

Unprecedented Global Convergence In Renewable BioFuels



BioEconomyTM
Solutions

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BioEconomy Solutions

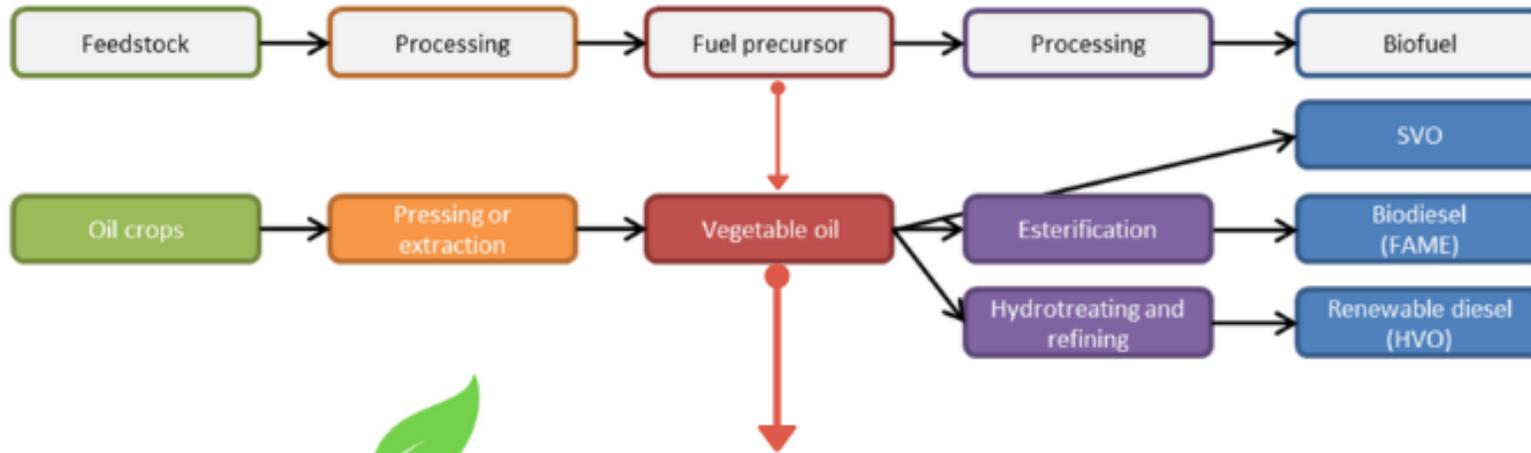
About Us

We develop eco-friendly agricultural crops for biofuels, feed & food. Our goal is to create a “World Model” for regenerative farming by producing biomass crops & recycling waste to energy.



