Synthesis Energy Systems, Inc.

Update on SES Projects and Progress

GASIFICATION TECHNOLOGIES COUNCIL CONFERENCE
WASHINGTON, D.C.
OCTOBER 29-31, 2012
Forward-Looking Statements

This presentation includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements other than statements of historical fact are forward-looking statements. Forward-looking statements are subject to certain risks, trends and uncertainties that could cause actual results to differ materially from those projected. Among those risks, trends and uncertainties are the early stage of development of SES, its estimate of the sufficiency of existing capital sources, its ability to successfully develop its licensing business, its ability to raise additional capital to fund cash requirements for future investments and operations including its China platform initiative, its ability to reduce operating costs, the limited history and viability of its technology, commodity prices and the availability and terms of financing opportunities, its results of operations in foreign countries, its ability to diversify, its ability to complete the restructuring of the ZZ Joint Venture, its ability to obtain the necessary approvals and permits for its future projects, the estimated timetables for achieving mechanical completion and commencing commercial operations for the Yima project as well as the ability of the Yima project to produce revenues and earnings, the sufficiency of internal controls and procedures and the ability of SES to effect the ZJX/China Energy transaction based on our ongoing discussions with them to grow its business and generate revenues and earnings as a result of its proposed China and India platform initiatives, as well as its joint venture with Midas Resource Partners. Although SES believes that in making such forward-looking statements its 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. SES cannot assure you that the assumptions upon which these statements are based will prove to have been correct.
Growing Our Business

TURNING THE CORNER

• OPERATING PROJECTS WITH TOTAL PROJECT VALUE OF ~$280MM
• PLANNED EXPANSIONS ~$850MM PLUS MULTIPLE PROJECTS IN PIPELINE
• STRATEGIC WELL-CAPITALIZED LOCAL PARTNERS BRING BOTH DEBT & EQUITY
• ACCELERATING SES CHINA BUSINESS

A Foundation For Growth

2003-05
SES FORMED
SES ACQUIRED U-GAS® TECHNOLOGY FROM GTI
$5MM PRIVATE PLACEMENT

2006-07
ZZ PROJECT JV AGREEMENT – CHINA
$16MM PRIVATE PLACEMENT
ZZ GROUND BREAKING
SYMx – NASDAQ
$54MM EQUITY RAISE

2008-10
$100MM EQUITY RAISE
ZZ COMMERCIAL OPERATIONS BEGIN
YIMA JV PROJECT FINANCIAL CLOSE
Biomass License Signed

2011-12
FORMED SES RESOURCE SOLUTIONS
LAUNCHED SES CHINA
YIMA JV PROJECT COMMISSIONING STARTS
$15.5MM STRATEGIC INVESTMENT FROM HONGYE & ZHONGMO CHINA
Advanced Gasification Technology is the Key

SYNTHESIS GAS FROM LOW QUALITY COALS & RENEWABLES

- PROPRIETARY GASIFICATION SYSTEM
- BASED ON GTI’S U-GAS® TECHNOLOGY
- RELIABLE HIGH-EFFICIENCY OPERATION
- OPENS VAST LOW QUALITY RESOURCES
- ENVIRONMENTALLY RESPONSIBLE
- GROWING IP – 41 PATENTS IN PROCESS

U-GAS® - Exclusively Licensed from Gas Technology Institute
Our advanced technology creates value by unlocking the potential of low rank coals and biomass.

- **Coal**: ~10 - 20 Moisture %, ~20 - 25 Ash %
- **Biomass**: Entrained Flow Slurry Feed
- **SES U-GAS®**: Entrained Flow Dry Feed

Diagram showing the flow of coal and biomass through a gasifier, producing syngas (CO, H2), and capturing ash and flue gases.
Existing Operations and Investments

**ZAO ZHUANG NEW GAS COMPANY (ZZ) – Completed December 2007**

- JV with Shandong Hai Hua Coal & Chemical Co. Ltd (97% SES / 3% HH)
- Proven U-GAS® performance with successful commercial operation
- Proven feedstock flexibility with wide range of coal and coal wastes
- Historically high syngas availability

**YIMA PLANT – HENAN PROVINCE In Commissioning Phase**

- JV with Yima Coal Industry Group (75% Yima / 25% SES, option to increase to 49%)
- Phase 1 of planned $4B Mazhuang Coal Chemical and Energy Industrial Park
- Converts 2,400 mtpd coal (up to 45%wt ash) to 300,000 mtpa methanol equivalent products
- Methanol generation planned for late 2012
Zao Zhuang Commercial Operations

- Successful third party commercial coal testing
  - Yima Coal Industry Group
  - Inner Mongolian Lignite
  - Ambre Energy
  - Yankuang Yishan Chemical Company

