

# Accelerating the Energy Transition

*European Gasification Summit*

*Milan, Italy*

*March 19-20, 2025*



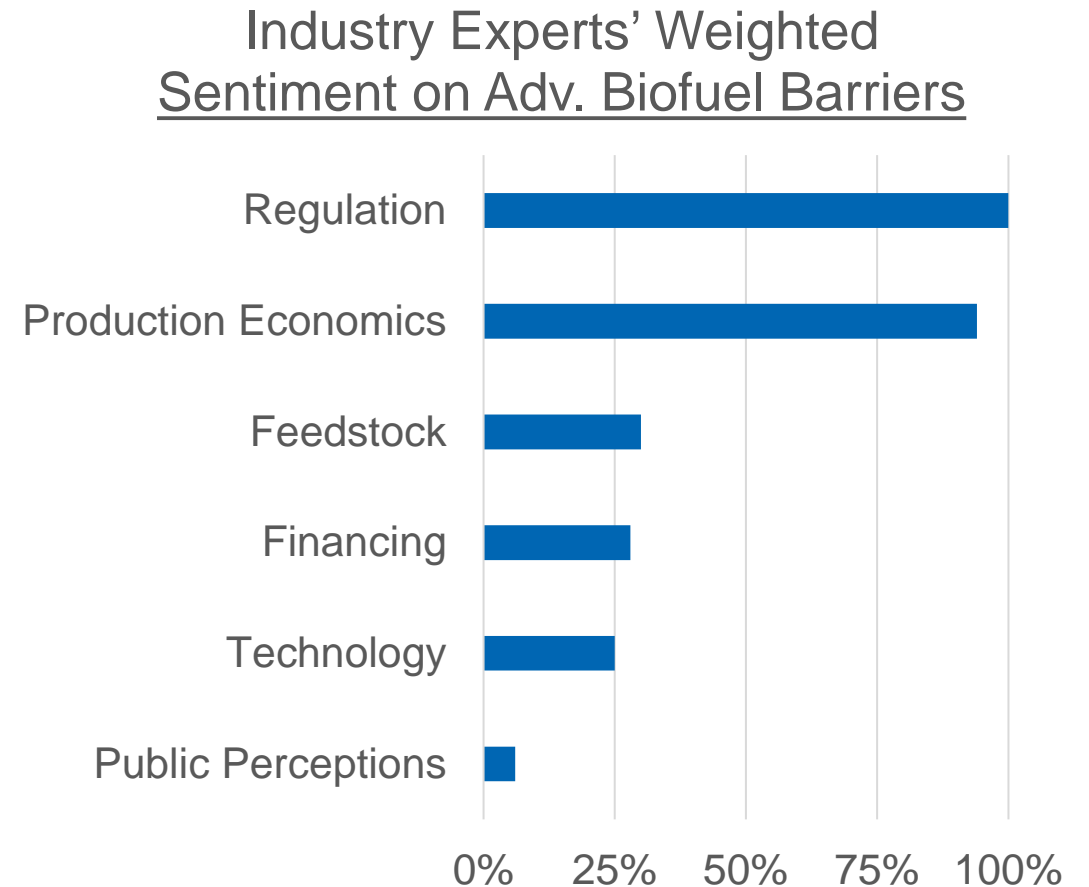
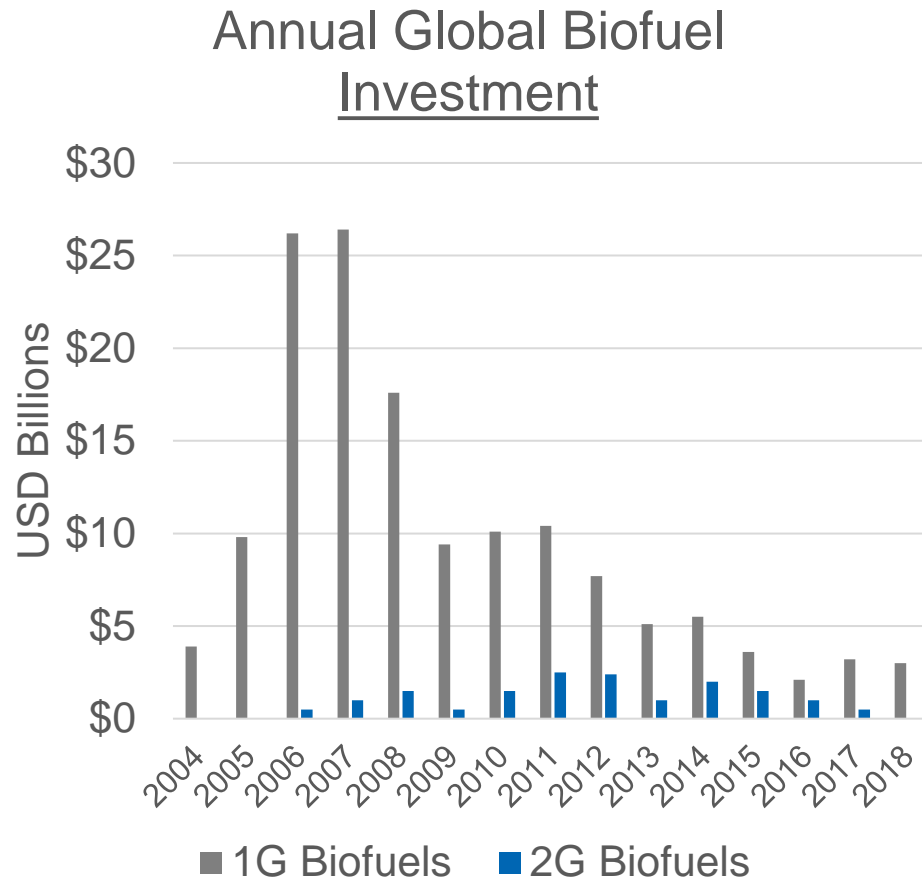


