



**USDA 9003 Program**  
*Winning Strategies for Success*

**July 23, 2015**

***Sponsored by:***  
**Westar Trade Resources**  
**Leidos**



**Presenters Include:**

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United States Department of Agriculture

# **Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program**





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# **Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program**

***Mark Brodziski***

*Director, Energy Division*

*Rural Business-Cooperative Service*

# **Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program (9003)**

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- Interim Final Rule published June 24, 2015 in the Federal Register—public comments accepted through August 24, 2015.
- Notice of Solicitation for Applications published July 6, 2015—rolling six-month application cycles.

# 9003 Program Purpose

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## Guaranteed Loans

- Loan guarantees for up to 80% of the total eligible project costs up to \$250 million.
- The maximum total Federal participation is 80% of the total eligible project cost.
- The borrower and other principals must make a significant cash equity contribution investment in the project.



# 9003 Program Purpose

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Assists development of:

1. Biorefineries
2. Biobased product manufacturing facilities

# Biorefineries—Project Eligibility

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The development, construction, or Retrofitting of a Commercial-Scale Biorefinery using Eligible Technology.”



# Biorefineries—Eligible Technology

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- A technology that is being adopted in a viable Commercial-Scale operation of a Biorefinery that produces an Advanced Biofuel; or
- A technology that has been demonstrated to have Technical and Economic Potential for commercial application in a Biorefinery that produces an Advanced Biofuel.

# Biorefineries—Advanced Biofuel

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Fuel derived from Renewable Biomass, other than corn kernel starch, to include:

- (1) Biofuel derived from cellulose, hemicellulose, or lignin;
- (2) Biofuel derived from sugar and starch (other than corn kernel starch),
- (3) Biofuel derived from waste material, including crop residue, other vegetative waste material, animal waste, food waste, and yard waste;
- (4) Diesel-equivalent fuel derived from Renewable Biomass, including vegetable oil and animal fat;
- (5) Biogas (including landfill gas and sewage waste treatment gas) produced through the conversion of organic matter from Renewable Biomass;
- (6) Butanol or other alcohols produced through the conversion of organic matter from Renewable Biomass; and
- (7) Other fuel derived from cellulosic biomass.

# Biorefineries—Renewable Biomass

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Renewable biomass.

- (1) Materials, pre-commercial thinnings, or invasive species from National Forest System land or public lands, or
- (2) Any organic matter that is available on a renewable or recurring basis from non-Federal land or land belonging to an Indian or Indian Tribe that is held in trust by the United States including:
  - (i) Renewable plant material, including feed grains; other agricultural commodities; other plants and trees; and algae; and
  - (ii) Waste material, including crop residue; other vegetative waste material (including wood waste and wood residues); animal waste and byproducts (including fats, oils, greases, and manure); and food waste and yard waste.

# Biorefineries--Summary

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- Eligible projects must use eligible technology to produce advanced biofuel (primary, co-product, or byproduct)
- May also produce:
  - Renewable chemicals
  - Biobased products
  - May generate electricity
- Production of biofuel from corn kernel starch is ineligible

# Biobased Product Manufacturing

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Eligible projects:

- Manufacture renewable chemicals and other biobased outputs of biorefineries into end user products
- Use technologically new equipment and facilities

# Application Process

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- Letter of Intent
- Two Application Phases
  - Phase 1
  - Phase 2
- Application Deadlines – Submit at Anytime
  - October 1
  - April 1

# Letter of Intent

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Due 30 days Prior to Application Due Date

- Borrower, Lender and Project sponsors
- Project Description and Location
- Proposed feedstock, technologies, and products produced
- Total Project Cost and Loan Amount Requested
- Expected Application Cycle

# Application Phase One

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- Application Form
- Project Summary
- Financial Statements and Financial Model
- Feasibility Study
- Business Plan
- Priority Scoring Information



# Application Phase Two

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- The timeline to complete phase two will be driven by the borrower.
- Phase two includes: final project planning, technical report, environmental assessment, final evaluation of economic feasibility and technical merit, lender's final analysis and credit evaluation and a credit rating.
- Concludes with establishing loan terms and conditions prior to issuance of the Conditional Commitment

# Application Guide

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- Agency contacts
- Application Letter of Intent
- Application Format and Submittal
- Phase 1 Application contents
- Phase 2 Application contents
- Appendices A - F

