Clean Coal Technologies has the potential to revolutionize the global coal industry.

Clean Coal Technologies, Inc. is an emerging growth coal technology company developing what we believe is the world’s first commercially viable and scalable coal dehydration and stabilization technology.

CCTI’s proven technology can eliminate moisture, reduce transportation costs, and minimize carbon footprint, allowing for the upgrade of billions of tons of coal around the world.

All of CCTI’s technologies are patented globally.

CCTI’s suite of patented technologies enables the dehydration and gasification of coal.

Pristine-M™ technology developed by CCTI has been successfully tested in partnership with the University of Wyoming and Kiewit Engineering and is ready for commercialization.

Pristine-M™ technology offers compelling arbitrage economics for upgrading low-rank coal (LRC).
In 2016, coal accounted for 45.1% of global non-renewable energy reserves:

- **3732 million tons** of coal were consumed
- **50.6%** by China
- **11.0%** by India
- **9.6%** by the United States

Source: BP Statistical Review of World Energy 2018
81% of world coal reserves are low-rank coals (LRC) which is the target coal for Pristine M

High moisture content & low heating value

- **Lignites**
  - 17% of coal reserves
  - 5.5-14.3 MJ/kg
  - 1300-3400 kcal/kg

- **Sub Bituminous**
  - 64% of coal reserves
  - 5.5-14.3 MJ/kg
  - 2000-4000 kcal/kg

- **Bituminous**
  - 18% of coal reserves
  - 18.8-29.3 MJ/kg
  - 4450-7000 kcal/kg

- **Anthracite**
  - 1% of coal reserves
  - 30+ MJ/kg
  - +7100 kcal/kg

Source: European Commission—Directorate General Joint Research Centre Institute of Energy
CCTI’s proprietary technologies address commercial needs across industries.

- Coal mining companies needing to upgrade LRC
- Power companies needing to meet air quality standards
- Steel companies needing low-cost materials
- Transportation companies needing to eliminate coal dust in transit
- Chemical companies needing to harvest hydrocarbons from low-cost coal vs high-cost oil
- Valuable by-products including rare earth mineral extraction from coal
CCTI’s Proprietary Technologies

Pristine™
Upgrade low-rank high-moisture coal and extract valuable by-products

Pristine-SA™
Reduce coal to fixed carbon and co-fire with biomass

Pristine-M™
Upgrade high-moisture high-volatile coal and reduce moisture, transportation costs, coal dust, and carbon footprint
Concept

To generate coal-derived volatile gases from a slip stream of coal and use those volatiles in a proprietary stabilization process that renders the dry coal structurally stable and hydrophobic with increased BTU content.

- The technological breakthrough of the Pristine-M’s stabilization process is the stabilizer that puts into effect a proprietary technology called “Vapor Phase Deposition,” which causes the pores of dry coal to adsorb volatile matter, rendering it hydrophobic while boosting its heat value beyond what would be accomplished by moisture removal alone. The end product is stable and dust-free.

- The Pristine-M pilot plant handles 2-3 tons/hour while the Pristine-M commercial scale module is designed to handle 30 tons/hour.

- Full capacity is achieved by the addition of a suitable number of identical modules up to 1 million tons/year capacity or greater depending on client needs.
CCTI Test Facility

- Dryer
- Devolatizer
- Stabilizer
The Pristine-M™ process flow diagram shows the following steps:

1. Ambient Air Dryer
2. Fines Separator
3. Dryer
4. Devolatizer
5. Stabilizer

The process flow includes:
- To Combustor
- Water
- Carbon Feedstock
- Product Coal

Volatile Matter (VM) is sent to the Stabilizer, and Light VM to Combustor is indicated.
Process Overview: Dryer

- Low-grade high-moisture coal processed into dryer and demoisturized down to below 5% internal moisture or to client specification
- Dry coal in this state has a tendency to spontaneously combust and must be kept in an inert atmosphere
Process Overview: Devolatizer

- Side stream of coal processed into the devolatizer to partially drive off volatile vapor
- Volatiles preserved to coat outer surface of coal later in the process.
Process Overview: Stabilizer

- Majority of demoisturized coal fed into the stabilizer
- Volatiles condensed from the devolatized coal used to stabilize the demoisturized coal. Called “Vapor Phase Deposition.”
- Stabilized demoisturized coal is removed from stabilizer, allowed to cool, and stored for later use in power generation
Highlights of Pristine-M™ Technology

- No moisture re-absorption
- No spontaneous combustion
- No size degradation
- Ideal gasifier feedstock
- Optimal level of VM to sustain combustion
- Reductions in emissions of CO₂ and carbon footprint
- Dust-free end product
Advantages of Pristine-M™ Technology