# Forward – Looking Statements

This presentation includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical facts, included in this presentation that address activities, events or developments that we expect or anticipate will or may occur in the future, including such things as future capital expenditures (including the amount and nature thereof), business strategy and measures to implement strategy, competitive strength, goals, expansions and growth of our business and operations, plans, references to future success, reference to intentions as to future matters and other such matters are forward-looking statements. These statements are based on certain assumptions and analyses made by us considering our experience and our perception of historical trends, current conditions and expected future developments as well as other factors we believe are appropriate in the circumstances. Forward-looking statements are subject to certain risks, trends and uncertainties that could cause actual results to differ materially from those projected. Although we believe that in making such forward-looking statements our expectations are based upon reasonable assumptions, such statements may be influenced by factors that could cause actual outcomes and results to be materially different from those projected. We cannot assure you that the assumptions upon which these statements are based will prove to have been correct. We have no intention, and disclaim any obligation, to update or revise any forward-looking statements, whether as a result of new information, future results or otherwise.

# Challenges in Meeting the Sustainable Potential of Advanced Biofuels

## *The \$3.6 Trillion Dollar Problem*



# SunGas Backdrop

GTI Energy formed SunGas in 2019

- GTI Energy leverages the expertise of its trusted team of scientists, engineers, and partners to deliver impactful innovations needed for low-carbon, low-cost energy systems worldwide. GTI Energy has secured more than 1,000 patents and invested more than \$400 million in its gasification technology.<sup>(1)</sup>
- SunGas was created to play a meaningful role in the energy transition as a pathway for low carbon advanced biofuels that can be produced at scale

Since 2019, the SunGas team has brought together recognized experts to productize the technology, and execute a business model, establishing the company as a leader in the scaled advanced biofuels space by:

- Supplying SunGas technology and equipment solutions to 3<sup>rd</sup> party customers
- Launching its fuels production business to develop, build, own and operate an installed base of SunGas energy projects in selected energy market verticals

On May 14, 2024, SunGas and C2X announced a strategic partnership and C2X's investment in SunGas. Together, SunGas and C2X aim to develop, own, and operate multiple green fuel production facilities in North America to increase the supply of sustainable fuels and advance global decarbonization and de-fossilization of hard to abate industries.



# C2X



(1) Based on public information published by GTI Energy.

# SunGas & C2X Accelerate Green Methanol Production

Creating Unparalleled Ability to Deliver Replicable, Scalable, Flexible and High Return Projects

## C2X



### Primary Business

- ✓ Construction and operation of large-scale production facilities
- ✓ Investing in multiple green molecule production pathways (initially e-methanol and bio-methanol)

### Technical Expertise

- ✓ Experience adapting technologies to regional resources and requirements
- ✓ Integration of renewable energy, green H<sub>2</sub> and carbon capture & storage (CCS) within projects

### Development/Commercial Expertise

- ✓ Comprehensive project planning & execution capabilities
- ✓ Unparalleled strategic access to customers and markets<sup>(1)</sup>

### Regional Focus

- ✓ EMEA focused with projects in Spain and Egypt

- ✓ Global sales and licensing of gasification technology and equipment
- ✓ Focused on renewable synthesis gas ("Syngas") related opportunities

- ✓ Full-service provider of gasification technology with optimized biomass-to-syngas conversion process
- ✓ Proprietary high-efficiency scalable gasification systems based on the S1000

- ✓ S1000 standardized design
- ✓ Gasification projects with diverse feedstocks

- ✓ NA asset focus with FEED-ready project in Louisiana, USA (i.e. Beaver Lake Renewable Energy)