# Application Guide--Appendices

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- Appendix A, Table of Contents template
- Appendix B, Feasibility Study outline
- Appendix C, Business Plan outline
- Appendix D, Priority Scoring criteria
- Appendix E, Technical Assessment/Report
- Appendix F, Environmental Assessment instructions

[http://www.rd.usda.gov/files/RBS\\_Section9003Biorefinery\\_ApplicationGuide.pdf](http://www.rd.usda.gov/files/RBS_Section9003Biorefinery_ApplicationGuide.pdf)

# Eligible Lenders

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- Must have expertise and experience of making and servicing loans to similar projects.
- The lender must meet the FDIC's definition of "well-capitalized"
- Eligible lenders include:
  - A Federal or State chartered bank;
  - Bank for Cooperatives, Farm Credit Bank, or other Farm Credit System institution with direct lending authority;
  - Credit Unions subject to credit examination and supervision by a State agency or the National Credit Union Administration; and
  - The National Rural Utilities Cooperative Finance Corporation.

# Lender Responsibilities

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- Lender of record has primary responsibility for loan origination and servicing.
- Must submit Application for Loan Guarantee as part of Phase 1 application materials.
- Loan underwriting and credit analysis are completed as part of Phase 2 application materials.
- Lender must retain at least 7.5% of the loan which must be of the unguaranteed portion

# Loan Terms

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- Loan guarantees for up to 80% of the total eligible project costs up to \$250 million.
- Interest rates are negotiated by lender and borrower and may be variable or fixed rates or combination of variable and fixed rates.
- Principal repayment must be amortized with loan maturity no greater than 20 years or the useful life of the project and may include up to 36 months deferral of principal payments during construction and startup.

# Guarantee Terms

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- 80% guarantee  $\leq$  \$125 million loan amount (90% if certain criteria are met)
- 80% guarantee  $>$ \$125 – 150 million loan
- 70% guarantee  $>$ \$150 – 200 million loan
- 60% guarantee  $>$ \$200 – 250 million loan

# Guarantee Fees

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Loans with 90% guarantee:

- 3% guarantee fee (percentage of guarantee portion of the loan)

Loans with <90% guarantee:

- 2% guarantee fee if the loan amount is > 75% of total eligible project cost
- 1 ½%, 65% - 75% of total eligible project cost
- 1%, ≤ 65% of total eligible project cost



# Annual Renewal Fees

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## Annual Renewal Fee Rates

- 1% of outstanding principal balance (100 basis points) if the loan amount is  $> 75\%$  of total eligible project cost
- 0.75% (75 basis points), 65% - 75% of total eligible project cost
- 0.5% (50 basis points),  $\leq 65\%$  of total eligible project cost

# Agency Resources

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## Program web homepage:

[www.rd.usda.gov/programs-services/biorefinery-assistance-program](http://www.rd.usda.gov/programs-services/biorefinery-assistance-program)

## Agency Contact Information:

Email: [EnergyDivision@wdc.usda.gov](mailto:EnergyDivision@wdc.usda.gov)

Telephone: 202.720.0410

Rural Development State Energy Coordinators:

[http://www.rd.usda.gov/files/RBS\\_StateEnergyCoordinators.pdf](http://www.rd.usda.gov/files/RBS_StateEnergyCoordinators.pdf)



