

SunGas' Renewables Pathway to Supply Meaningful Volumes of Green Methanol

Cliff Keeler
Vice President Business Development
SunGas Renewables

IMTOF , London

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Forward – Looking Statements

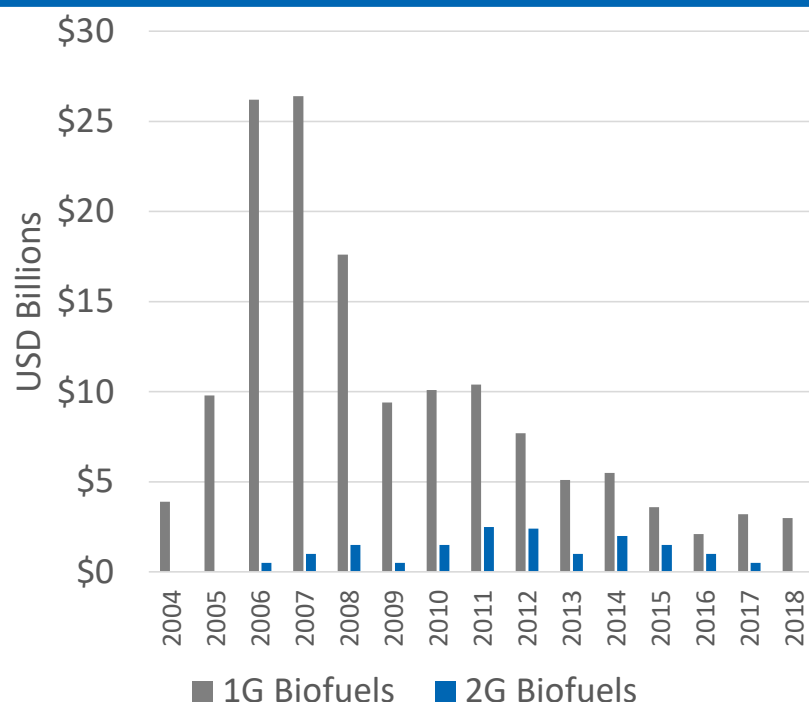
- This presentation includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements, other than statements of historical facts, 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.



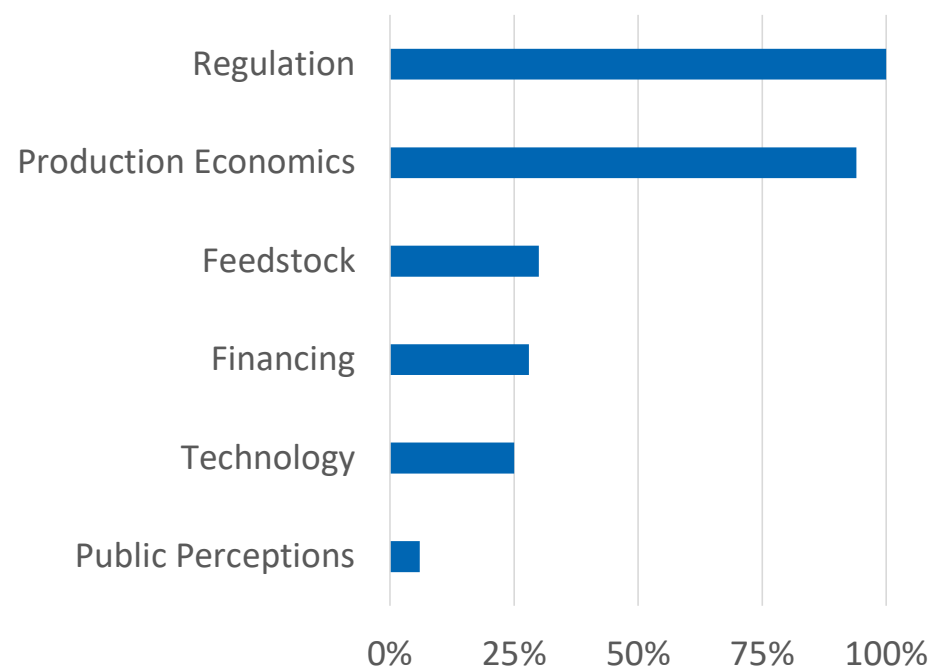
Challenges in Meeting the Sustainable Potential of Advanced Biofuels

The \$3.6 Trillion Dollar Problem

Annual Global Biofuel Investment



Industry Experts' Weighted Sentiment on Adv. Biofuel Barriers



UNEP/BNEF (2018), *Global trends in renewable energy investment 2019*, <https://wedocs.unep.org/bitstream/handle/20.500.11822/29752/GTR2019.pdf> (accessed 14 October 2019).

