Rentech, Inc.

- Founded in 1981
- Employees: 250+
- Locations
  - Los Angeles
  - Denver
  - East Dubuque
  - Atlanta
  - Natchez
  - Honolulu
- NYSE AMEX: RTK
Clean Energy
Rentech’s Clean Energy Technologies

- **Cellulosic feedstocks**: Low-value, non-food, low carbon
- **Self-sustaining**: No energy input after startup
- **Self-sufficient**: No purchases of hydrogen or oxygen
- **Integrated**: Biomass through drop-in fuels and renewable power

Biomass to syngas and renewable power

Syngas to renewable fuels
Energy Technology: Integrated Value Chain

- **Bagasse**
- **Ag Waste**
- **Grass**
- **Switchgrass**
- **Wood / Timber**
- **Other Biomass**

**Rentech-ClearFuels**

**Rentech-SilvaGas**

**Combined Cycle Power**
(third party)

**Rentech Fischer-Tropsch Process**

- **Steam Methane Reformer**
  (third party)
- **Coal / Petcoke Gasification**
  (third party)

**Renewable Power**

- **Renewable Fuels**

- **Natural Gas**

- **Fossil**

**Cellulosic Fuels Technologies**
(third party)

**Upgrading**
Another Route Powering Future Vehicles

Bagasse
Ag Waste
Grass
Energy Crops
Wood / Timber
Other Biomass

ClearFuels Biomass Gasification System

Commercially-Available Combined Cycle Power Block

Clean Power
Integrated Bio-refinery Demo Under Construction

Rentech-ClearFuels Integrated Bio-Refinery, Commerce City, CO

- Rentech-ClearFuels biomass gasifier at 20 tons / day
- Integrated with Rentech’s PDU to produce renewable drop-in synthetic jet and diesel fuels
- Awarded $23 million U.S. Department of Energy grant for Advanced Bio-Refineries
- Integrated operation expected late 2011
Fully Integrated BTL Facility

• With the addition of a Rentech-ClearFuels Gasifier, the BioEnergy Center of Excellence (BECE) will be a fully-integrated biomass-to-liquids (BTL) facility

  • Will allow flexibility of feedstock including wood chips, sugar cane bagasse, and corn stover in addition to the current feedstock of natural gas
  • The BECE has in place the necessary equipment to clean and remove any contaminants present in the various feedstock to the permitted levels

• First production expected in late 2011

Rentech-ClearFuels’ Biomass Gasifier
Integrated Bio-Refinery Project Timeline and Budget

**Timeline**

- **Project start date(s)**
  - BP 1 - 12/04/09 – 10/17/10
  - BP 2 - 10/18/10 – 04/1/12

- **Anticipated project end date**
  - Mechanical Completion October 2011
  - Start up Complete- November 2011

- **Percent complete**
  - 78% as of 7/6/11

**Project Development**

- Currently in the Construction Phase
  - Civil Construction 78% (7/6/11)
  - Mechanical Construction 12% (7/6/11)
  - Electrical Construction – 1% (7/13/11)

- Mechanical Completion Forecasted for October 2011

**Project Participants**

- ClearFuels/Rentech partnership
- Rentech-ClearFuels Technology (Reformer License plus patent pending )
- Rentech Fischer Tropsch (Patented)
- Technology Integration (Patent Pending)
- URS providing Engineering and Procurement Services and Construction Management
- National Renewable Energy Laboratory (NREL) providing TMBMS
- Hawaii Natural Energy Institute (HNEI)
Rentech-ClearFuels - High Efficiency Hydrothermal Reformation

