



RED ROCK BIOFUELS

Mary Dinh, Project Manager
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Red Rock Biofuels LLC
Fort Collins, CO

CONFIDENTIAL

RRB's Management Team has Extensive Experience in Plant Construction and Ops



Terry Kulesa
CEO

- 17yrs biofuels
- \$650M+ construcNon
- CoFounder/CEO, IR1
- Former VP OperaNons at Pacific Ethanol
- Former GM Ace Ethanol & Ethanol 2000
- MBA University of Minnesota



Jeff Manternach
CFO

- 13yrs biofuels
- \$400M+ project finance
- \$75M+ grant funding
- CoFounder/CFO, IR1
- Former VP Finance at Pacific Ethanol
- MBA, MS Natural Resources University of Michigan



Jim Moore
Dir. Engineering

- 13yrs biofuels
- \$1B+ construcNon
- IR1 Group 5yrs
- 30+yrs design, engineering, project mgmt, construcNon
- Former Director of Engineering at Pacific Ethanol
- ProU, DTC, AMEC, UCB, S&B



Joe Winckler
Dir. OperaNons

- 23yrs biofuels
- \$700M+ construcNon
- IR1 Group 6yrs
- Former GM of OperaNons at Pacific Ethanol
- Former PM at Ace Ethanol, Ethanol 2000

Experience

- **Four senior execs w/ 1323yrs experience each in renewable fuels**
- **Worked together for 10+ years**
- **Financed, built, & operated 6 renewable fuels plants; operated 3 more**

Introduction



Unlocking economically viable, low-carbon liquid fuels - today

- Project shovel ready 4Q15/1Q16
- Waste woody biomass to 15Mgal/yr drop in diesel, jet, and naphtha fuels



Strong 1st project economics, even at \$50/bbl crude

- Use of commercially proven FT process minimizes risk
- Long term, fixed price supply & offtake contracts lock in margins
- Low cost feedstock & nat gas make high value fuels, RINS, LCFS



Balanced project funding & robust equity returns

- Balanced funding: \$70M DPA Title III Grant, and \$130M+ private funds
- Construction starting in 2Q16, operations in 18 months



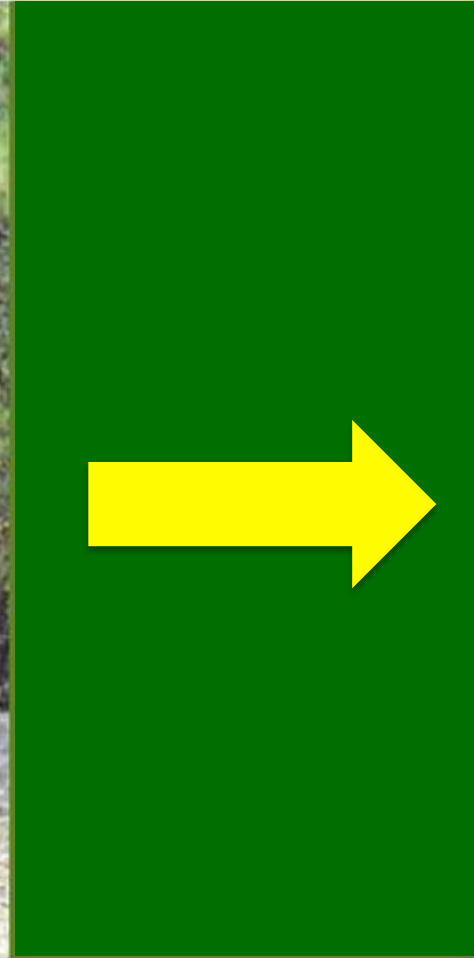
Experienced Operational Team & World Class Partners

- IR1 Group: Biorefinery development / ops; \$650M+ of projects
- Flagship Ventures: Experienced investor w/ deep tech background
- Customers: Southwest Airlines, FedEx