IRENA (2023a), *World Energy Transitions Outlook 2023: 1.5°C Pathway*; Preview, International Renewable Energy Agency, Abu Dhabi. [World Energy Transitions Outlook 2023: 1.5°C Pathway \(irena.org\)](https://www.irena.org/publications/2023/1.5°C-Pathway)

IRENA (2019), *Advanced biofuels. What holds them back?*, International Renewable Energy Agency, Abu Dhabi. [Advanced biofuels: What holds them back? \(irena.org\)](https://www.irena.org/publications/2019/Advanced-biofuels-What-holds-them-back)



SunGas Backdrop

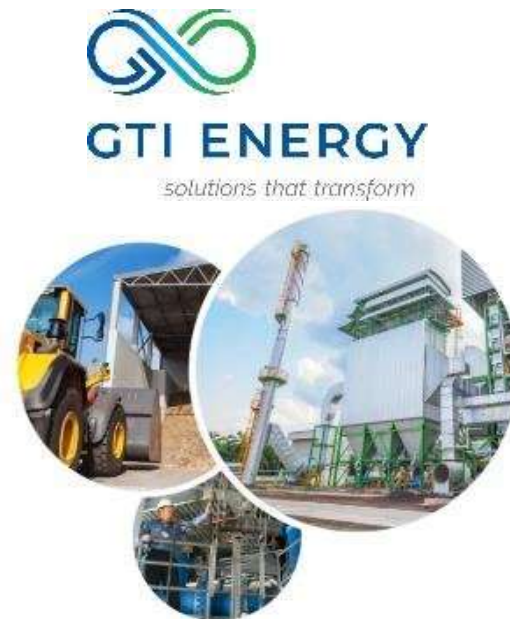
GTI Energy formed SunGas in 2019

- 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.⁽¹⁾
- 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 3rd 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 defossilization of hard to abate industries.



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 H₂ and carbon capture & storage (CCS) within projects

Development/ Commercial Expertise

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

Regional Focus

- ✓ Europe, Middle East and Africa focused with projects in Spain and Egypt

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

Accelerated Project Development and Technology Evolution to GenN

- ✓ Proprietary high-efficiency scalable gasification systems based on the S1000

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

- ✓ North American asset focus with projects in FEED 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



⁽¹⁾ AP Moller Holding, Maersk, and ENEOS are shareholders in C2X

Gasification Provides Optionality to Produce Multiple Products

Take Complex Hydrocarbon Molecules



Forest Residue



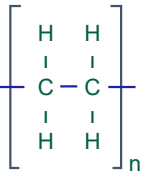
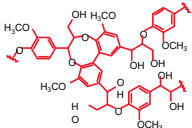
Agri Waste



MSW

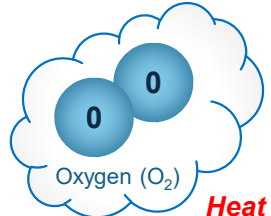


Plastic Waste

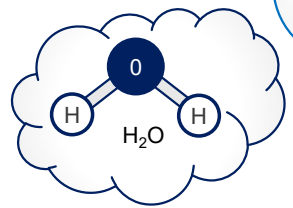


Polyethylene

Add Gasifying Agents and Heat



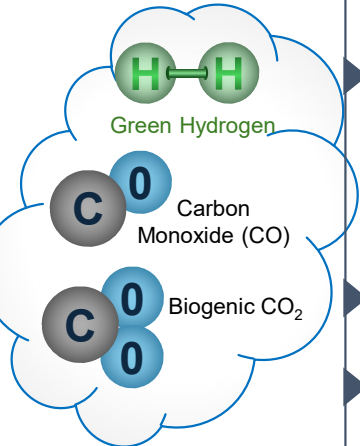
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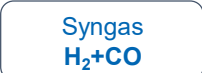
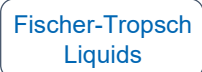
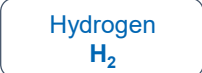
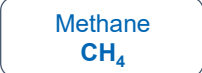
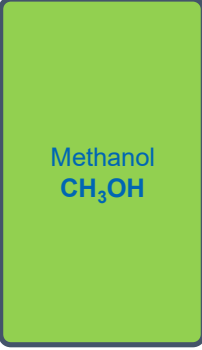
Heat