Technology Differentiation

CONTROLLABLE H2:CO SYNGAS RATIO THROUGH OPERATIONS

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>RESULT</th>
<th>ADVANTAGE</th>
</tr>
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<tbody>
<tr>
<td>Indirect firing</td>
<td>Combustion separate from gasified products</td>
<td>Cleaner syngas with low tar content</td>
</tr>
<tr>
<td>Steam reformation</td>
<td>No oxygen plant, no nitrogen dilution</td>
<td>Lower capex and opex</td>
</tr>
<tr>
<td>Entrained flow</td>
<td>Biomass and steam premixed</td>
<td>Consistent syngas characteristics with multiple feedstock's</td>
</tr>
<tr>
<td>Variable controls</td>
<td>Independent control of steam, biomass, residence time</td>
<td>Ability to “dial in” H2 to CO ratio to desired through operations</td>
</tr>
<tr>
<td>Flexible fuel</td>
<td>Can use syngas, nat. gas, biogas, tailgas</td>
<td>Higher yields when integrated with other advance biofuels processes</td>
</tr>
</tbody>
</table>

![Graph showing H2, CO, CO2, CH4 mol% against H2 mol% on x-axis.](chart.png)
The Rentech Synthetic Fuels Reactor

- No moving parts
- We have built some of the world’s largest slurry reactors
- Scale-up: Increase diameter at the same height.
- Low pressure drop – smaller recycle compressors

H₂ + CO (SynGas) → Light Products

Waxy Products → Clear Wax
Product Upgrading – The Final Step

• The final step in the Rentech Process is Product Upgrading
• Light products and clear wax from Rentech reactor are hydroprocessed to products
• Uses proven UOP Technology via our Alliance Agreement
• Low cost and simple relative to petroleum refining
  • Simpler than hydrocracking and hydrotreating used in refineries today
• Capable of making multiple fuel and chemical products
  • High quality Diesel or Jet or specialty chemicals
## Rentech’s Diverse Technologies

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<tr>
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<tbody>
<tr>
<td>Syngas from any carbon-bearing materials</td>
<td>Wood, agricultural residues, straw, switch grass, &amp; energy crops</td>
<td>Finely ground virgin biomass: sugarcane bagasse &amp; wood</td>
<td></td>
</tr>
<tr>
<td>Products:</td>
<td>Hydrocarbons for synthetic fuels; specialty chemicals</td>
<td>Power; fuels &amp; power</td>
<td>Hydrogen, Optimized for fuel</td>
</tr>
<tr>
<td>Readiness:</td>
<td>Proven at demonstration scale; Deployable today</td>
<td>Proven at commercial scale; Deployable today</td>
<td>Proven at pilot scale To be proven at demo scale at PDU w/ aid of $23M DOE grant</td>
</tr>
<tr>
<td>Projects:</td>
<td>To be deployed at renewable fuels &amp; power projects currently under development</td>
<td>To be deployed at renewable fuels &amp; power projects currently under development</td>
<td>To be deployed with Rentech’s FT under licensing agreement once demo scale completed at PDU</td>
</tr>
<tr>
<td>Ownership:</td>
<td>100% owned by Rentech</td>
<td>100% owned by Rentech</td>
<td>95% owned by Rentech</td>
</tr>
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</table>
Energy Products

Certified Fuels from Rentech’s FT Technology

- **Diesel**: Audi 1000 Mile Drive
- **Certified Jet**: United Airlines Flight
- **Lower tailpipe emissions**

Low carbon footprint & cellulosic RINs

**Other Cellulosic Fuels**
- Cellulosic ethanol and other fuels from our biomass gasification technologies
- Fuels can qualify for cellulosic RINs

**Renewable Hydrogen**
- Produced from biomass by Rentech-ClearFuels gasifier

**Renewable Power**
- **Renewable baseload** power; no backup required
- **Close** to interconnection and transmission
Benefits of BTL Fuels

• BTL fuels are hydrocarbon fuels that can be used in all turbine and diesel engine applications
  • ASTM D7566 approval
  • Meets ASTM D975 requirements
  • Approved for use in all but one USAF airframe

• BTL can utilize any carbon resource
  • Efficiently converts biomass into diesel/jet/power
  • Utilizes entire resource, not just oil content

• LCA of BTL fuels are lower than other biofuels
  • 95% lower than diesel
  • Co-production of power or diversion of biomass from landfills can lower CI further
Renewable Fuel: Olympiad Renewable Energy Center

- **Renewable Fuels:**
  - 2,600 barrels per day of low carbon jet fuel and naphtha

