



The Leader in Feedstock Flexible Ethanol

Coskata's Thermal Bio-Syngas to Biofuels Platform

ABIC, September 2010

Loula Merkel, Director, Government Affairs

Coskata envisions being a leader in syngas conversion



Coskata Vision:

To be the global leader for **synthesis gas-to-biofuels and chemicals**, beginning with ethanol

We will achieve this through technology development, licensing as well as owning and operating facilities, and providing onsite products and services



Coskata is a leader in next generation biofuels



Company

- Formed in 2006 and based in Warrenville, IL
- Strong management team and >50 employees

Technology

- Benefits
 - Industry leading yields and cost targets
 - Feedstock and geographic flexibility enables energy security
 - Environmentally sustainable
- Scale-up
 - Pilot facility operating at headquarters in Warrenville, IL
 - Demonstration facility in Madison, PA operating since 2009
 - Commercial Flagship facility to begin production in 2013

Backing



The Blackstone Group



ADVANCED TECHNOLOGY
VENTURES

GLOBESPAN
CAPITAL PARTNERS

khosla ventures

COGHILL
CAPITAL MANAGEMENT

SUMITOMO





Coskata's technology can fuel solutions

Environmental Sustainability

- Up to 96% reduction in greenhouse gasses
 - Lowest water use per gallon of ethanol
 - Feedstock flexibility – can use any sustainable biomass
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Energy Security

- Geographic flexibility – local production from local feedstocks
 - Scalability allows significant early contribution to RFS
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Economic Growth

- Cost competitive with gasoline, unsubsidized
 - Can create millions of “green jobs” in rural areas
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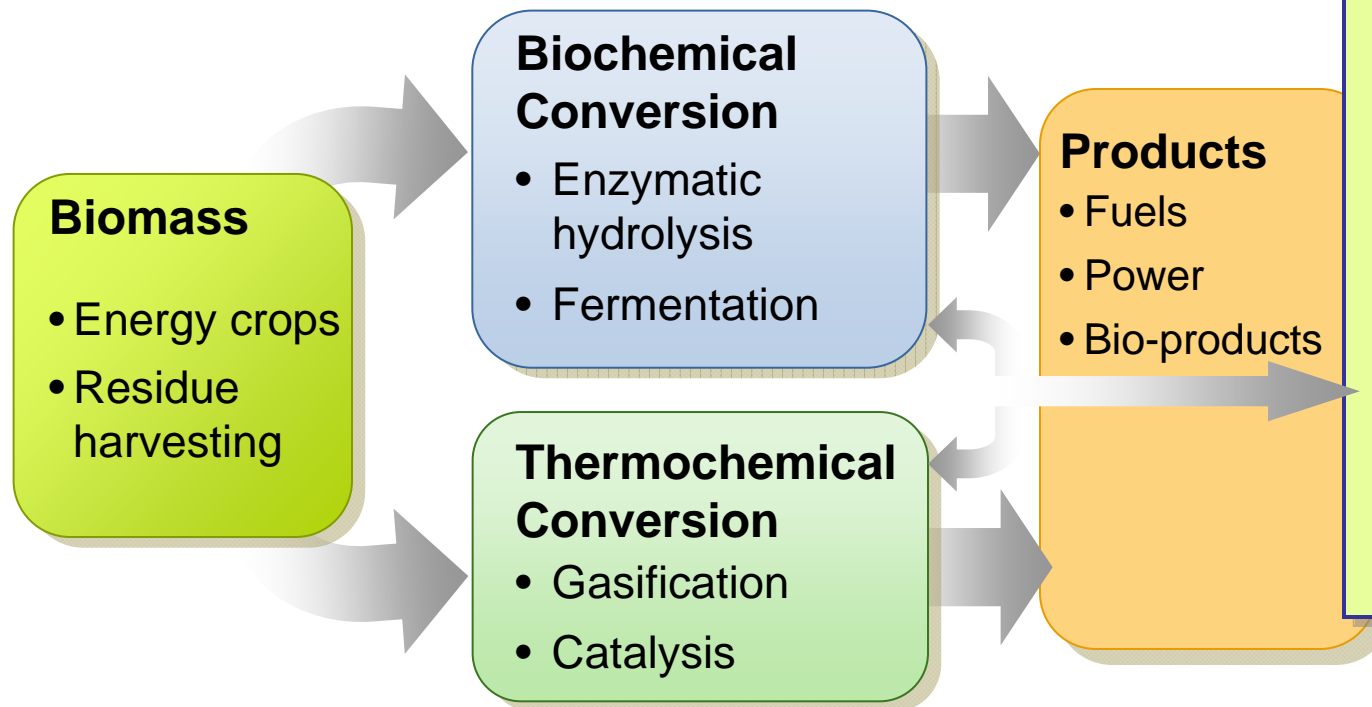
Ready Today