## Combined Capabilities



**Accelerated Project Development and Technology Evolution to GenN**



**Accelerated Deployment of Derisked Gasification Technology & Pathway to Multiple Products and Markets**



**Sharpened Cost Down Strategy**



**Expanded Commercial & Technical Expertise**

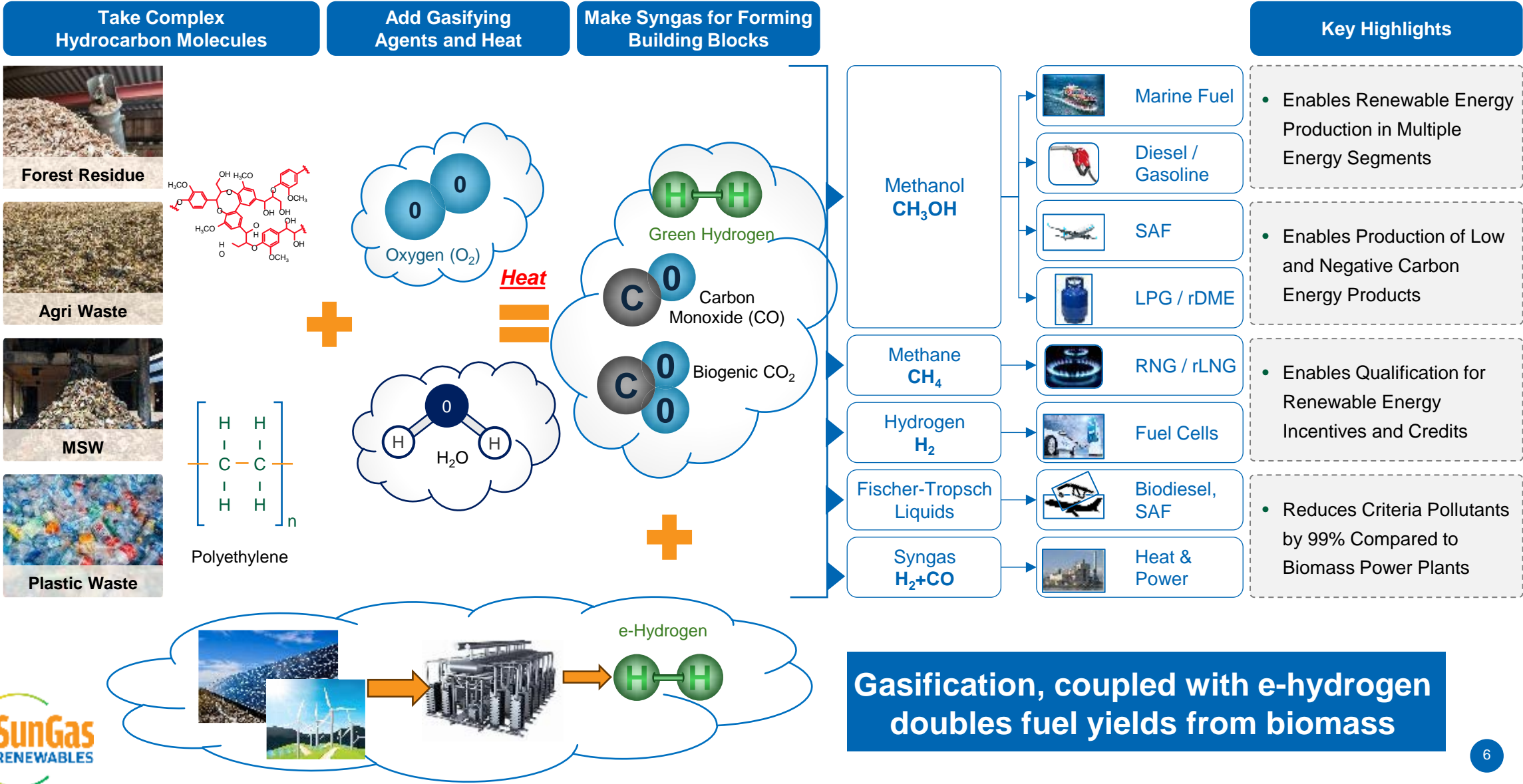


**Global Focus**



<sup>(1)</sup> AP Moller Holding and Maersk are shareholders in C2X

# Gasification Provides Optionality to Produce Multiple Products





# Leading Gasification Technology With Proven Results



- ✓ Extensive technical design and commercial operating experience
- ✓ Total of 27 Gasifiers operated with 50 years of experience with biomass and coal as feedstock
- ✓ 100% gasifier success rate for syngas quantity and quality – no failures to perform

- ✓ Ability to accurately predict performance with design models and tools fully validated
- ✓ Current gasifiers operating in China and Denmark achieve >90% availability without redundancy

# SunGas Pilot and Demo Plants Processed All These Feedstocks

Decreasing Pre-treatment Cost

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Sorting, clean-up, sizing, drying & pelletization

- MSW
- RDF



Hi Processing Risk

- Med-Hi ash
- Med-Hi alkali content
- Low-Hi ash fusion temp
- Hi contaminant level
- Low pellet melting temp



Decreasing Processing Risk

\$\$

Sizing, drying & pelletization

- Bagasse
- Straw
- Corn stalk
- Rice husks
- Cotton & Palm shell



Med Processing Risk

- Med-Hi ash
- Med-Hi alkali content
- Low-Hi ash fusion temp
- Lower heating value



\$

Sizing & drying only

- Forest thinning's
- Forest residues
- Limited Ag Waste



Low Processing Risk

- Low ash
- Low alkali content
- Low contaminants
- Hi ash fusion temp
- Good heating value





