofuel Blend Expansion Efforts at C-Stores

(WASHINGTON, Oct 14, 2020)

# Tailwinds Driving Demand Through Higher Blends

- E15 sold in 30 states at 2,200 retail stations as of September, 2020<sup>1</sup>
- E15 offered at over 200 fuel terminal locations<sup>1</sup>
- \$100 million in grants from USDA to accelerate infrastructure rollout
- POTUS directed EPA and OSHA to allow E15 through E10 infrastructure and EPA to address E15 label
- Automakers approve the use of E15 in more than 90% of 2020 models<sup>2</sup> and EPA approves for all makes model year 2001 and newer – 93% of all vehicles



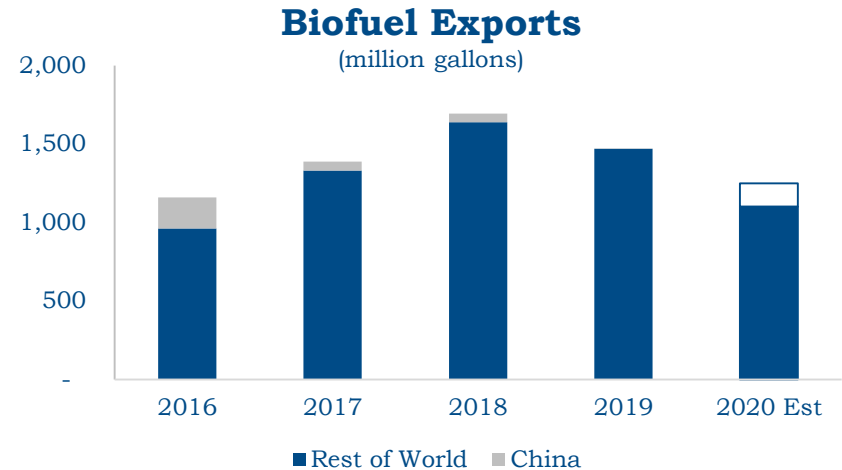
1) Source: Prime the Pump as of September, 2020

2) Source: Based on analysis by RFA

# Tailwinds in Export Markets

## Biofuel Exports

- Anticipate 1.2 - 1.3 billion gallons of exports in 2020 before potential China demand from Phase I
- Brazil and Canada accounted for ~45% of exports in 2019
- Brazil delayed eliminating TRQ but aren't importing the volumes they used to



## Distillers Exports

- 10.8 million metric tons of DDGs exported in 2019, or ~25% of production
- Mexico, South Korea, Vietnam and Indonesia accounted for ~49% 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)**