- Strong team and financial backers for execution
- Pilot facility operating at headquarters in Warrenville, IL
- Demonstration facility operating in Madison, PA
- Commercial Flagship facility under development
- Commercial licensing in process

Cellulosic biofuels will involve several technologies



DOE is targeting 2 major pathways for cellulosic biofuels



Coscata's Hybrid Gasification + Fermentation (thermo-biological) technology combines the best of both routes



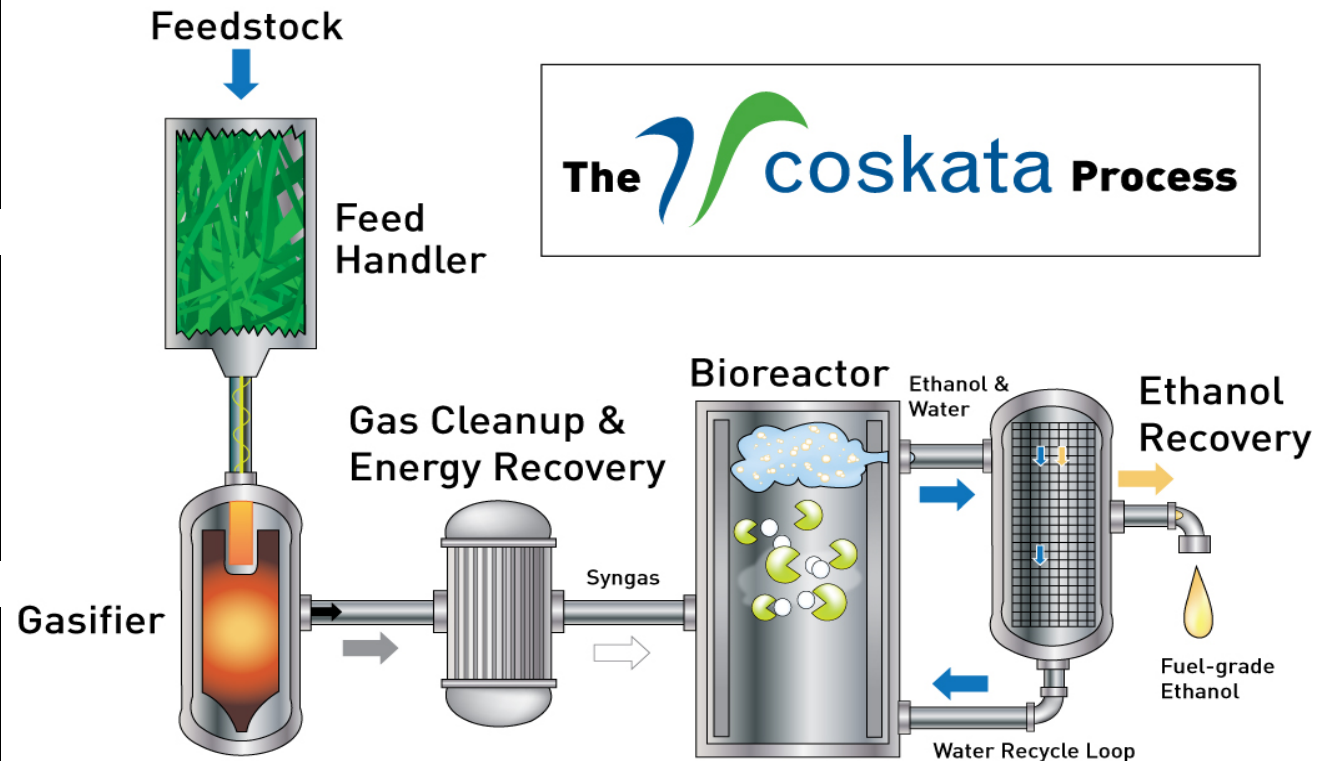
The Coskata Process produces low-cost cellulosic ethanol