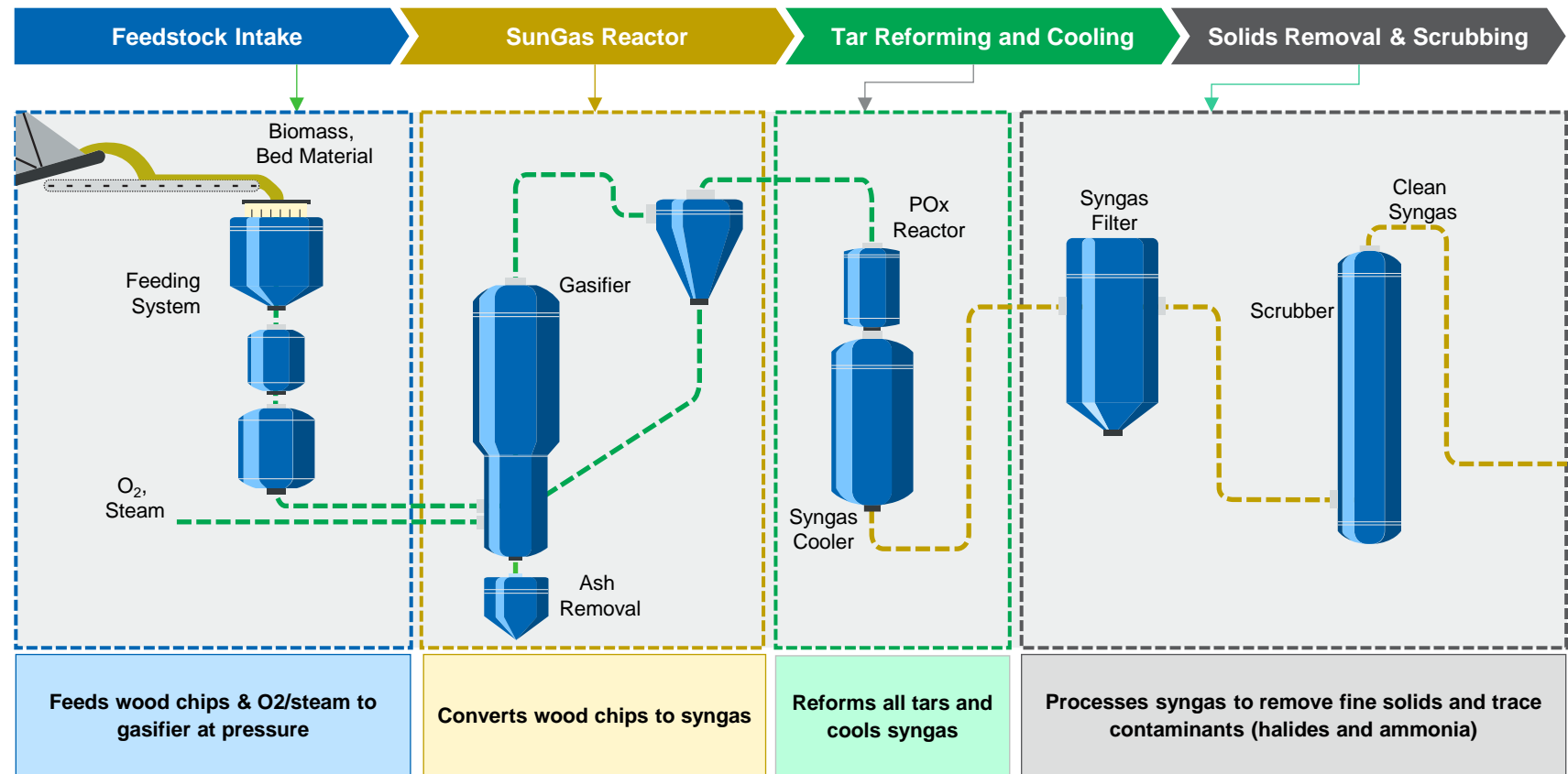
# Overview of SunGas' Competitive S1000™ Product

High Technology Readiness Level Ensures Industry Leading Uptime and Yields

## S1000 Technical Highlights

- Reliable and flexible feedstock feeding system with minimal pre-treatment
  - For woody biomass, no requirement for expensive torrefaction or pelletization
- Bubbling nature of fluidized bed provides even temperature distribution
- Bed volume provides large thermal mass to moderate feedstock variance
- Long refractory life (>10 years)
- Effective reforming of all tars to high purity syngas
  - Less than 0.3% methane in syngas
- Commercially demonstrated and reliable radiant syngas cooler designed for both dry solids and slagging conditions
- Additional raw syngas cleaning by:
  - Syngas filtration to remove solids
  - Syngas scrubbing to remove chlorides and excess moisture

## Illustrative S1000 Process



# S1000 Fully Designed Equipment and Gasification Island

Key Supply Chain is Actively Managed to Improve Cost, Quality and De-risk Project Execution

## SunGas S1000 Design Strategy

### Approach

- Standardized design
- Low fabrication complexity
- Extensive use of widely available materials
- Additional performance margin built in

### Benefits

- Reduced engineering costs
- More rapid and reliable project execution
- Accelerates cost reduction learning curve
- Enables large supply chain optimization opportunities

## Supplier / Vendor Sourcing Strategy

### Approach

- Multiple sourcing options
- Top-tier, experienced suppliers
- Established preferred vendor relationships with critical suppliers
- Most suppliers include on-site installation, commissioning and startup support

### Benefits

- Flexible sourcing
- Reliable supply chain
- Low counterparty risk
- Strong supplier assistance
- Support during the most crucial points of each project



# Beaver Lake Renewable Energy (BLRE)

SunGas is developing the largest green methanol project in North America. At COD in early 2029, the project will produce nominally 500 ktpa with plans for five more similar sized projects