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Make Syngas for Forming Building Blocks



+



Key Highlights



Marine Fuel



Diesel / Gasoline



SAF



LPG / rDME

- Enables Renewable Energy Production in Multiple Energy Segments

- Enables Production of Low and Negative Carbon Energy Products



RNG / rLNG



Fuel Cells

- Enables Qualification for Renewable Energy Incentives and Credits



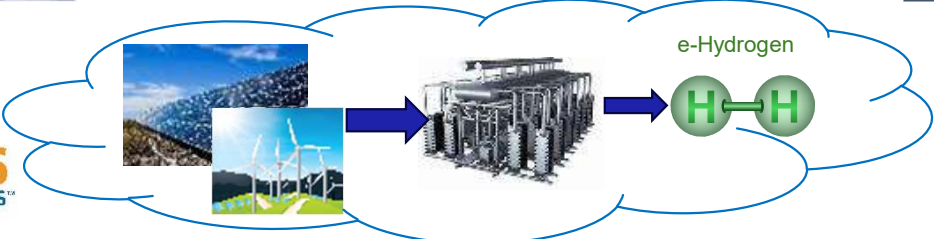
Biodiesel, SAF



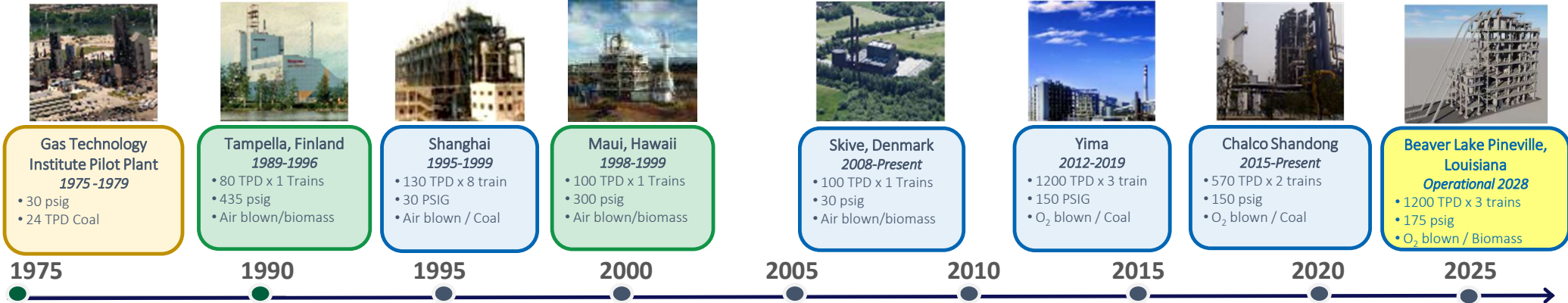
Heat & Power

- Reduces Criteria Pollutants by 99% Compared to Biomass Power Plants

Gasification, coupled with e-hydrogen doubles fuel yields from biomass



Leading Gasification Technology With 50 Years of Proven Results




Gas Technology Institute 2 x Pilot Plants
1985-1990

- 300 psig
- 10 TPD biomass


1980-1990

- Pilot Demo Unit
- 500 psig
- 8 TPD coal




GTI Flex Fuel Pilot Plant, Chicago
2003-Present

- 20 TPD x 1 Trains
- 10-435 psig
- Air or O₂ blown
- Coal and biomass




Zao Zhuang (ZZ)
2008-2016

- 400 TPD x 2 Trains
- 150 psig
- O₂ blown / Coal



Chalco Shanxi
2015-Present

- 360 TPD x 1 Train
- 150 psig
- O₂ blown / Coal



Chalco Henan
2017-Present

- 430 TPD x 4 Trains
- 150 psig
- O₂ blown / Coal

- ✓ Extensive technical design and commercial operating experience
- ✓ Total of 27 gasifiers operated with 50 years of experience with coal and biomass 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