Timber Residue & Mill Waste

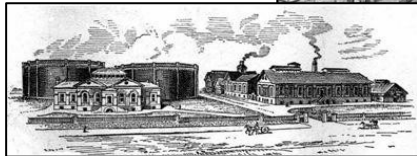


Forest Thinnings

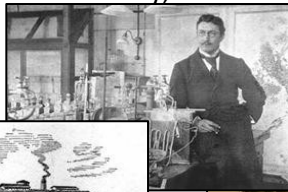


RRB applies commercially proven FT process at biomass scale

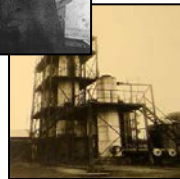
1



Gasification
England, early 1800's
(Baltimore Gas Works, 1816)



Fischer-Tropsch
Germany, 1930's



Hydroprocessing
Russia, 1930's

2



Sasol, Shell & Others
Coal or natural gas feed only;
no ability to scale down

3



Red Rock Biofuels
Modular and Scalable;
Biomass/NatGas flexible

RRB Conversion Process Overview



**136,000 dry tons/yr
Woody Biomass**

- Forest Residue
- Timber Residue
- Sawmill Residue



Gasification



Fischer-Tropsch



Hydroprocessing

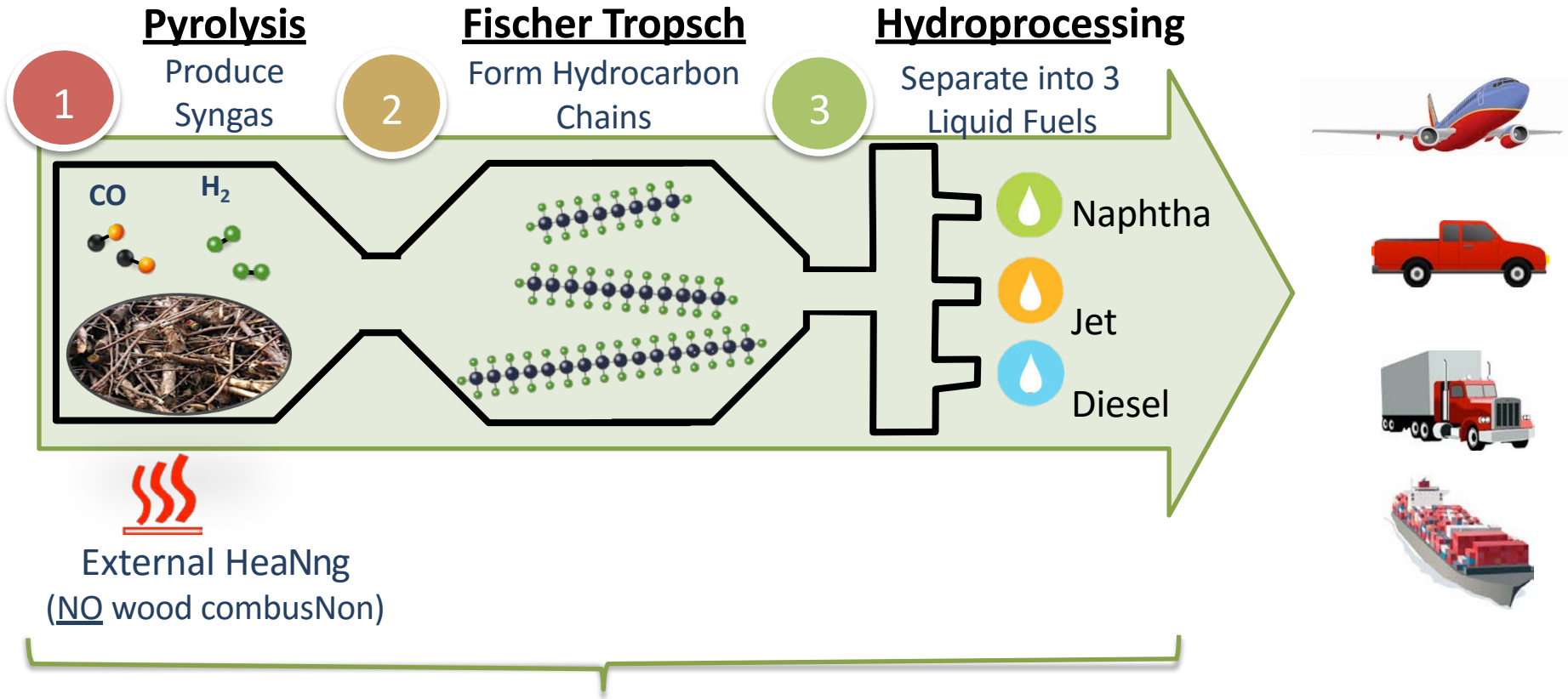
HALDOR TOPSØE 

15.1 MGY of Renewable Fuels

- Jet (40%)
- Diesel (40%)
- Naphtha (20%)



RRB Conversion Process & Products



Each process occurs in an enclosed chamber.