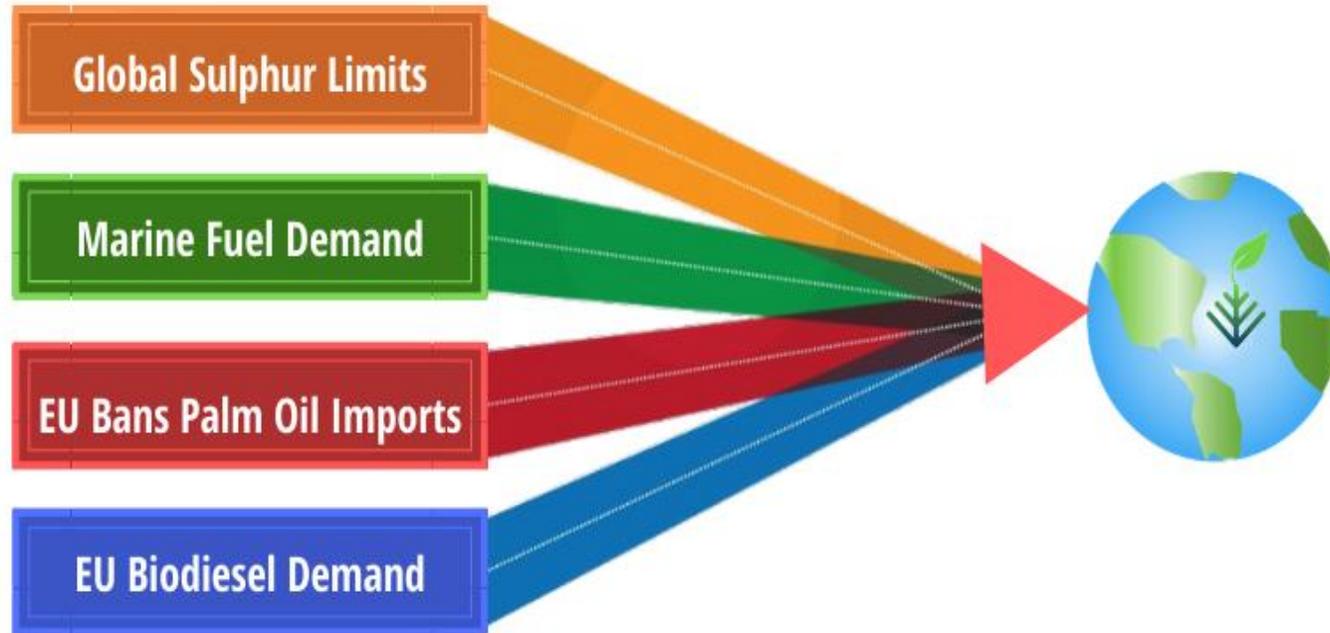
BioEconomy Solutions Market Position

Biofuel Production Technology



50x growth & Long Term Trend

Unprecedented Global Convergence In Renewable Energy



50x Growth In Renewable Energy For 2020

BioEconomy Solutions production of non-food based oils for biodiesel & renewable diesel with agricultural farmland investments is set to have 50x growth with this Long Term Trend - Happening Right Now!

Investment in the BES Renewable Diesel project also delivers a windfall for corporations and financiers in the form of avoided capital gains via our qualified opportunity zone fund.



7 Contributing Factors

The unprecedented Global Convergence In the Renewable Biofuel sector happening right now specifically in the Biodiesel, Renewable Diesel and Advanced Biofuels markets is being driven by new government regulations.

Here are the 7 contributing factors:

- ▶ EU Biodiesel Demand
- ▶ EU Bans Palm Oil Imports
- ▶ IMO 2020 Global Sulphur Limits
- ▶ Marine Fuel Demand Increasing
- ▶ Over 60 Global Mandates
- ▶ 5-year extension of biodiesel tax credit signed into law
- ▶ Completed EU Off Take Agreement