4 Pilot Plants

2 Demonstration Plants

7 Commercial Plants and 21 Gasifiers

Planned



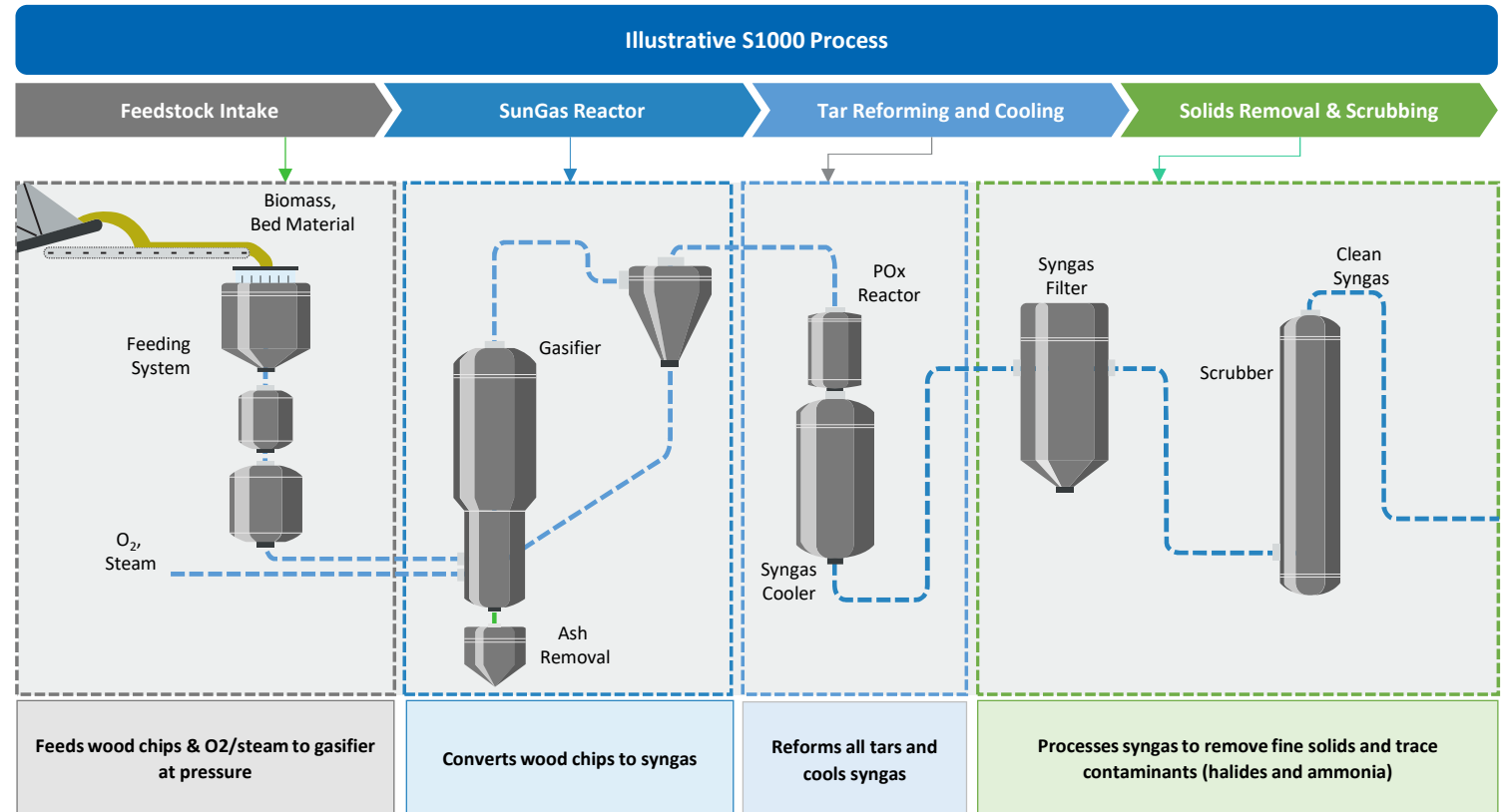
Overview of SunGas' Competitive S1000™ Product