# The Independent Engineer

## Winning Strategies for Success Webinar

**USDA Section 9003 Biorefinery, Renewable Chemical, and  
Biobased Product Manufacturing Assistance Program**

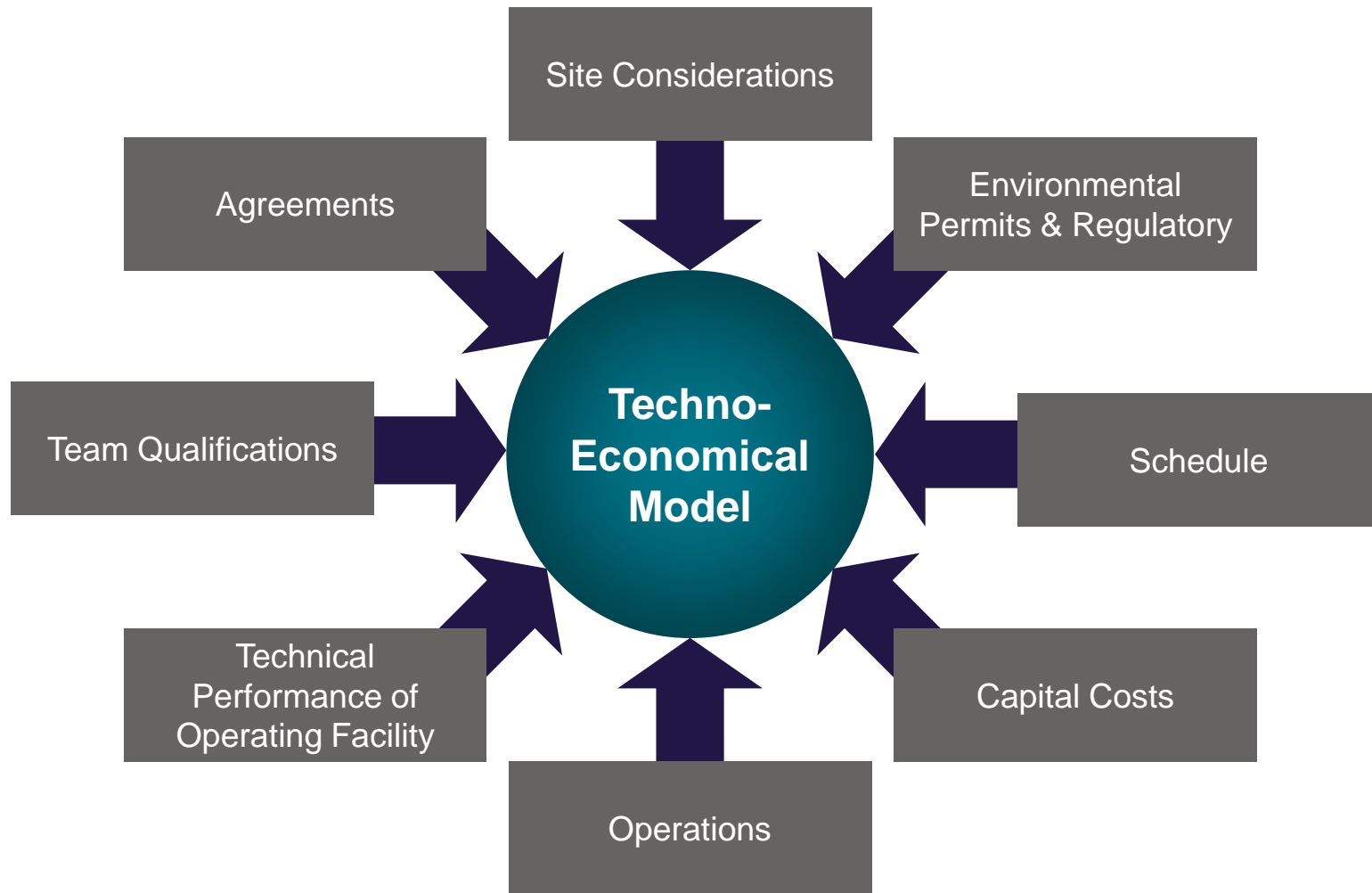
Presented by: Bill Crump

July 23, 2015

# Typical Independent Engineering (IE) Review

- › Reviews the work developed by others.
- › Independent review to assess:
  - › Major technical areas of project development has been identified and addressed.
  - › Basis for technical inputs to the financial model.
  - › Investor risk
  - › Additional requirements of the stake-holders
- › Project involvement
  - › Due diligence for project investment prior to construction
  - › During construction, that investment is being used as it was intended and if project is progressing according to scope, schedule, and budget
  - › Performance test to demonstrate meeting the intent of the financial model
  - › Operations monitoring

# Scope of the IE Technical Review



## Team Qualifications

- > Team's demonstrated experience with similar complexity project.
- > Operation's team qualifications
- > Engineering, procurement, construction management, construction service providers qualifications
- > Major equipment vendor qualifications
- > Project execution methods

## Site Considerations

- > Geotechnical investigations
- > Design Criteria (seismic, wind, snow, rain)
- > Construction constraints (physical site limitations)
- > Utility access
- > Feedstock and products transportation logistics
- > Flood plain determination
- > Wetlands / permits
- > Land use restrictions (special permitting, zoning)
- > Lease or purchase requirements
- > Historical use