## Industrial Scale Green Methanol Production

*Nominally 500 ktpa*

## Low Carbon Fuels for Global Markets

*-90gCO<sub>2</sub>e/MJ MeOH Well-to-Wake*

## IRA Strengthens Project

*>\$200MM annual production tax credit*

## Growing Rural Economies

*1150 construction jobs,  
400-500 indirect jobs  
100 permanent jobs*

## Abundant Feedstock Availability

*2 MTPA of Sustainable Feedstock*

Investment Grade Forest Product Provider

## Methanol Offtake

*Anchor's Methanol Offtake*



**MAERSK**

## CO<sub>2</sub> Offtake

*~1MTPA CO<sub>2</sub> Sequestered*

Excellent geology

## Experienced EPC Provider

*Hybrid EPC Strategy*



**Kiewit**





# Replicable Plant Design Supports Rapid Follow-on Projects

Onsite wood yard / w storage ensures seamless feedstock deliveries



Wood drying utilizes surplus heat and maximizes syngas output



3 X S1000 gasification trains minimize downtime and maximize production



Gasifier designed to maximize utilization of carbon molecule



Access to multiple potential CO<sub>2</sub> sequestration sites



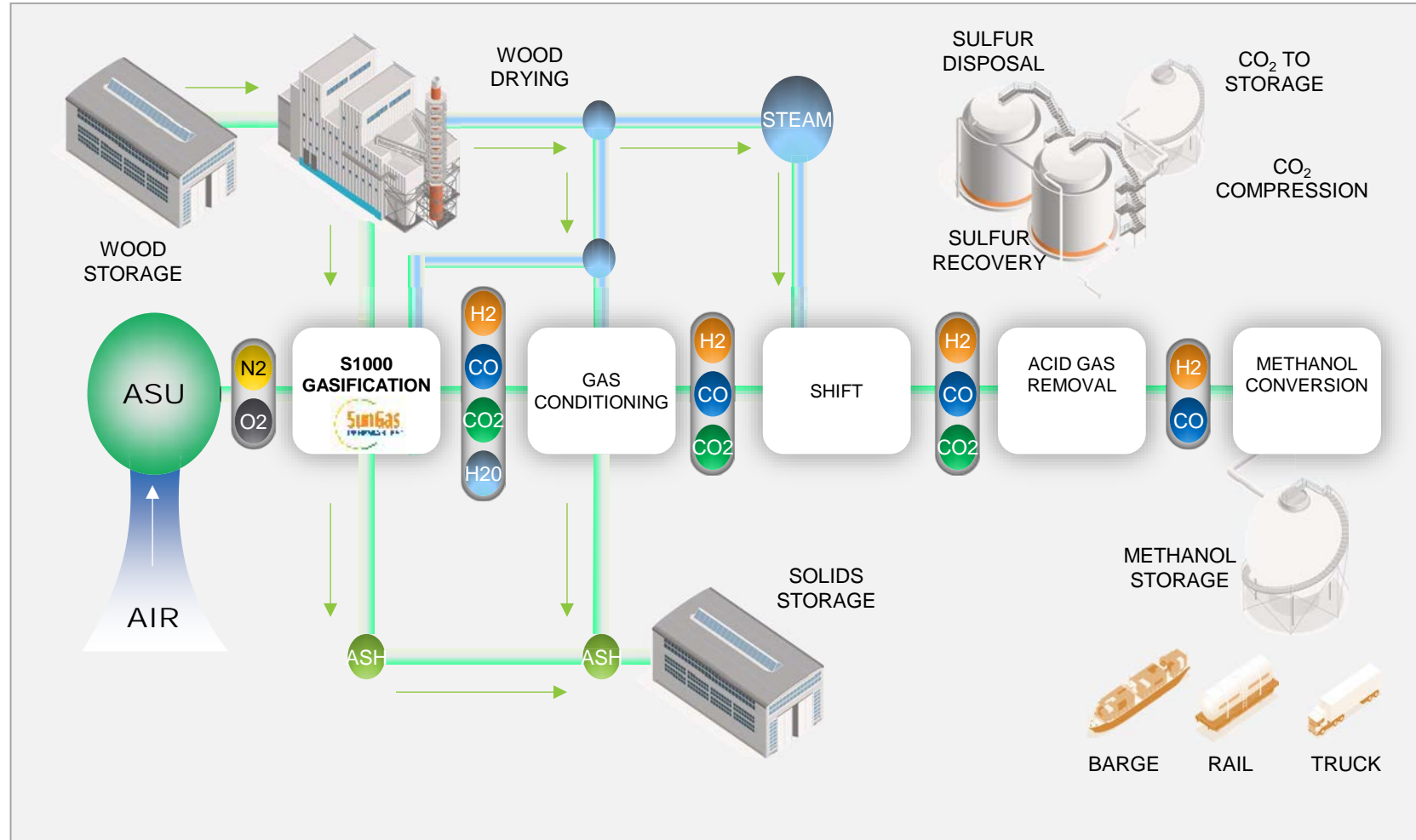
Onsite methanol storage enables market price optimization