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

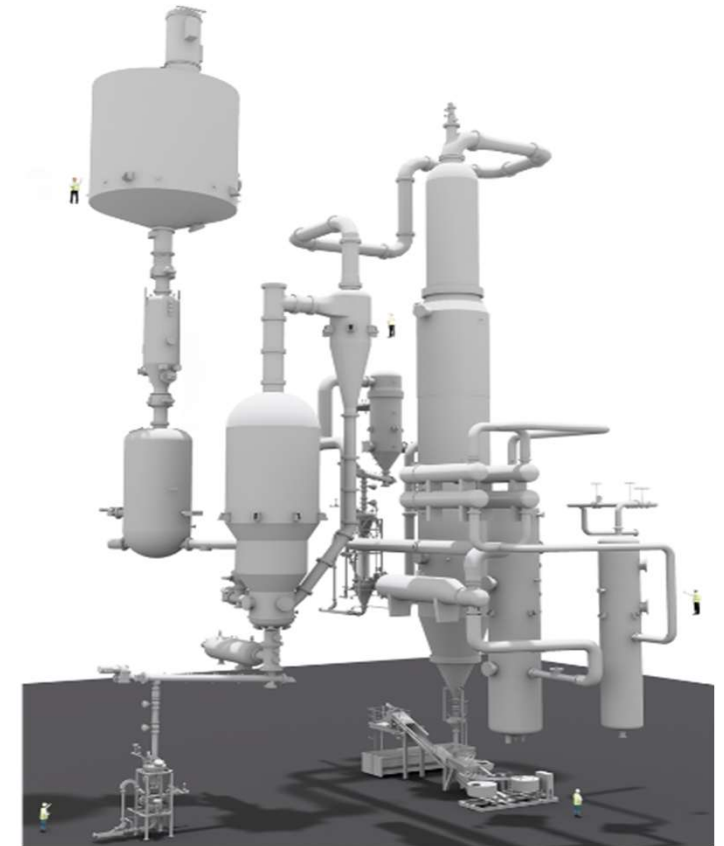
Supplier / Vendor Sourcing Strategy

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 several more similar sized projects