## Technical Review of Agreements

- > Consistency between agreements and other aspects of the project and the financial model.
  - > Feedstock and off-take qualities and quantities
  - > Utility provisions
  - > Geotechnical recommendations
  - > EPC agreements
  - > Major vendor equipment (performance and availability)
  - > Warranties
  - > Operations agreements
  - > Site lease



## Environmental Permits and Regulatory

- > The purpose of this review is to verify that the developer has identified, and is obtaining, the permits that could significantly hinder or stop a project from being built or impact the financial model.
- > Types of permits and investigations (typically major items):
  - > Required to start or continue construction
  - > Required for continued operations
- > Scope of this review changes to meet the stake-holder needs.
- > Start putting together your permitting (including Environmental Assessment) and regulatory binder.

## Capital Cost for Construction

- > Indirects such as tax, insurance, owner's costs, financing fees, etc., are reviewed separately
- > IE reviews construction costs
  - > For mature commercial processes
    - > Capital cost development methodology
    - > Comparisons to “like” facilities
  - > New technologies, limited to methodology
  - > Methodology: scope completeness, scope boundaries, cost sources (agreements, quotes), maturity of engineering design
    - > Contingency for uncertainty in scope definition and cost sources – guidelines
    - > Contingency for process unknown for lack of integrated demonstration operation, at a relevant scale, for extended period of time, using the same technologies – unknown

# Operations and Maintenance

## > Costs

- > Support information for chemical and utility usage and labor
- > Feedstock consumption and production
  - > May need a commodity prices consultant for feedstock and product

## > Operations

- > Commissioning and Start-up plan (required under 9003 program – but usually cannot be developed without vendor input after detailed design is nearly complete).
- > Operations program (labor staffing, out-sourcing, unplanned outage plans)
- > Maintenance program (schedules, spare parts, major maintenance accounts – usually requires vendor input).

## Other Requirements under the 9003 Program

- > Non-technical requirements
  - > Recommend retaining a 3<sup>rd</sup> party with expertise in this area to advise the developer
    - > Resource assessment - feedstock availability, storage, competing uses, shipping methods, systems to prevent the spread of invasive species.
    - > Product market
- > Decommissioning Plan

## Technology Review

- > Performance data to support financial model projections.
  - > Integrated testing (including recycle streams, waste treatment, solid/liquid separations)
  - > Same feedstock (size ranges and quality)
  - > Similar equipment selections as pioneer plant.
  - > Properly sized demonstration plant for informed scale-up
  - > Demonstrated continuous operations for extended periods of time
- > For USDA 9003 program – Demonstration plant results from 120 day continuous, integrated test.
- > Demonstrate: chemical, catalyst, and utility usages (OPEX), emissions, yields, product quality, feedstock handling, water clean-up, equipment performance, reliability

## Closing Recommendations

- > Take the requirements seriously
- > Use an experienced dedicated team (environmental, engineering, construction, operations, scheduling, project controls, etc).
- > Why would you NOT want to perform rigorous integrated demonstration scale operations prior to building a commercial facility. Is your testing based on how much you can afford or how much is needed? - One approach may be a phased commercial approach where your first phase is the demonstration
- > Have patience, plan on extended start-up for pioneer plant.

# For More Information

**Bill Crump**

Project Development

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Visit us at [leidos.com/engineering](https://leidos.com/engineering)



**USDA 9003 Program**  
***Feasibility Study, Financial Analysis***  
***& How to Find a Lender***

**Cindy Thyfault, Founder and CEO**

July 23, 2015





# Westar Overview

- Westar has been in business for over 21 years assisting clients to obtain government grant and loan financing.
- Our clients have received over \$1.2 billion in financing conditional commitments and final loan closing from USDA, DOE, and ExIm Bank.
- Our clients include most of the 9003 successful applicants since 2009, including Sapphire Energy, Fulcrum, Zechem, Chemtex, Cool Planet, and Ensyn.
- Cindy Thyfault, CEO, also serves on the Secretary of Commerce's Renewable Energy and Energy Efficiency Advisory Committee, and provides recommendations to promote exports of EERE technologies and products.