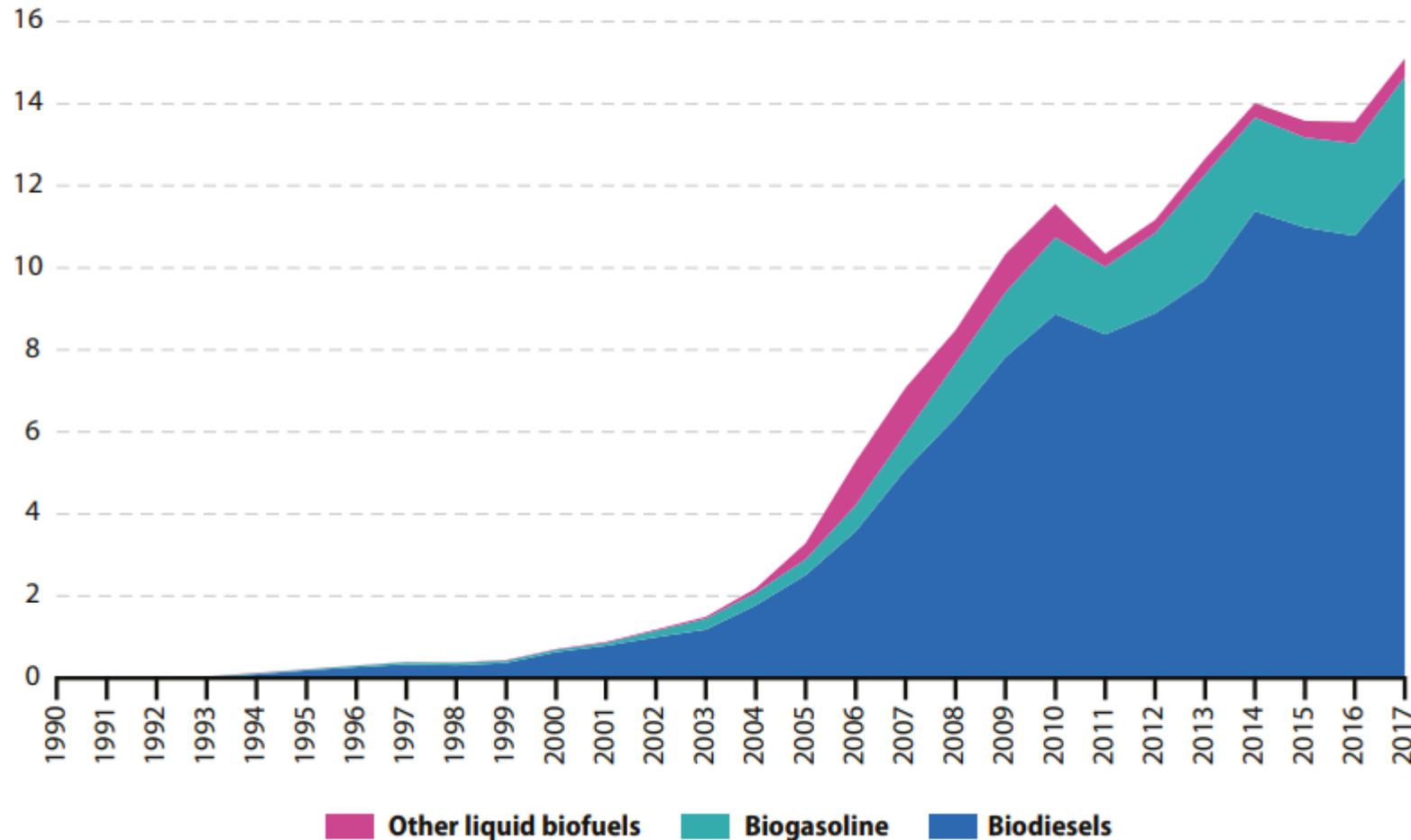
Renewable Energy Growth Happening Now

✔ Impact Investing, ESG, SRI

EU Biodiesel Demand



Figure 1.6.3: Primary production of liquid biofuels, EU-28, 1990-2017 (Mtoe)



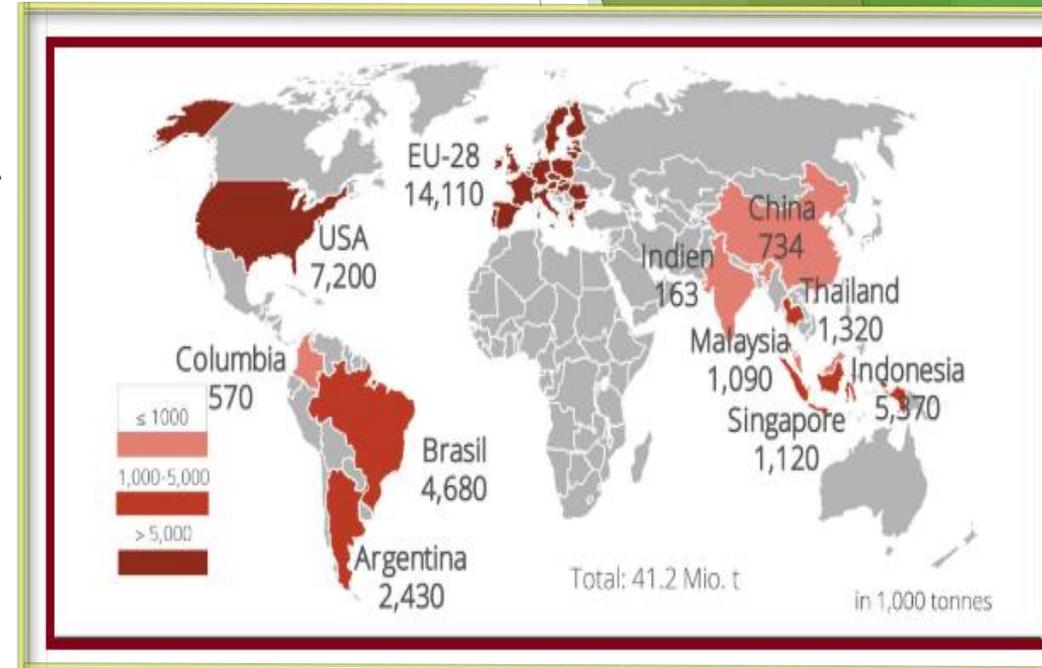
The European Union (EU) is the world's largest biodiesel producer. Biodiesel is also the most important biofuel in the EU and, on an energy basis, represents about (75%) of the total transport biofuels market. Biodiesel was the first biofuel developed and used in the EU, adopted by the transportation sector in the 1990s.