Industrial Scale
Green Methanol
Production

Nominally 500 ktpa

Low Carbon Fuels
for Global Markets

*-90gCO₂e/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*



CO₂ Offtake

~1MTPA CO₂ Sequestered

Excellent geology

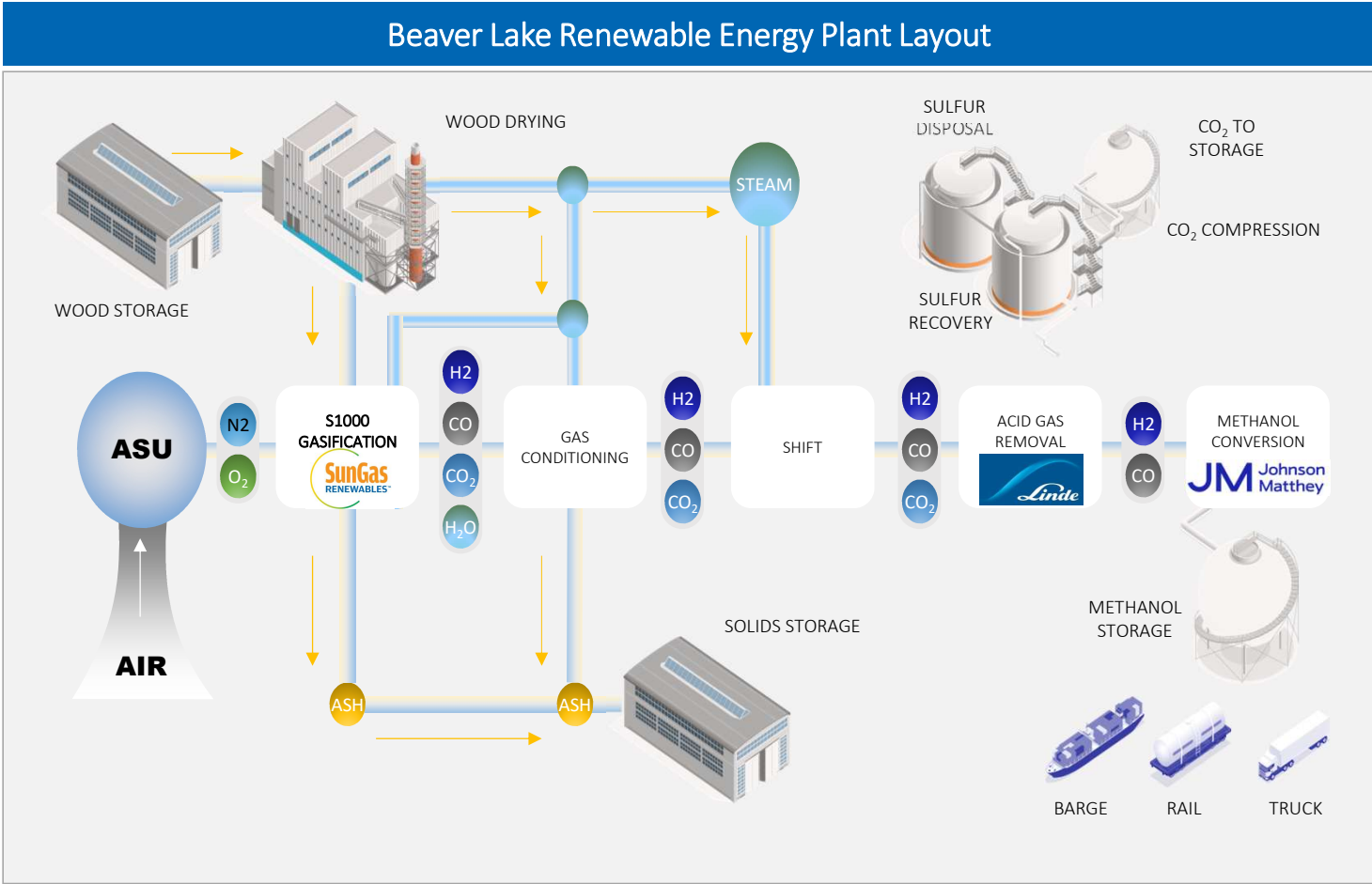
Experienced EPC
Provider

Leading US Constructor

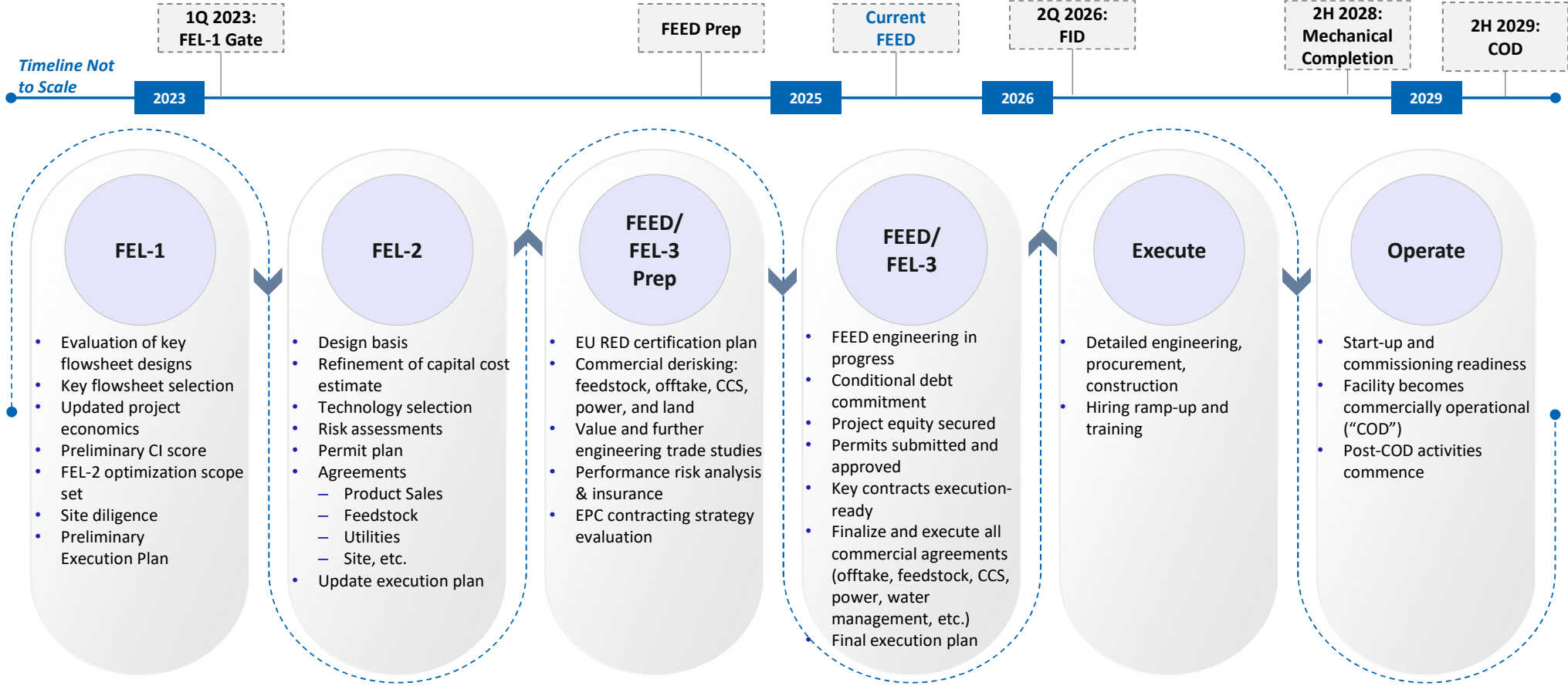


Replicable Plant Design Supports Rapid Follow-on Projects

- Onsite wood yard 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 CO₂ sequestration sites