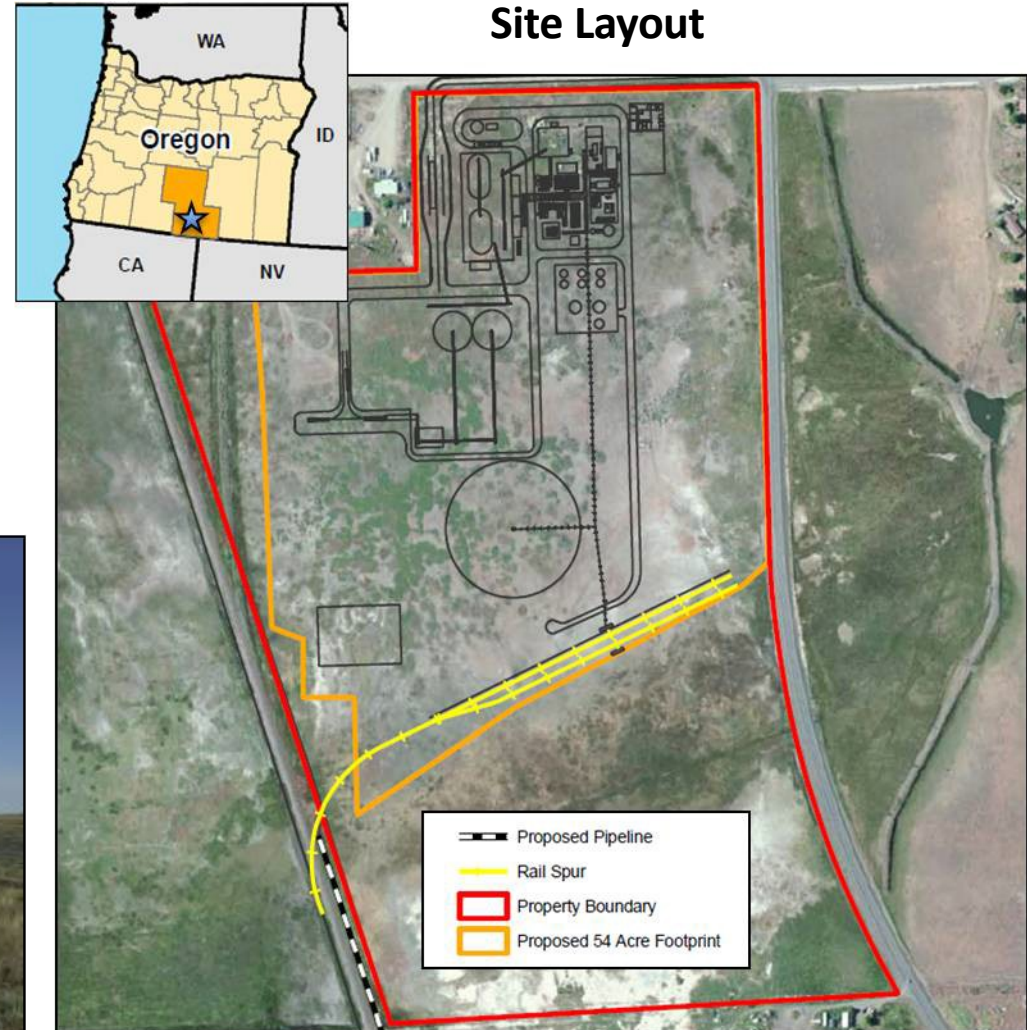
Project Location



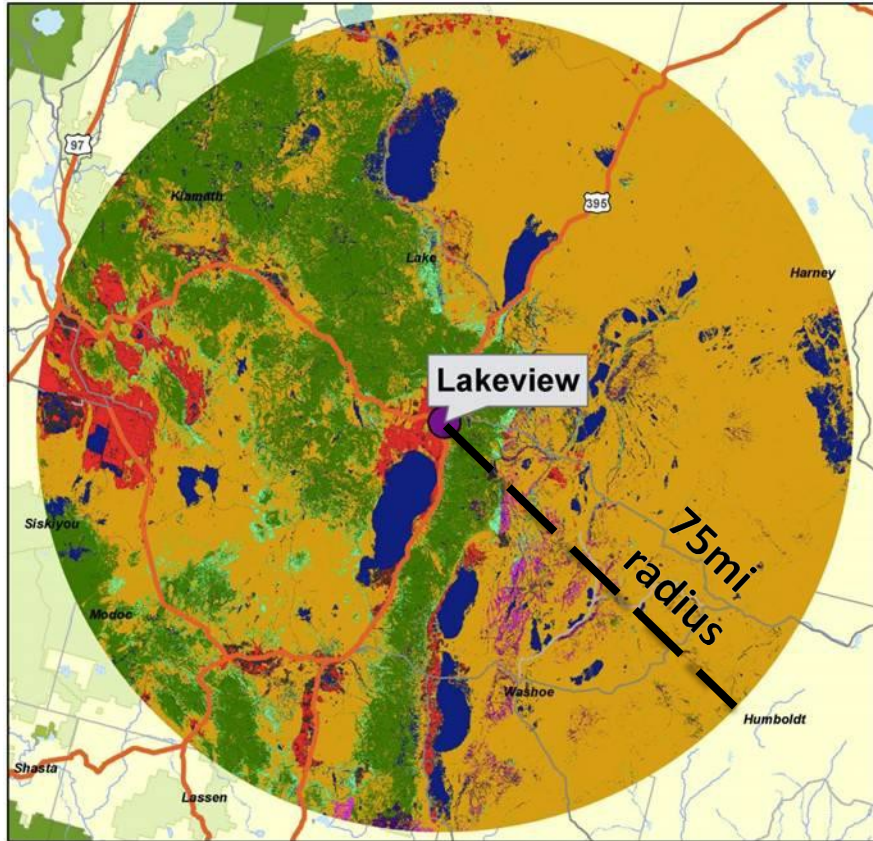
RRB's Lakeview, OR Site: Excellent Feedstock & Product Logistics