Due to the 2020 mandated policy change, the production of liquid biofuels in the EU increased significantly, with biodiesel being the liquid biofuel most widely produced, followed by biogasoline and other liquid biofuels (Figure 1.6.3). Liquid biofuels, usually blended with fossil fuels, is the most widely used renewable energy source in transport.

EU Biodiesel Demand

- ▶ The EU set a (10%) target for renewable energy use in transport for 2020, and raised the target to (14%) for 2030.
- ▶ EU biodiesel consumption is expected to increase (3%) as a result of mandated increases in a number countries (Croatia, Finland, Hungary, Ireland, Italy, the Netherlands, Poland, Slovakia, and the United Kingdom) and a rebound in the Czech Republic.
- ▶ The largest increases by volume are expected in Spain, the United Kingdom, the Netherlands, the Czech Republic, and Hungary.

EU Biodiesel Consumption For 2019 = 17,380 tonnes.
EU Biodiesel Production For 2019 = 14,110 tonnes.



EU Bans Palm Oil Imports



The European Parliament (EP) voted to ban the use of palm oil for the production of biofuels in the European Union (EU) by 2020.

The EU agreed to a (7%) cap for food-based biofuels, which was forecasted at (4.6%) in 2019

The European biofuel market demand for biodiesel will only increase. With the limits set on soy, canola, rapeseed, and *other food-based oils* , BioEconomy Solutions can seize immediate market opportunity for unprecedented growth in 2020 and beyond 2030 with the production of our non-food vegetable oils.

IMO 2020 Global Sulphur Limits

Global Marine Fuel Sulphur Limits - IMO 2020

- ▶ As of January 1, 2020, the NATO's International Maritime Organization (IMO) requires sulphur content in marine fuel to drop from (3.5%) to just (0.5%). Estimates are that the new IMO rules will affect 3.5 million barrels per day of high-sulphur fuel oil.
- ▶ Marine vessels will have to switch to low-sulphur fuel, significantly increasing demand for diesel.
- ▶ Under the IMO guidelines for 2020 global sulphur limits, diesel fuel can contain up to (7%) of biodiesel.



IMO  **2020**

Taking bold action to clean up shipping emissions
by reducing the sulphur content in ships' fuel oil



HOW?

0.50% reduced from 3.50%
- significantly less sulphur permitted in ships' fuel oil

77% drop in overall SO_x emissions from ships (2020-2025)

Marine Fuel Demand Increasing

Globally, marine vessels are a critical part of the global economy:

- ▶ Moving more than (80%) of global trade by volume and more than (70%) by value.
- ▶ Marine vessels represent (4%) of global oil demand (about 4.3 million barrels per day according to the International Energy Agency).
- ▶ It's estimated the IMO 2020 rise in annual fuel costs for shipping operators will be \$24 billion from 2020.
- ▶ Under IMO guidelines, marine diesel fuel can contain up to (7%) of biodiesel. Which represents a new market in the shipping sector \$1.7 billion in NEW ANNUAL sales for biodiesel producers.
- ▶ Marine biofuels can make up (5% - 10%) of the total global marine fuel mix by 2030.



Marine Fuel Ship Fill Up?

For the Emma Mærsk container ship at economical speed, fuel consumption is 0.260 bs/hp·hour (1,660 gal/hour).

What does it take to fill up the largest ships?