- Onsite methanol storage enables market price optimization
- Connectivity to US Gulf Coast facilitates access to international markets



Beaver Lake Current Status and Next Steps



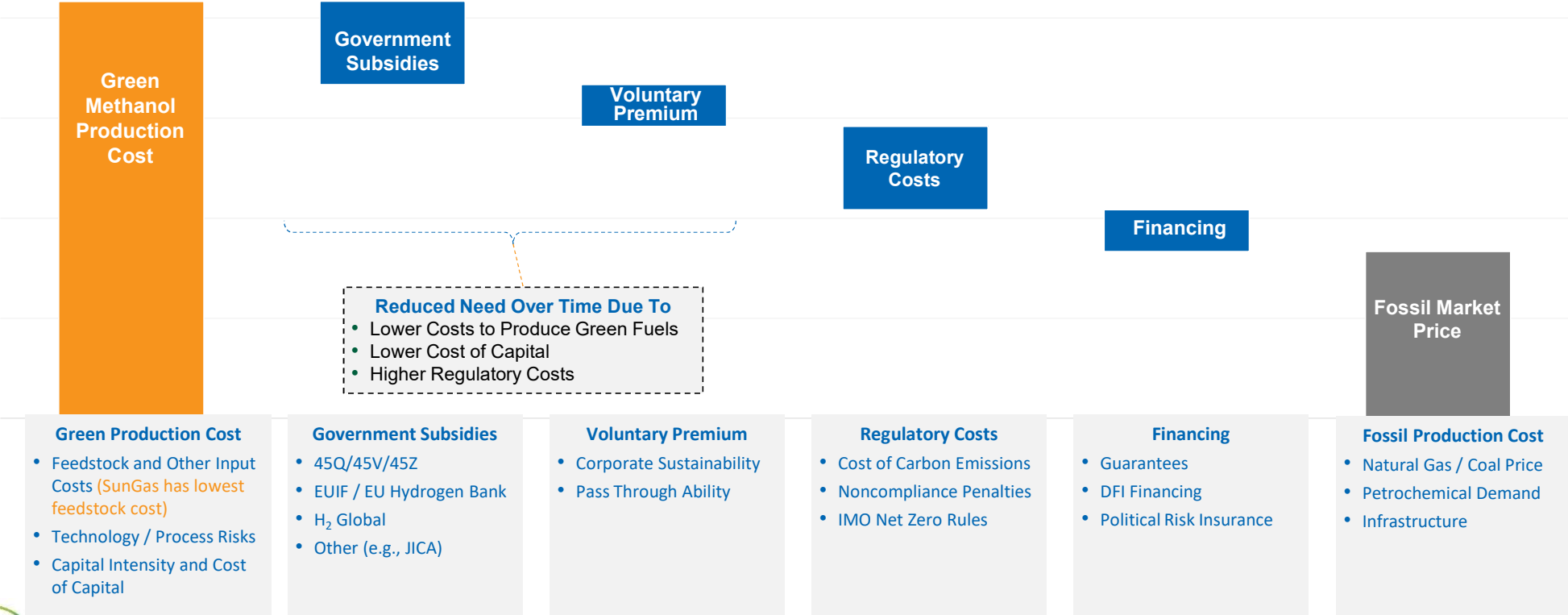
Entered FEL-3 in May following ENEOS coming on board as our newest strategic Partner



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



Why Forest Residues for Feedstock?

Pilot and demo plants have processed all these feedstocks but...