# Feasibility Study Requirements

- Must be performed by an Independent Consultant.
- Objective is to evaluate and quantify business risks and long-term sustainability.
- Should discuss both risks and risk mitigation measures.
- Must be feasible in all 5 areas:
  - Economic
  - Market
  - Technical
  - Management
  - Financial

# Predicting Oil Futures in Uncertain Times

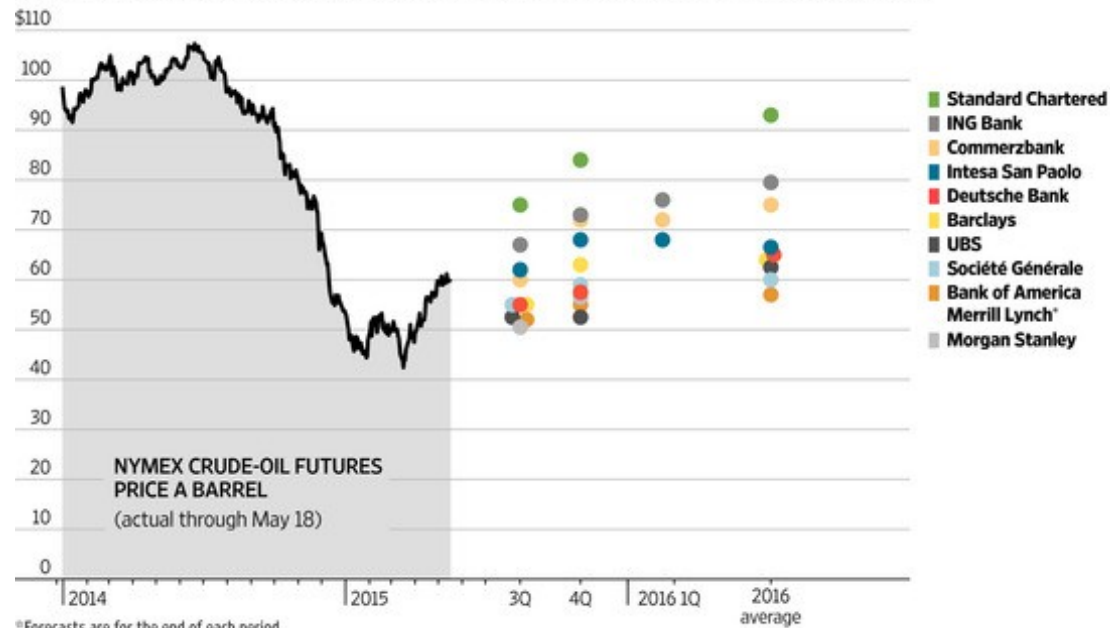
## Crude Oil Price Projections - Banks

### Use Multiple Resources:

- EIA
- Wall Street Bank Projections
- Oil Company Public Documents and Projections

### Looking Ahead at Oil Prices

Where investment banks currently (May 2015) see the price per barrel on Nymex-traded crude-oil futures



THE WALL STREET JOURNAL.

May 19, 2015 Wall Street Journal

## **Verifying New Product Sales When Entering an Established Market**

- Financial assumptions should be independently verified by the IE and Consultant.
- An in-depth independent market analysis should be shown in the Feasibility Study.
- Company should have a long-term sales agreement with a reputable company with a good credit rating – also important for scoring criteria.
- Authoritatively demonstrate the size of market and show your company's projected percentage of that market.
- Quality of your product - is it superior in other qualities besides being bio-based?
- Detailed Proforma with an EBITDA profit projected to industry standard.
- Sensitivity Analysis must be proven across all major variables and multiple variables.



## Tips for Finding A Lender

- Understand your competition. The first lender you should approach is your own!!!
- Know that the USDA LG is just an enhancement for the lender – the project will need to stand on it's own merits, along with the management team.
- Do your homework – learn about the lender, ask questions about what types of loans they are looking for, and what their lending limit is.
- Have a well-written business plan with a working financial model, and an Independent Feasibility Study and IE Report can assist in giving a lender assurance that this is a reputable, sustainable project.
- Have proof that feedstock and market sales are readily available.
- Be able to demonstrate that your project is “commercially ready” and have verifiable proof that the equity is available.