Bulk carrier of commodities such as grain or coal (500-700 feet): 400,000-800,000 gallons

Large cruise ship (900-1,100 feet): 1-2 million gallons

Inland tank barge (200-300 feet): 400,000-1.2 million gallons

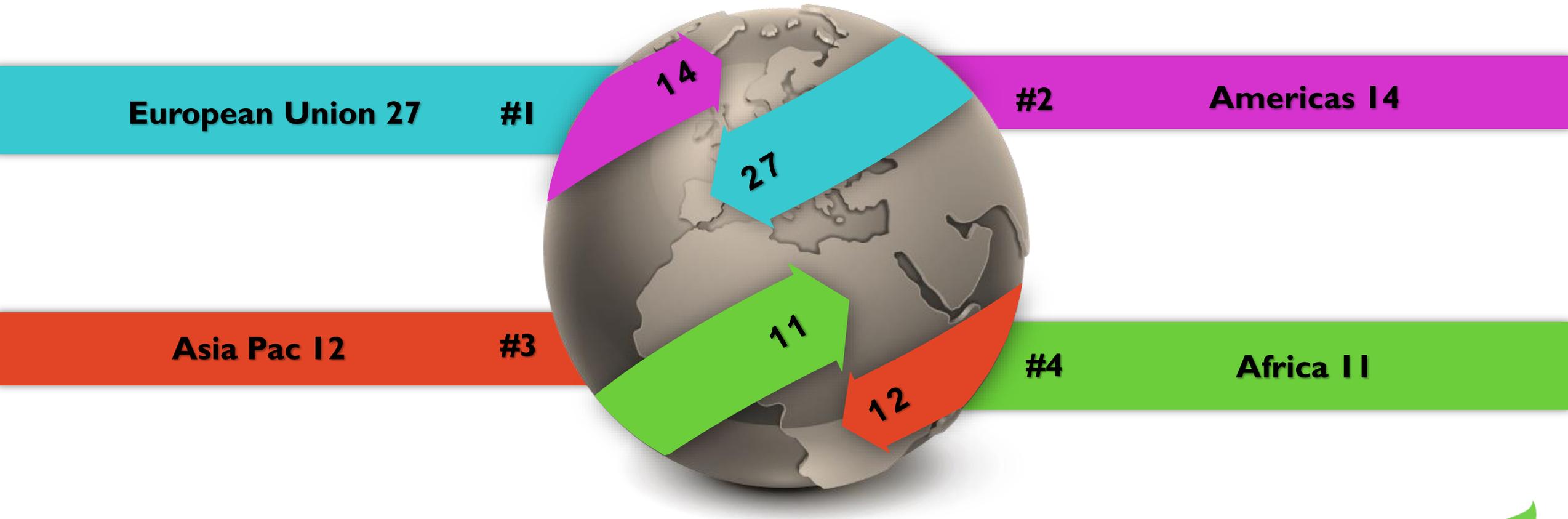
Panamax container ship that passes through the Panama Canal (960 feet): 1.5-2 million gallons

Container ship *Benjamin Franklin* (1,310 feet): 4.5 million gallons



Over 60 Global Mandates for Biofuel Production

64 countries around the world have targets or biofuels mandates.