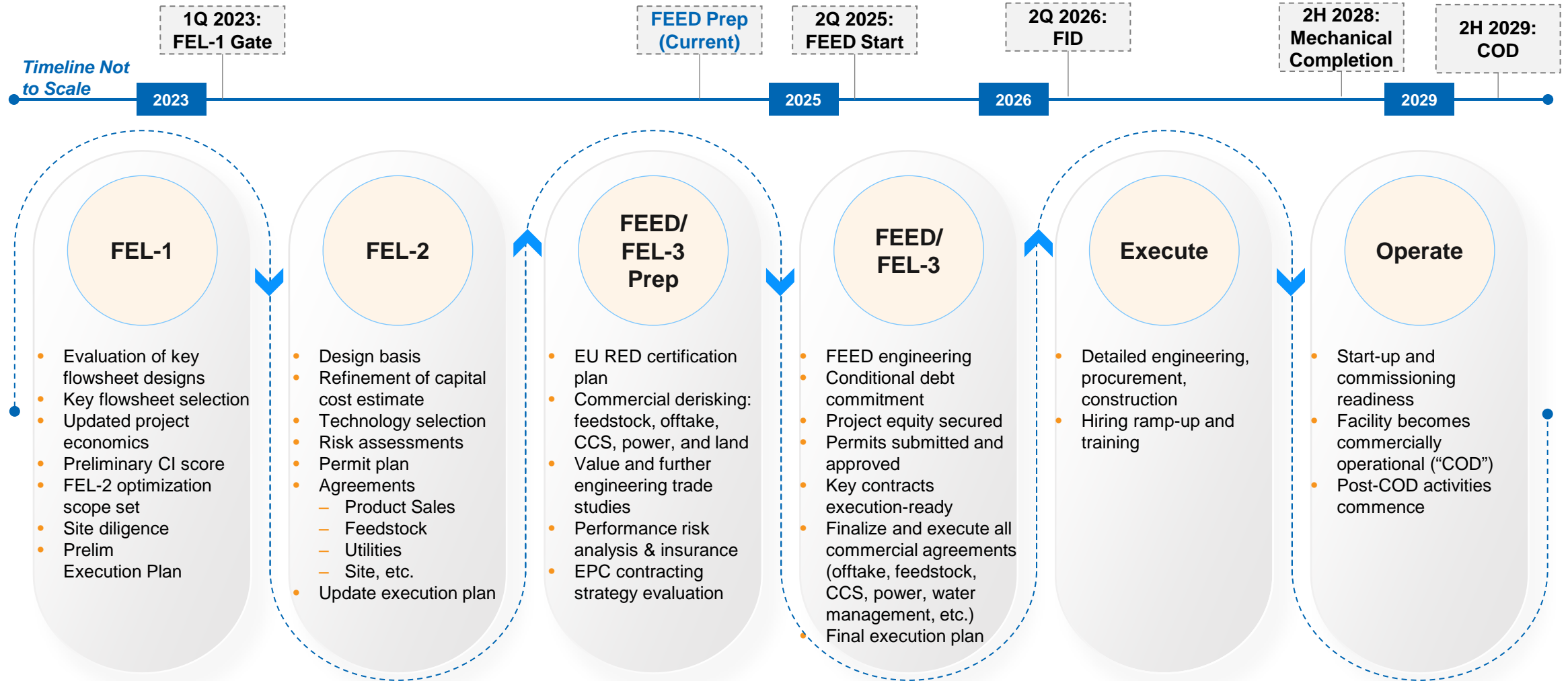
Connectivity to US Gulf Coast facilitates access to international markets