*For more information, contact:*

**Cindy Thyfault, Founder and CEO**

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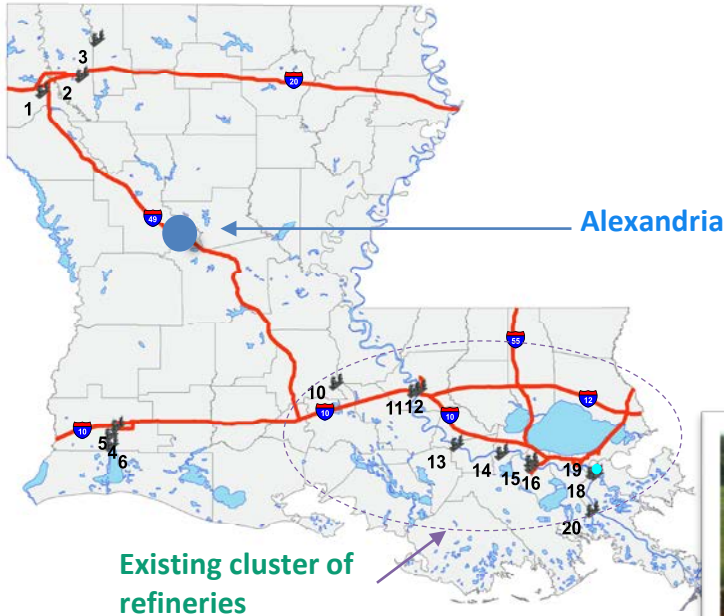
# USDA Loan Guarantee

Wes Bolsen



# \$91MM Loan with 80% USDA Loan Guarantee

## Location: Alexandria, Louisiana



**Site:** ~30 acres

**Feedstock:** RFS Qualifying Woodchips

**Products:** Advanced biofuels & biocarbon co-product

**Environmental:** NEPA review completed

**State Support:** \$15MM from Port of Alexandria

**Building  
construction  
is underway**





# Tips and Preparation for a Winning USDA Application:

## 1) Must have a lender of record

- Likely to require a parent guarantee if you put project in a subsidiary

## 2) The project must be “bankable”.

- ~65/35 debt to equity is better than 75/25
- 1.5 times debt coverage ratios are common
- Interest reserve, Maintenance reserve, Contingency, pre-paid interest

## 3) Loan guarantee can help solidify equity project financing

- Solves the “chicken and egg” problem

## 4) Time and cost involved in the application, but not to USDA

- Don't spend much on lawyers/bankers to help early
- Significant internal management and technical time

## 5) Benefit of choosing the right IE/Consultant

*USDA Loan Guarantee Process Not to be Entered Into Lightly*



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*Webinar: USDA 9003 Biorefinery, Renewable Chemical, and Biobased Product  
Manufacturing Assistance Program  
July 23, 2015*

Bob Doherty, CFO

# Ensyn Overview

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- Ensyn has a 25 year operating history (specialty chemicals and fuels)
- Our fuel can be used as a renewable feedstock for refineries for the production of renewable gasoline and diesel, and as a replacement for traditional heating oil
- Ensyn has world class strategic relationships and investors, including:

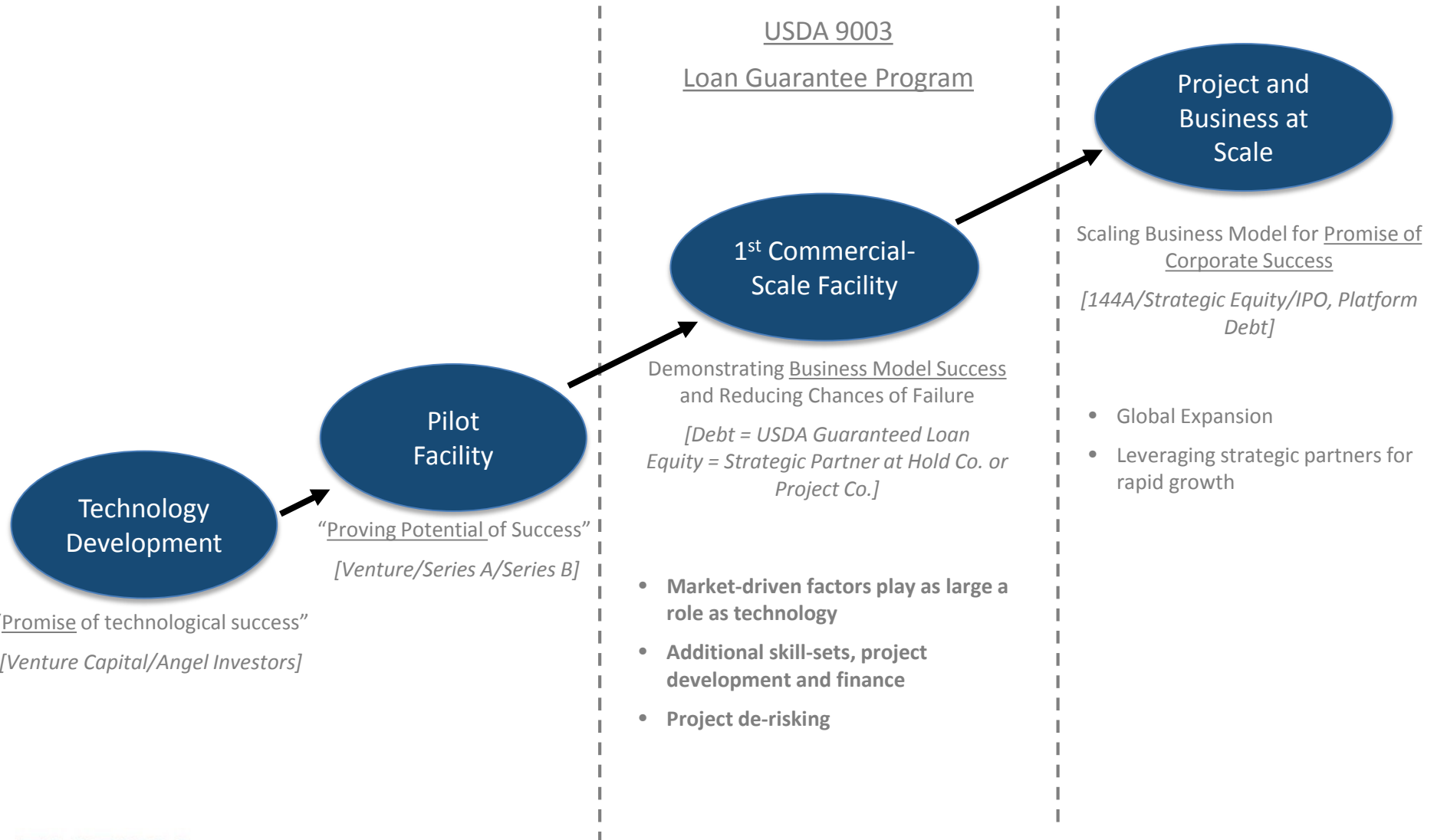


Chevron Technology Ventures



- We operate a 3 million gallon per year facility in Renfrew, Ontario
- We are currently developing projects in the US, Canada and Brazil
- Ensyn's fuel is very low carbon – capturing value via RFS2, California's Low Carbon Fuel Standard/Cap and Trade, and State level REC programs
- Ensyn's projects help to revitalize the forest products industry and promote sustainable forest management
- Ensyn is a successful applicant to the USDA 9003 Program for a 20 million gallon facility under development in the US

# USDA Bridging the gap for Technology and Corporate Transitions



# USDA 9003: “Commercial” Stage with Market-Driven Expansion

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*The 9003 Program helps in the transition from venture-backed technology company to traditional infrastructure project finance platform*

1. “Commercial and Shovel Ready” – Are you ready/what to these actually mean?
2. Getting to a Deal with a Lender of Record and USDA
  - Expanded Focus - Developer versus Technology Company
    - Identification of Key Project Finance Components
    - Roadmap to Completion of Critical Tasks
    - Framework for Contracting (Feedstock to Fuel)
  - Development Plan to get to Financial Close and COD
    - Critical Development Milestones Defined (not all need to be completed for 9003 Loan Application)
    - Budgeted and Sequenced Priorities to “Bankability” (USDA and Lender of Record)
    - Sources of and Prioritization of Development Capital (Do you have enough capital to get to the closing table?)
  - Realistic, Defined, and Flexible Financial Model
  - Strategy for Long-term Equity (and additional development capital, if needed)
3. Demonstrating Certainty of Execution
  - Accomplishments to Date
  - Identification of Risks and Mitigation Strategies
  - Partnerships and Commitments
4. Lender of Record Solicitation
5. Application Process



# Questions and Answers