Feedstock and geographic flexibility with gasification

Highest proven conversion efficiency of ~100 gal/ton


Cost competitive with gasoline at oil prices today



The best and highest use of biomass becomes critical



Gasification +

	Enzymatic	Catalytic	 coskata
Feedstock Flexibility	No	Yes	Yes
Ethanol Specificity	Yes	No	Yes
Yield* (gal/dry ton)	~55-85	76-89**	~100



* Best estimates from publicly available data

** Chemical catalysis yield estimate from 2012 NREL targets (76 for ethanol, 89 for all alcohols)

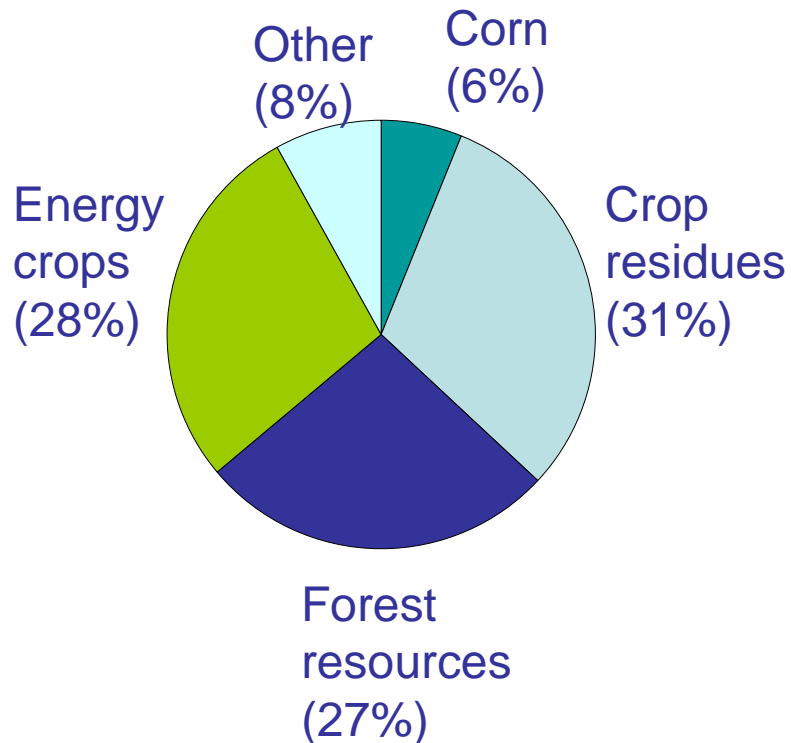
Source: Press; DOE; Company reports

A “Feedstock Flexible” process will help the industry to realize full potential



Projected biomass sources

100%= 1.3 billion dry tons



Cellulosic ethanol:

- READY TODAY
- Able to be made from any carbon source
- Billion ton report estimates over 1/3rd of gasoline can be replaced
- Use of locally grown resources enhances energy security

Coskata is commercializing rapidly



Currently Operating

Horizon (2008)

Integrated Processing
Warrenville, IL

- Integrated processing system with methane thermal reformer, multiple bioreactor designs, and distillation



Currently Operating

Lighthouse (2009)

Semi-Commercial
Madison, Pennsylvania

- Minimum engineering scale (linear scale-up to commercial production)
- Front-end biomass gasifier
- Testing multiple commercial-scale bioreactor and separations designs



Under Development

Flagship (2013)

Commercial Production
Southeast, U.S.