<table>
<thead>
<tr>
<th>Location</th>
<th>Zao Zhuang (“ZZ”) – Shandong Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner</td>
<td>JV with Shandong Hai Hua Coal Chemical Co. Ltd (96% SES/ 4% HH)</td>
</tr>
<tr>
<td>Capacity</td>
<td>2 x 400 mtpd (1 operating &amp; 1 backup)</td>
</tr>
<tr>
<td></td>
<td>Designed for 22,000 Nm³/hour of clean syngas</td>
</tr>
<tr>
<td>Product</td>
<td>Coal gasification to methanol</td>
</tr>
<tr>
<td>Fuel</td>
<td>Coal Middlings (washing waste); 38 – 55% ash</td>
</tr>
<tr>
<td>Operating Time</td>
<td>Successful commercial operation over 4 years</td>
</tr>
<tr>
<td>Availability</td>
<td>Over 97% syngas availability, 91% on a single train</td>
</tr>
</tbody>
</table>
## ZZ Test Campaigns

### Proximate Analysis

<table>
<thead>
<tr>
<th></th>
<th>Inner Mongolia Lignite (‘09)</th>
<th>Fines Reinjection (‘10)</th>
<th>Australian Sub-bit (‘10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Content, wt % (ad)</td>
<td>12.05</td>
<td>1.84</td>
<td>4.84</td>
</tr>
<tr>
<td>Ash Content, wt % (ad)</td>
<td>20.40</td>
<td>27.39</td>
<td>37.76</td>
</tr>
<tr>
<td>Volatile Matter, wt % (ad)</td>
<td>31.18</td>
<td>29.64</td>
<td>32.25</td>
</tr>
<tr>
<td>Fixed Carbon, wt % (ad)</td>
<td>36.37</td>
<td>41.13</td>
<td>25.15</td>
</tr>
<tr>
<td>Moisture Content, wt% AR</td>
<td>26.50</td>
<td>4.0</td>
<td></td>
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<tr>
<td>LHV, BTU/lb, AR</td>
<td>6,786</td>
<td>9,162</td>
<td>6,904</td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th></th>
<th>Inner Mongolia Lignite (‘09)</th>
<th>Fines Reinjection (‘10)</th>
<th>Australian Sub-bit (‘10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO+H₂, mol%</td>
<td>65.14</td>
<td>66.60</td>
<td>72.5</td>
</tr>
<tr>
<td>H₂/CO Ratio</td>
<td>1.43</td>
<td>1.23</td>
<td>1.05</td>
</tr>
<tr>
<td>HHV, BTU/scf*</td>
<td>254</td>
<td>256</td>
<td>272</td>
</tr>
<tr>
<td>Cold Gas Efficiency %</td>
<td>79</td>
<td>82</td>
<td>83</td>
</tr>
<tr>
<td>Carbon Conversion %</td>
<td>96</td>
<td>&gt;98</td>
<td>96</td>
</tr>
</tbody>
</table>

* On a nitrogen, sulfur and moisture free basis
Yima – A Multi-Phased Project

- The Yima Coal Industry Group is one of China’s largest coal companies with total assets of RMB 15.7 billion (USD 2.3 billion)
- Chose U-GAS® following test campaign on Yima’s high ash sub-bituminous coal at SES’ Zao Zhuang facility

<table>
<thead>
<tr>
<th>Location</th>
<th>Henan Province, China - Mazhuang Coal Chemical Industrial Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner</td>
<td>Yima Coal Industry Group Co.</td>
</tr>
<tr>
<td>Capacity</td>
<td>3 x 1,200 mtpd (2 operating &amp; 1 backup)</td>
</tr>
<tr>
<td>Product</td>
<td>Integrated coal gasification to methanol (300,000 mt/yr)</td>
</tr>
<tr>
<td>Fuel</td>
<td>Sub-bituminous; 38 – 45% ash</td>
</tr>
<tr>
<td>Capital Cost</td>
<td>Approx. $250 million – financial close Aug 2009</td>
</tr>
<tr>
<td>Structure</td>
<td>75% Yima / 25% SES (SES option to increase to 49%)</td>
</tr>
<tr>
<td>Mechanical Completion</td>
<td>Gasification complete, methanol by late 2012; COD – approx 6 months later</td>
</tr>
</tbody>
</table>
Yima Gasification Section

October 2010

October 2012
Yima Construction
Yima Construction
Yima Build-Out Plan

YIMA JOINT VENTURE
COAL CHEMICAL COMPLEX - THREE PHASE ARTIST RENDERING

LEGEND
1. Air Separation
2. Syngas Purification
3. Cooling Tower
4. Methanol Synthesis
5. Syngas Compression
6. Gasification
7. Methanol Storage
8. Water Treatment
9. Power Generation
10. Control Room
11. Lab Analysis
12. Maintenance
13. Warehouse
14. Coal Storage
15. Methanol Protein
16. Water Desalination
17. Dining Hall
18. Dormitory
19. Administration Building
20. Service Water Building