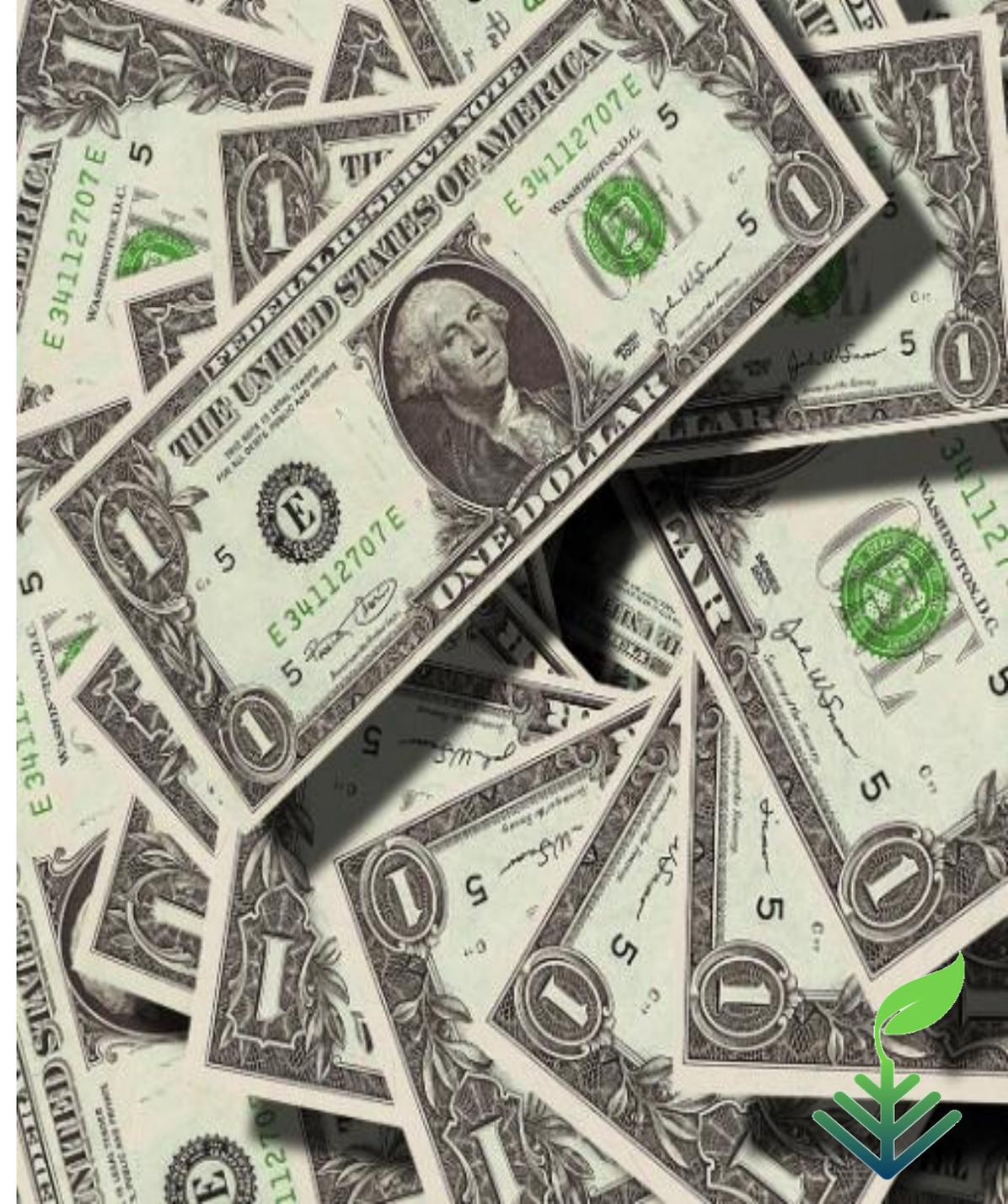
Here are the top 4 regions with the European Union being number one.



5-year Extension of Biodiesel Tax Credit Signed Into Law

20 December of 2019 the white house signed into law a new budget deal that includes an historic five-year extension of the \$1 per gallon biodiesel blenders tax credit.

This extension makes biodiesel production in the United States more economically feasible and profitable.





Completed Off Take Agreement

BES has secured a \$60,000,000 annual contract. This is a 10-year off-take agreement to supply 3,000,000 gallons per month of virgin non-food based vegetable oil feedstock to an EU based biodiesel producer.



Biofuels Growth

One thing is certain: the global shift in demand for biodiesel and renewable diesel fuels will see unprecedented growth in the coming years & the largest increase is happening right now!

Contact BioEconomy Solutions today to discuss how your firm can benefit from this unprecedented growth via our investment portfolio or qualified opportunity zone funds.



Biofuel Energy Industry Comparison

Valuation based on Biofuel traded companies, IPOs, and recent M&A transactions during the 52 week period ending September 30, 2019.

BioEconomy valuation based on Pro Forma projections including off-take contracts.



	BioEconomy Solutions	Biofuel Industry
Median 52-Week Return	12.5%	9.9%
Median EV / Revenue Multiple	1.3x	4.2x
Median EV / EBITDA	8x	20x
Median EV / Gross Cash Flow Multiple	12.8x	16.8x
Median 3-Year CAGR Return	19.1%	-26.7%