- 55 MM gallons / yr
- Multiple gasifiers that process ~1500 dry tons/day of biomass
- Cost competitive with gasoline

Coskata has unsurpassed anaerobic research and development capabilities



Lab and Horizon Pilot

- Complete anaerobic bacteria strain management facility capable of advancing native strains through guided mutation and selection
- New native strains have been isolated and advanced, and patent applications filed
- Platform technology



2 liter fermenter

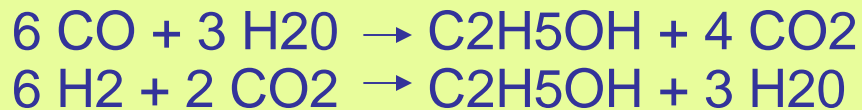
14 liter fermenter

Coskata's proprietary technology drives efficiency



Microorganisms utilize the chemical energy of the syngas to selectively produce ethanol

Coskata's **anaerobic bacteria** consume both CO and H₂, allowing efficient conversion across the range of H₂:CO ratios



Innovative **bioreactor designs** drive maximum productivity

Bioreactor



Lighthouse is a critical milestone on the path to commercialization



Project Lighthouse

- Demonstrates technology at significant scale, allowing direct scale-up to commercial
- Operating results prove Coskata ethanol yield at 100 gallons/dry ton
- Completes design details for commercial facilities
- Proves commercial viability on multiple feedstocks, enabling multiple commercial licenses

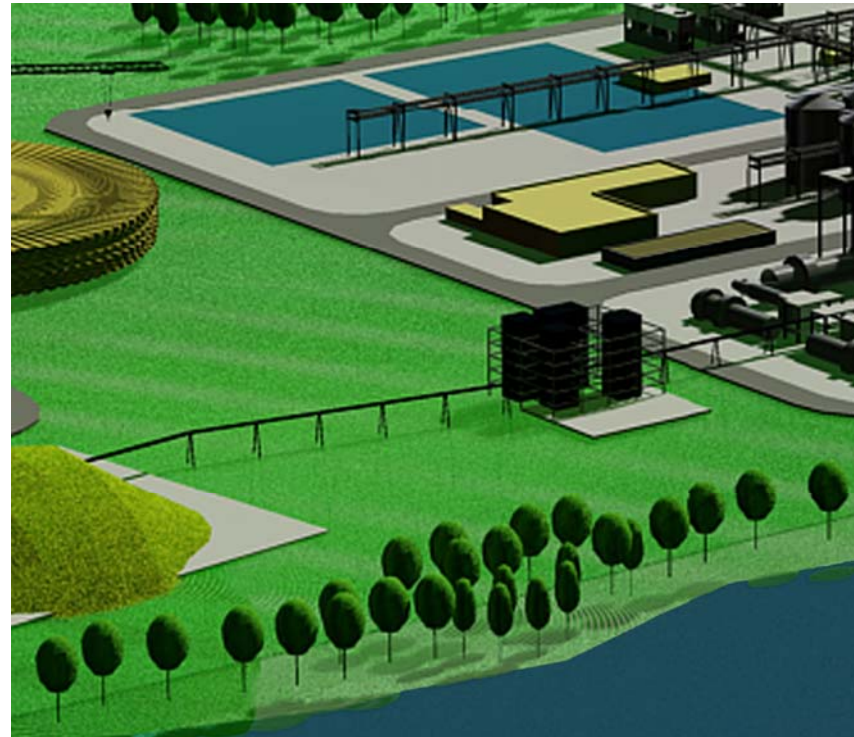


Flagship represents Coskata's first commercial facility



Project Flagship will:

- Produce 55 million gallons of fuel-grade ethanol
- Be located in the Southeast United States
- Utilize 1.1 million green tons of wood biomass*
- Create over 700 direct and indirect green jobs
- Represent the world's first commercially viable, feedstock flexible ethanol plant
- Enable acceleration of licensed facilities



Cutout of Coskata's "Flagship" commercial plant design

Front-end Engineering Design complete



* Green tons refer to total tonnage of biomass including moisture. For wood biomass moisture typically makes up ~50% of the total mass.