## Beaver Lake Renewable Energy Plant Layout



# BLRE Current Development Status and Next Steps

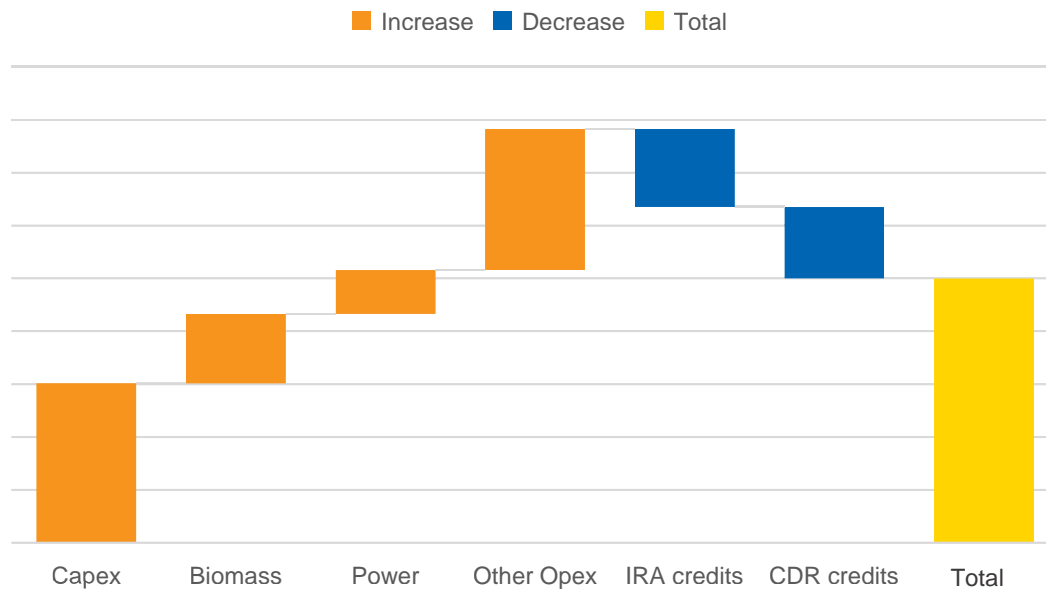


# Levelized Cost of Methanol (LCOM)

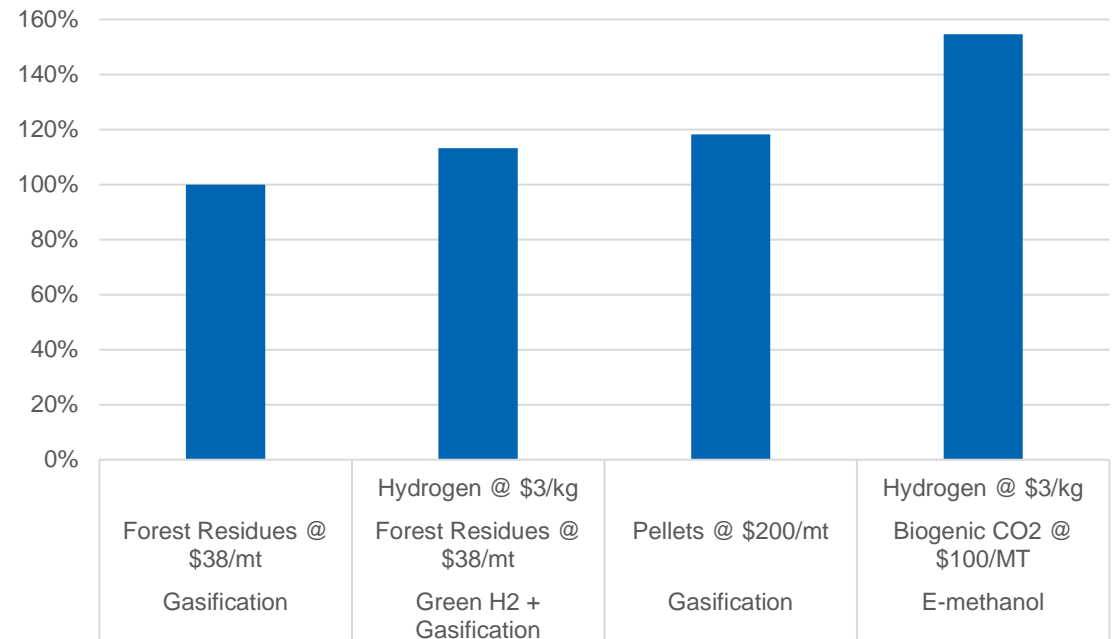
- Gasification of forest residues has the lowest LCOM driven by a combination of inexpensive feedstock, tax credits, and CDR revenue
- A combination of green H<sub>2</sub> import and gasification is the second-best option but requires access to both inexpensive green hydrogen and biomass
- Gasification of pellets broadens the feedstock envelope resulting in a LCOM that is about 20% higher than the gasification of forest residues.
- Stand-alone e-methanol project has the highest cost of methanol, largely a function of H<sub>2</sub> and biogenic CO<sub>2</sub> price