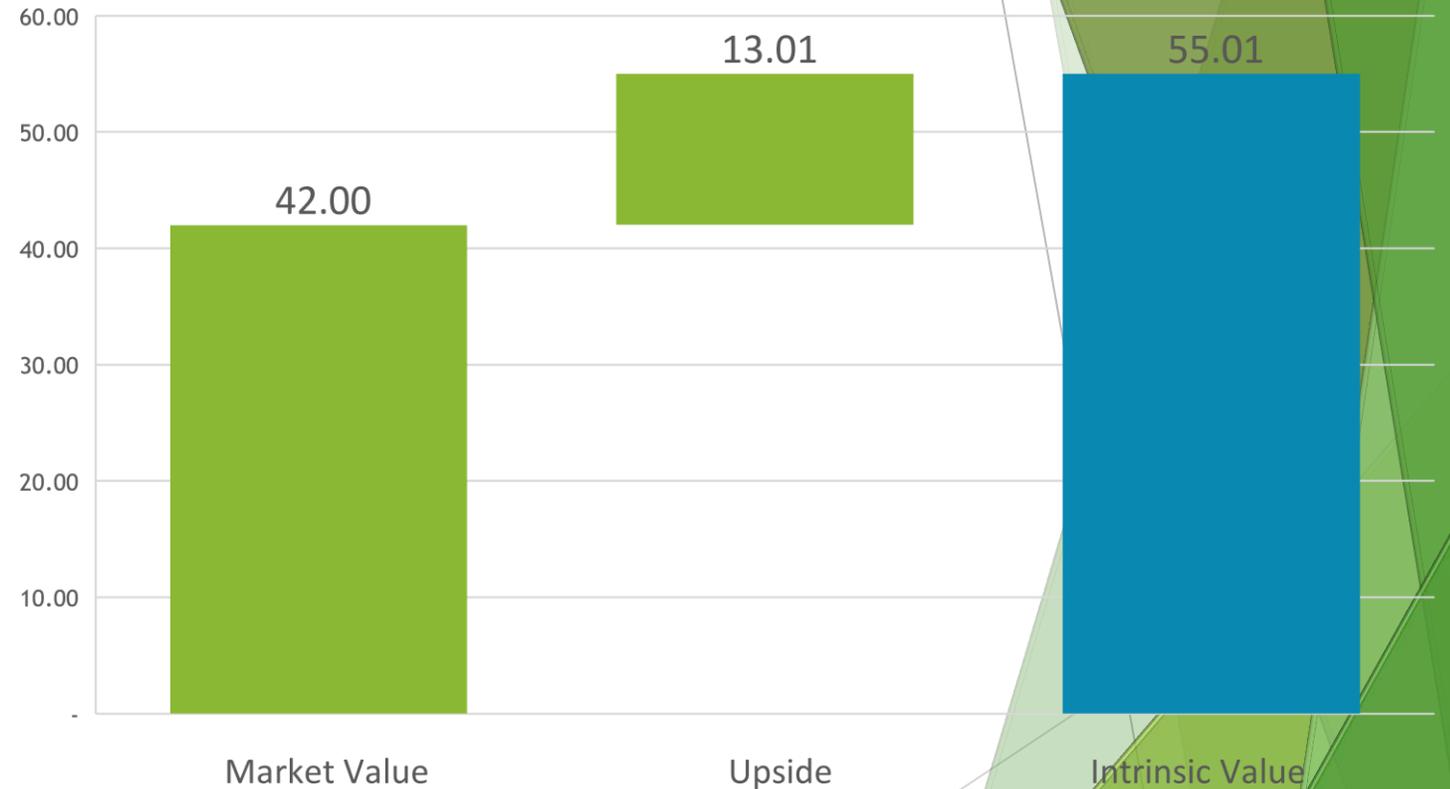
Source: Cogent Valuation Report as of 9/30/2019