Coskata is building facilities and licensing technology



Coskata is demonstrating the technology at scale

Coskata's licensing model can enable fast capacity build-out

Coskata has the resources to deliver commercial projects





Coskata has well developed licensing protocols

Developing “Project Partnerships” with:

Parties looking to profitably expand

- Chemical companies
- Feedstock companies
- Project developers

Existing operations to compliment core business

- Corn ethanol producers
- Sugar mills
- Pulp and paper companies

Parties obligated to blend

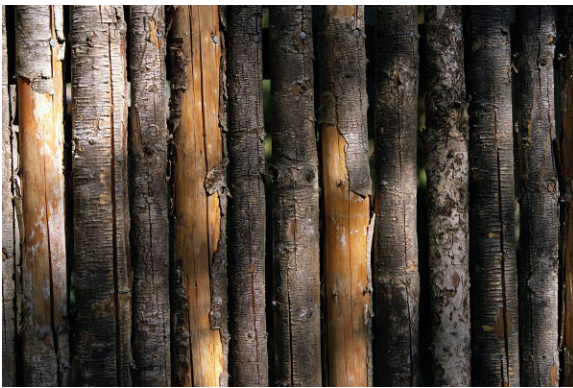
- Oil companies



Coskata deliverables:

Works with licensee to develop and finalize project scope and estimate project economics	Provides full appropriation ready front-end engineering design	Work with EPC to perform detailed engineering, procurement and construction	Evaluate installation and oversee start-up to guarantee operations Ongoing on-site and general technical support services Access to ongoing technology improvements
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Co-location can result in substantial financial synergies

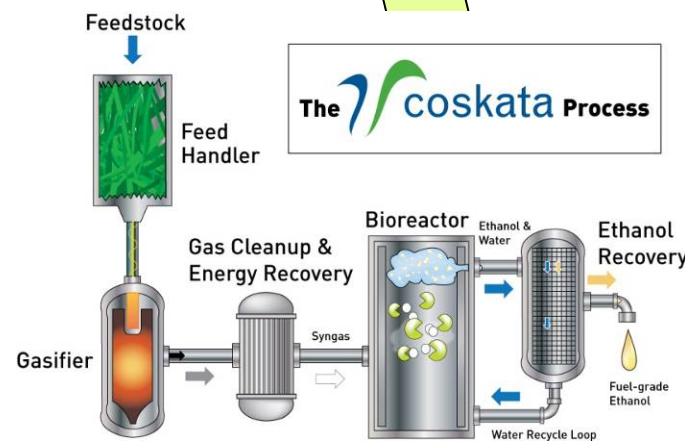


Raw Materials Procurement

- Corn stover
- Corn fiber
- Wood biomass
- Municipal waste



Excess steam can be shared in the adjacent core process



Shared Infrastructure

- Wastewater Handling & Treatment
- Chemicals Storage
- Utilities
- Road, Rail, etc.



Coskata is ready for full-scale facilities today



Coskata has **successfully scaled** cellulosic ethanol technology in 2009 and is ready to build commercially

Coskata's FlexEthanol process is **cost-competitive with gasoline** at oil prices today

The Coskata process with wood biomass uses **half the water** required to produce a gallon of gasoline and **reduces lifecycle greenhouse gas emissions** by as much as 96%

Can use any non-grain based carbon source (ag waste, trash, energy crops, etc.) allowing **ultimate feedstock flexibility** and **geographic flexibility**

IT'S TIME TO START BUILDING!



The Leader in Flex Ethanol™