- Enterprise zone site
- Highway access
- Rail access
- Natural gas

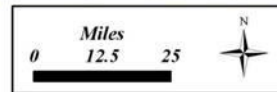
Greenfield Site











Lakeview has Ample Biomass Resources



Source: Landfire



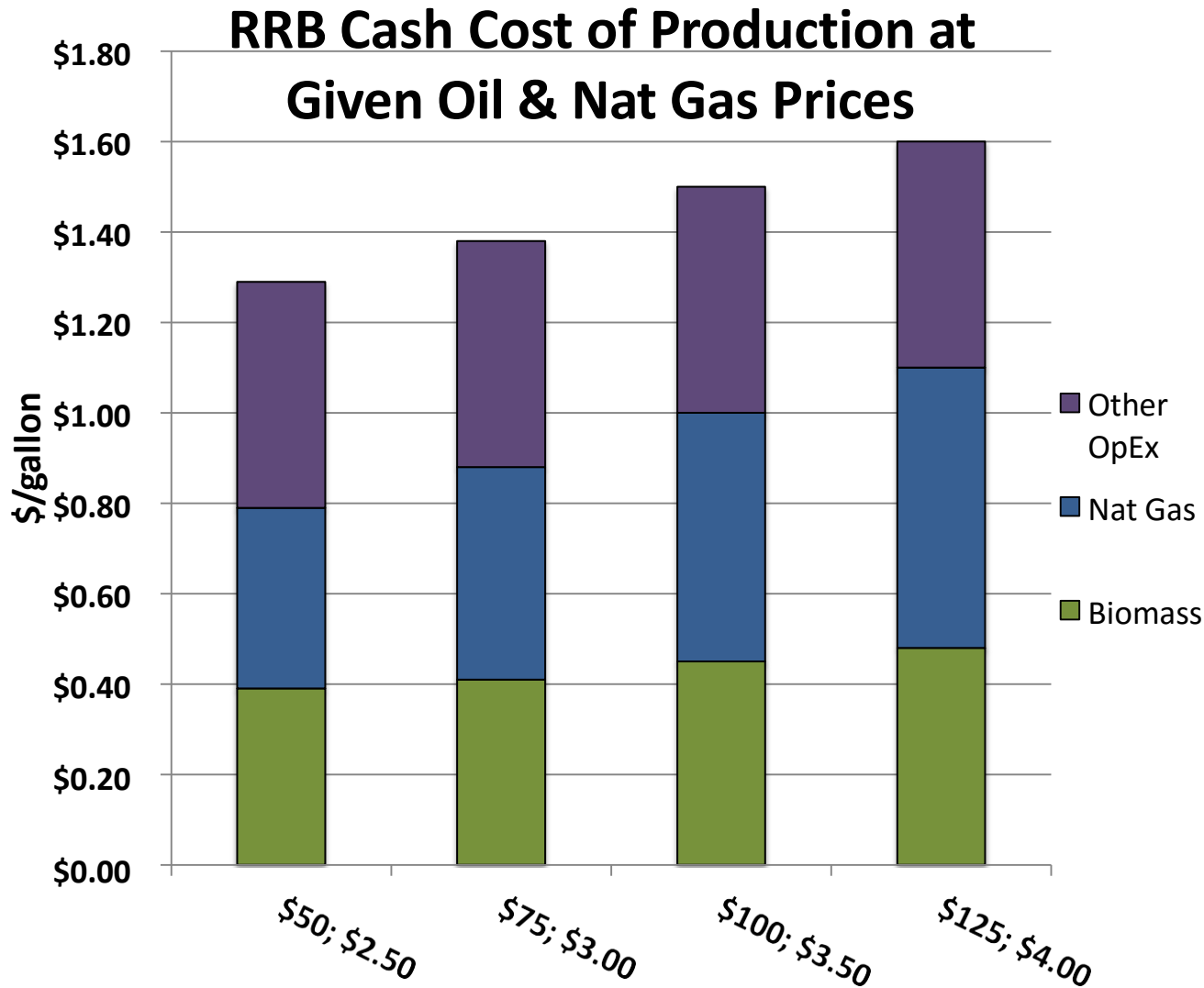
 Agricultural	 Grassland/Shrubland	 Hardwood
 Non-Vegetated	 Western Juniper	 Water/Riparian/Snow/Ice
 Conifer	 Pinyon Juniper	

- Availability = 1.5 – 2.5x need

- Collins Companies delivering 100% of RRB's biomass for 8 yrs

- Collins is 150+ yrs old
- Operates six mills in four states (CA, OR, PA, WV)
- Owns 100,000 FSC certified acres around Lakeview and 200,000 acres around other plants

Significant Feedstock Cost Advantage



Low production cost across wide range of oil prices

Crude oil price \$/bbl;
nat gas price \$/mmbtu

Partnership of IR1 and Flagship: Experienced Plant and Company Builders



IR1 Group

Plant finance, construction, operations.
\$650M+ construction; 325+ Mgal/yr



Flagship Ventures

Entrepreneurs, VCs with US\$1.4b under management; sustainability and healthcare

Recent sustainability companies founded:



Recent sustainability investments:



World Class Project Partners



Thank you!



Mary Dinh

Project Manager

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