- **Long-term Feedstock:**
  - Selected by Province of Ontario for proposed supply of 1.3 million tons per year of mostly forest waste and unmerchantable Crown timber

- **Funding:**
  - Potential funding up to C$200MM from the federal government’s Sustainable Development Technology Canada (SDTC) Next Generation Biofuels Fund
  - Up to 18% (C$50MM) equity investment from Pic River First Nations

- **Location:** Northern Ontario, Canada
BioEnergy Center of Excellence (BECE)
BECE: BioEnergy Center of Excellence

• Integrated systems for BioFuel, Renewable Chemical, and Power Production; Biomass Gasification; Hydro-Processing; Catalyst Development and Testing Labs for Collaborative Technology Advancement(s)
  o Platform for development of BioEnergy technologies for commercial deployment
  o Designed to be highly flexible – “Plug and Play” for innovative new technologies
  o Produces ultra clean, certified aviation and diesel fuels, naphtha, power and chemicals
  o $23 million DOE grant for a Rentech-ClearFuels biomass gasifier with an additional $13 million invested by Rentech

• Produced Ultra-clean diesel & aviation fuels and naphtha
  o Diesel fuel meets ASTM, D97566 and EN 590 specs
  o “Drop in” fuels

• Testing syngas and fuels from variety of feedstocks:
  o Wood Waste
  o Bagasse
  o Corn Stover
  o MSW/RDF
  o Natural Gas
  o Others

• $150 million technology and R&D center
• 70 scientists, engineers, technicians and operators
• 3 catalyst development and evaluation labs
• 1 analytical and fuels testing lab
• 1 wax/catalyst separation technology lab
BECE: More For Less

- **Capital Requirements for Technology Innovation**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
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<tbody>
<tr>
<td>Raise Capital for new demonstration facility  &lt;br&gt; • Difficult in current economic environment  &lt;br&gt; • Expensive  &lt;br&gt; • Duplicative (why reinvent the wheel?)</td>
<td>BECE has been operational since 2008 and can deploy capital directly into the development of new technologies</td>
</tr>
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</table>

- **Time to Development**

<table>
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<th>Solution</th>
</tr>
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<tbody>
<tr>
<td>Greenfield facilities to deploy technologies would likely be completed by 2016 at the earliest</td>
<td>BECE is currently operational and actively seeking partners to “Plug and Play” BioEnergy technologies</td>
</tr>
</tbody>
</table>

- **Risk**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Technology risk  &lt;br&gt; • Operating risk  &lt;br&gt; • Execution risk</td>
<td>BECE reduces capital per development dollar spent thereby reducing all risk exposures</td>
</tr>
</tbody>
</table>
BECE currently working with SRC, SDTC, NREL, DOE

- Saskatchewan Research Center (SRC)
  - Leading provider of applied R&D and technology commercialization; More than 400 employees
  - Annual revenues around $50 million and growing
- Sustainable Development Technology Canada (SDTC)
  - Aimed at the development of innovative technological solutions
  - $500 million NextGen Biofuels Fund™ supports the establishment of first-of-kind large demonstration-scale facilities for the production of next generation biofuels
  - The foundation reports to Parliament through the Minister of Natural Resources Canada
  - To date, SDTC has completed seventeen funding rounds and allocated a total of $515 million to 210 project
  - Currently working with Rentech and BECE on the Olympiad Project
- US DOE and NREL
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This presentation contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. These statements are based on management’s current expectations and actual results may differ materially as a result of various risks and uncertainties. Other factors that could cause actual results to differ from those reflected in the forward-looking statements are set forth in the Company’s press releases and periodic public filings with the Securities and Exchange Commission, which are available via Rentech’s web site at www.rentechinc.com. The forward-looking statements in this presentation are made as of the date of this presentation and Rentech does not undertake to revise or update these forward-looking statements, except to the extent that it is required to do so under applicable law.
2011 Gasification Technologies Conference

Rentech-ClearFuels IBR Project
Dr. Harold Wright, Chief Technology Officer

October 11, 2011