Valuation Assumptions

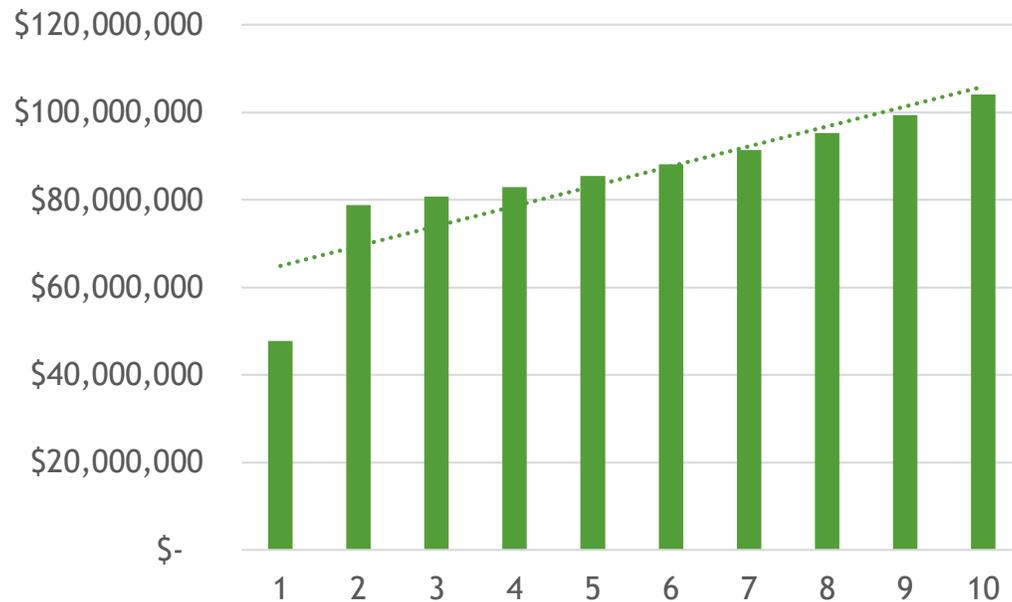
Tax Rate	21%
Discount Rate	15%
Perpetual Growth Rate	2%
EV/EBITDA Multiple	8.0x
Current Price	42.00
Shares Outstanding	1,000,000
Debt	42,000,000
Cash	20,000,000
Capex	20,000,000

Market Value vs Intrinsic Value

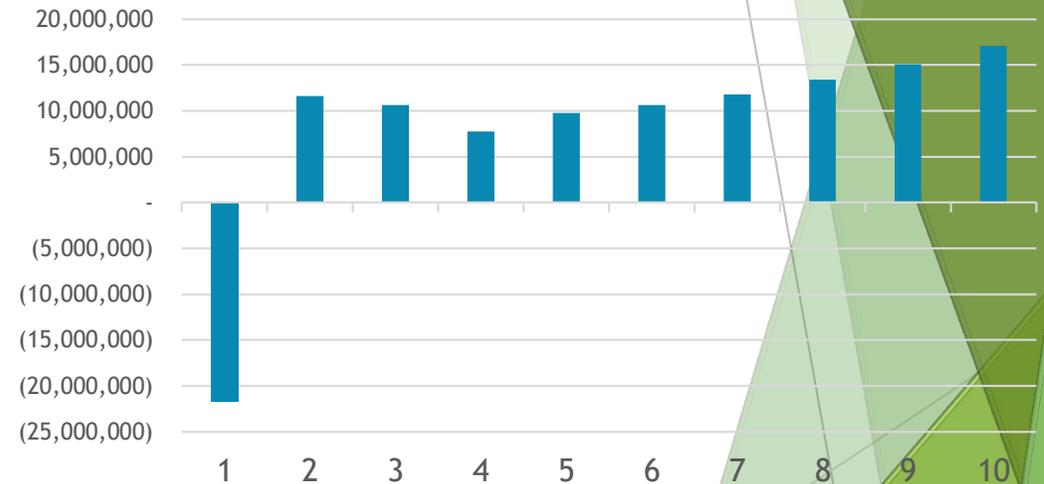


Pro Forma Projections

Projected Revenue



Unlevered Free Cash Flow



Target Price Upside
Internal Rate of Return (IRR)

31%
30%



IMPACT Carolina Funds

- Class B Membership Units - BioEconomy Solutions
- Qualified Opportunity Fund Class B Membership Units

IMPACT Carolina Funds is raising \$20,000,000 in seed capital to invest in biofuel energy companies specializing in the development of next generation advanced biofuels. The Funds are structured to take advantage of QOZ tax incentives as well as traditional venture financing. The BioEconomy Solutions project is a \$62,000,000 advanced biofuel facility located in Georgetown, South Carolina.

Maximum Class B Units Offered:	400
Minimum Class B Units Offered:	60
Price Per Class B Unit:	\$50,000
Minimum Investment:	\$250,000
Maximum Raise:	\$20,000,000
First Close:	\$3,000,000

Offer Presented by Carolina Opportunity Funds

Carolina
Opportunity Funds





BioEconomy Solutions

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