**Capital cost, feedstock/power cost, and credits are the largest determining factors of green methanol price**

Levelized Cost of Bio-Methanol



LCOM

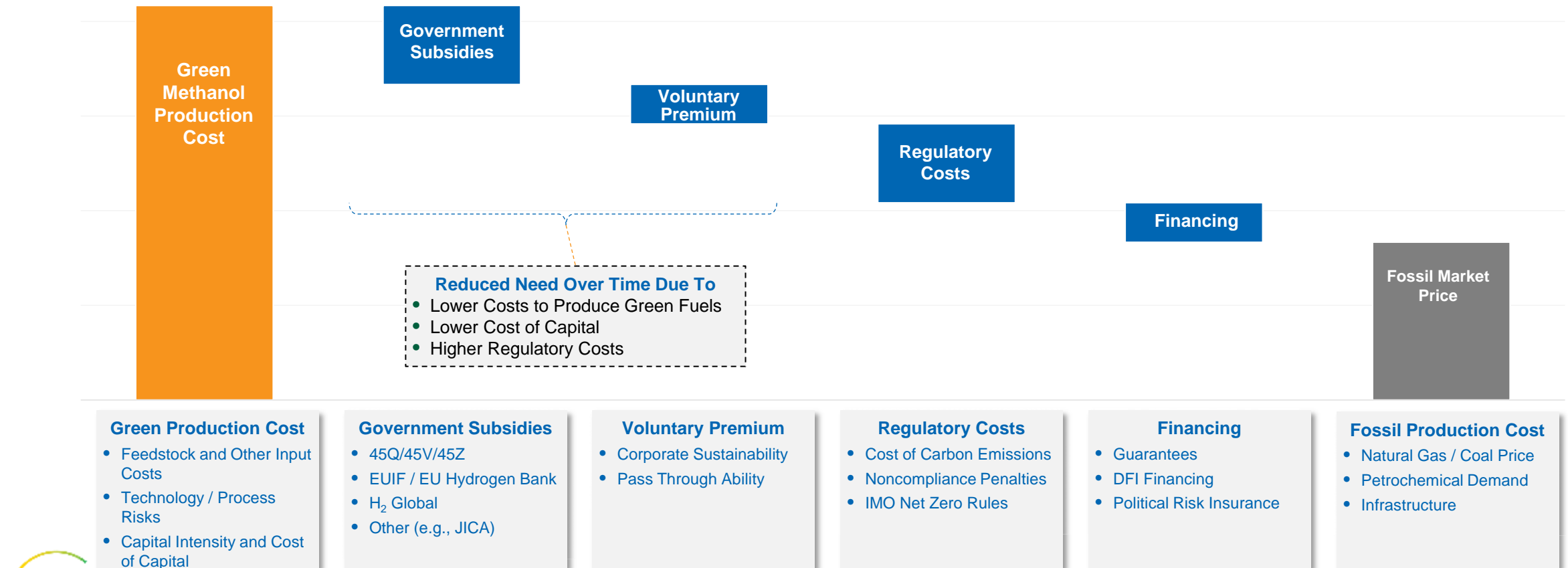




# Making Green Methanol Competitive by Closing the Price Gap

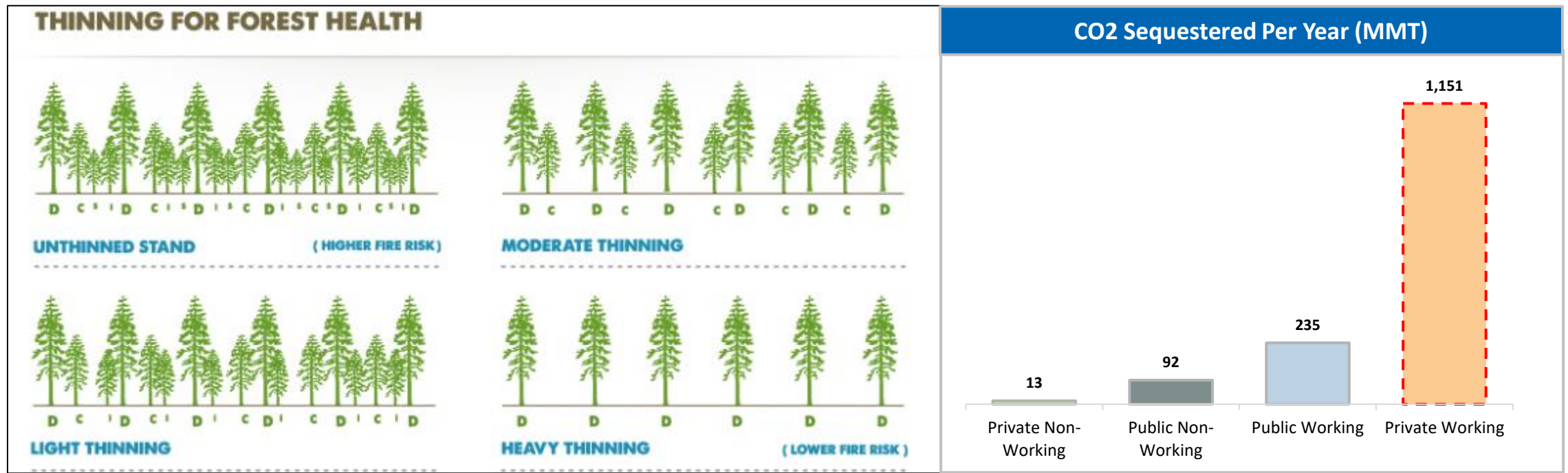
Multiple Variables are Positioned to Drive Cost Parity Between Green and Fossil Based Methanol

## Visible Path to Cost Parity With Fossil-Based Methanol Prices



# The Importance of Thinning Forests

- **Thinning forests** to remove unhealthy and smaller trees encourages growth of the remaining trees, which become high-value timber for home construction and furniture production
- **Unmanaged forests** emit carbon at the fastest rate with 71% of annual growth, dying and releasing carbon in the form of methane and CO<sub>2</sub>
- **Working forests** in the US sequester more than 1Billion tonnes of CO<sub>2</sub>/yr, more than all other forest types combined






# Abundant Feedstock Drives Large Serviceable Market

**SunGas S1000 Can Process A Wide Range of Feedstock Materials <sup>(1)</sup>**

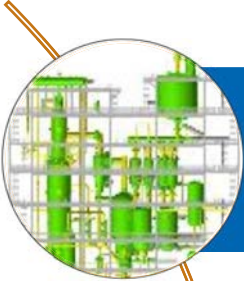


**300 MMTPA of Feedstock Services Meaningful Energy Demand <sup>(2)</sup>**

Fuel	SunGas Implied Renewable Fuels Production			
	MMTPA		% of Demand	
	TC <sup>(3)</sup>	TC+eH <sub>2</sub> <sup>(3)</sup>	TC <sup>(3)</sup>	TC+eH <sub>2</sub> <sup>(3)</sup>
 <b>SAF</b>	34	85	43%	105%
			% of total US demand	
 <b>Methanol</b>	122	300	20%	50%
			% of global marine fuel displacement	
 <b>RNG</b>	3 Tcf/y	6.8 Tcf/y	15%	35%
			% of total US demand (excluding power generation)	



# Key Take Aways



SunGas' S1000 standardized product is ready now to provide meaningful scale and proven performance for biofuels production



Beaver Lake Renewable Energy is plowing the ground for a large pipeline of advanced clean fuel projects



Utilization of sustainably managed forest thinnings coupled with CCS can remove vast amounts of CO2 from the atmosphere



Thermal conversion of abundant volumes of low-cost biomass to fuels can provide a meaningful wedge of advanced clean fuels and a path to near cost parity with fossil fuels in the next decade





# Building the Advanced Clean Fuels Future Today!

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