Notes
a - Phase 1
b - Phase 2
c - Phase 3
Robust Approach to Revenues & Profits

**Three Pathways**

**Technology Offerings**
- License Royalties
- Equipment Sales
- Engineering Services
  - High Margin; Low Capital

**Strategic Partnerships**
- Market Segments
  - (i.e. Fuels, SNG, Steel, Power)
- Regional (i.e. China, US, India)
- Industry Leaders
  - Low/Med. Capital Needs

**Operating Projects**
- Synthesis Gas Sales
- Product Sales (i.e. Methanol, Ammonia, SNG, Gasoline)
  - Heavy Asset Investments
- Project Partners

**Lowest Cost Resources**

**Multiple Market Channels**

**Low Cost Producer**
Paths To Value Creation

Low Value Feedstock

Low quality coals

Biomass

SES’ U-GAS® (1)

Synthesis Gas

\((CO_2 + H_2)\)

Conversion Processes

Downstream Processes

CO₂ Capture Capable

By-Products

Ash

Sulfur

High Value End Products

Power

• IGCC
• Fuel cells

Gas

• SNG
• Fuel Gas

Fertilizers

• Ammonia
• Urea

Steel Making

• DRI

Fuels

• Gasoline blending
• Syngas to gasoline
• Diesel - DME & FTL
• LPG - DME blending

Chemicals

• Methanol
• Hydrogen
• Olefins
• Acetic Acid
• Glycol

(1) U-GAS® is exclusively licensed from the Gas Technology Institute with SES’ patented design improvements
SES China Platform

LARGE OPPORTUNITY IN EXPANDING COAL-BASED ECONOMY

• SES CHINA ESTABLISHED WITH TECHNOLOGY CAPABILITY AND OPERATING PROJECTS
• NEAR TERM PROJECT EXPANSIONS PLANNED AT YIMA AND ZZ
• ROBUST TECHNOLOGY LICENSING, EQUIPMENT & SERVICES PIPELINE
• AMMONIA PLANT RETROFIT TOTAL AVAILABLE MARKET: 700 SES GASIFIERS
• MULTIPLE SNG, AMMONIA AND METHANOL PROJECTS REQUIRED TO SUSTAIN GROWTH
• SIGNIFICANT BIOFUELS OPPORTUNITY TO MEET CHINA’S RENEWABLE ENERGY PLAN
• SES CHINA SUBSIDIARY FUNDRAISING INITIATED
• ESTABLISHES VEHICLE FOR REGIONAL LISTING
SES U.S. Opportunities

OPPORTUNITIES IN WASTE AND RENEWABLES PROJECTS

• LEADERSHIP IN DEVELOPMENT OF US PROJECT OPPORTUNITIES
• GASIFICATION OF BIOMASS, WASTE PLASTIC, MSW/RDF, ASR
• COMMERCIAL PROVEN GASIFICATION UNIQUE IN THIS MARKET
• SYNERGIES WITH CHINA BUSINESS UNIT BRING LOW COST EQUIPMENT AND FINANCING
• SES SUPPLIES PROJECT DEFINITION, EQUIPMENT, O&M, TECHNICAL SERVICES
• PRODUCTS INCLUDE FUELS, METHANOL, AMMONIA
• CARBON DIOXIDE UTILIZED FOR ENHANCED OIL RECOVERY
The Renewables Story

GREEN FUELS AND CHEMICALS FROM PROVEN TECHNOLOGY

- REFUSE-DERIVED FUEL
- MUNICIPAL SOLID WASTE
- AUTO-SHREDDER RESIDUE

- WASTE PLASTICS
- COAL WASTES

Utilizes proven gasification technology to recycle and re-use carbon-rich waste materials with extremely low environmental impact
Synthesis Energy Systems (SYMX) Summary

UNLOCKING VALUE Through CLEAN ENERGY TECHNOLOGY

• UNIQUE AND PROVEN GASIFICATION TECHNOLOGY
• LOW COST ALTERNATIVE TO OIL AND NATURAL GAS
• SUPERIOR ECONOMICS, NUMEROUS OPPORTUNITIES
• CAPITALIZES ON WORLDWIDE SHIFT TO LOWER COST FUELS
• SES CHINA BUSINESS ESTABLISHED & FUNDRAISING INITIATED
• SES GASIFICATION TECHNOLOGY: US DEVELOPED, CHINESE COMMERCIALIZED, NOW READY FOR GLOBAL DEPLOYMENT
• RENEWABLES AND WASTE GASIFICATION IN DEVELOPED WORLD, CARBON NEUTRAL OR CARBON NEGATIVE
• UTILIZE INDIGINOUS FUELS IN DEVELOPING WORLD FOR NEEDED INFRASTRUCTURE POWER AND CHEMICALS