Decreasing Pre-treatment Cost

- \$\$\$ 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

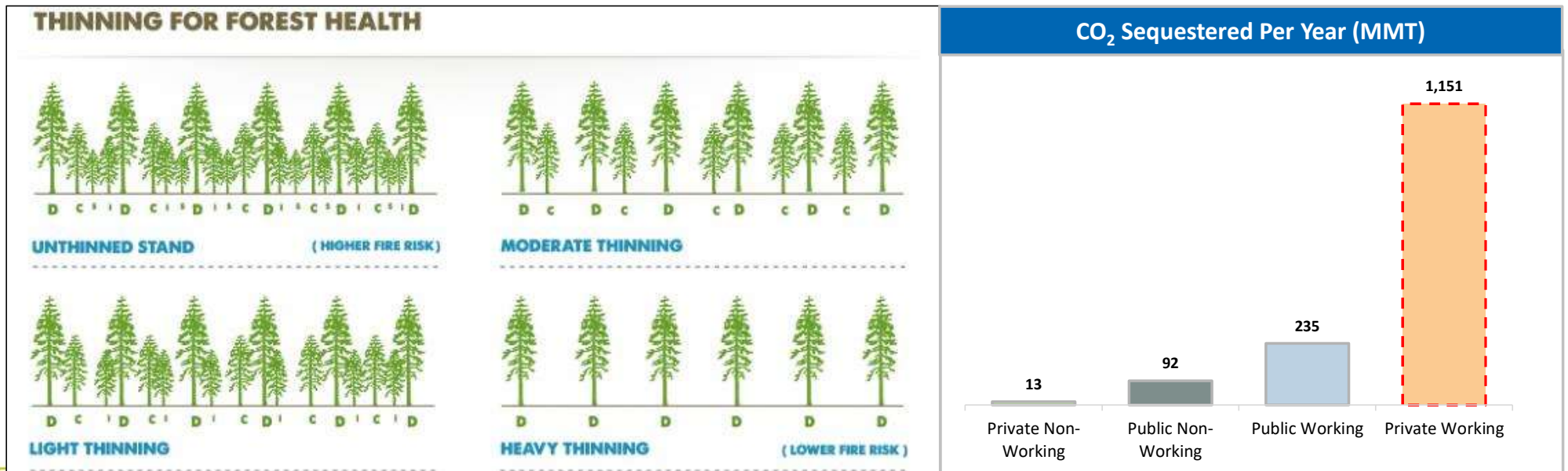


SunGas is focused TODAY on forest residues because they have the lowest pretreatment costs, lowest risk and an existing supply infrastructure.



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 CO₂
- **Working forests** in the US sequester more than 1 Billion tonnes of CO₂/yr, more than all other forest types combined



Sources: High Performance Homes
 Washington Forest Protection Association.
<https://www.forestcarbondaiviz.org>






Abundant Feedstock Can Provide Meaningful Green Fuel Volumes

SunGas S1000 Can Process A Wide Range of Feedstock Materials ⁽¹⁾



300 MMTPA of Feedstock Services Meaningful Energy Demand ⁽²⁾

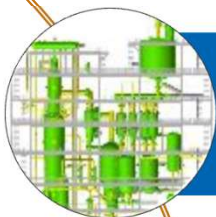
Fuel	SunGas Implied Renewable Fuels Production			
	MMTPA		% of Demand	
	TC ⁽³⁾	TC+eH ₂ ⁽³⁾	TC ⁽³⁾	TC+eH ₂ ⁽³⁾
 SAF	34	85	43%	105%
			% of total US demand	
 Methanol	122	300	20%	50%
			% of global marine fuel displacement	
 RNG	3 Tcf/y	6.8 Tcf/y	15%	35%
			% of total US demand (excluding power generation)	



1) SunGas certifies the S1000 for many feedstocks today. Certain feedstocks may require further testing and qualification.
 2) SunGas calculations based on: U.S. Department of Energy 2023 Billion-Ton Report: Executive Summary, Table ES-2. Only forest residues and agricultural residues considered. <https://www.energy.gov/eere/bioenergy/2023-billion-ton-report-assessment-us-renewable-carbon-resources>
 3) TC is thermal conversion pathway only. TC+eH₂ is thermal conversion plus electrolytic hydrogen pathway to maximize biogenic carbon utilization of biomass.



Key Takeaways



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!

Clifton Keeler, Vice President of Business Development
ckeeler@SunGasRenewables.com