• Processing times are 5-7 minutes depending on coal
• Adjustable product specifications
• Variety of feed coals—process-control and optimization through knowledge-based PLCs
• About 25-45% of the feed coal consumed for the process (subject to the quality of the coal and desired output)
## Average Weekly Coal Commodity Spot Prices
*(Dollars Per Short Ton)*

<table>
<thead>
<tr>
<th>Region &amp; BTU</th>
<th>Sulpher Content</th>
<th>Ash Range*</th>
<th>Week Ending 07/27/18</th>
<th>Week Ending 08/03/18</th>
<th>Week Ending 08/10/18</th>
<th>Week Ending 08/17/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Appalachia 12,500 BTU</td>
<td>1.2 SO₂</td>
<td>6-13% - Average 9%</td>
<td>$70.55</td>
<td>$72.70</td>
<td>$72.70</td>
<td>$73.20</td>
</tr>
<tr>
<td>Northern Appalachia 13,000 BTU</td>
<td>&lt;3.0 SO₂</td>
<td>5-20% - Average 10%</td>
<td>$53.10</td>
<td>$54.75</td>
<td>$54.75</td>
<td>$56.45</td>
</tr>
<tr>
<td>Illinois Basin 11,800 BTU</td>
<td>5.0 SO₂</td>
<td>8-15% - Average 10%</td>
<td>$32.95</td>
<td>$32.95</td>
<td>$32.95</td>
<td>$32.70</td>
</tr>
<tr>
<td>Powder River Basin 8,800 BTU</td>
<td>0.8 SO₂</td>
<td>4-10% - Average 7%</td>
<td>$13.00</td>
<td>$12.95</td>
<td>$12.95</td>
<td>$12.15</td>
</tr>
<tr>
<td>Uinta Basin 11,700 BTU</td>
<td>0.8 SO₂</td>
<td>6-18% - Average 12%</td>
<td>$41.30</td>
<td>$41.15</td>
<td>$41.15</td>
<td>$41.00</td>
</tr>
</tbody>
</table>

*Note: The Ash % is not reported by the EIA as part of the above table but sourced independently by CCTI. In extreme cases, the ash % range could widen.*
### Plant Economics

Example using PRB coal and upgrading it to 11,700btu using Pristine M Technology @ 8/17/18

<table>
<thead>
<tr>
<th>Operating Costs</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1mm tons of PRB coal @ 8,800btu</td>
<td>12,150,000</td>
</tr>
<tr>
<td>Utilized additional costs (slipstream of coal)</td>
<td>45.00%</td>
</tr>
<tr>
<td>Running costs (based on US labor rates)</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Maintenance (based on US labor rates)</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Total operating costs</td>
<td>20,617,500</td>
</tr>
<tr>
<td>Total capital costs (based on $35m for 1mm ton facility built in the US)</td>
<td>2,706,066</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>23,323,566</strong></td>
</tr>
<tr>
<td><strong>Price per ton to upgrade to 11,700 btu dust free coal</strong></td>
<td><strong>23.32</strong></td>
</tr>
<tr>
<td>Compare to Uinta coal 11,700 btu 1mm ton</td>
<td>41,000,000</td>
</tr>
<tr>
<td><strong>Contribution vs. Uinta coal</strong></td>
<td><strong>17,676,434 / Anum</strong></td>
</tr>
</tbody>
</table>

Please refer to previous slide 15 for other US coal price comparisons
Current Status

- Test facility fully-tested in Oklahoma
- Successful dehydration of coal
- Successful beneficiation of coal (increase in BTU value)
- Successful stabilization of coal
- Successful production of a dust free, stable end product
- Test facility moved to Fort Union, Wyoming
- New location secured and permits received
- Re-assembly of test facility scheduled

- Simulation models completed by University of Wyoming to facilitate the design and engineering of first commercial unit
- License agreement signed with Jindal Power and Steel (India); deposit paid on a license fee with Wyoming New Power (US)
- Several MOU’s outstanding with key clients in India
- Scheduled receipt of 500-ton batches of samples being sent for testing from India and Indonesia and other coal-producing regions
Current Plant Location:
Fort Union, WY
Next Steps for CCTI

Milestones Expected to be Completed by Y/E 2018

- Reassemble facility at Fort Union, WY (in-progress)
- Receive 500-ton batches of coal from India and Indonesia for testing
- Client visits to Fort Union
- Completion of DOE technology review
- Complete design of commercial facility
- Execute on outstanding MOU’s
- Research by University of Wyoming on coal by-products using test facility
- Research on by-products in Australia in conjunction with Austrade (the commercial division of the Australian Government) and three Australian Universities
Applications of Coal Beyond Energy Feedstock

“”
What CCTI has done is developed a very intriguing technology.

Richard Horner
Director of Special Projects and Emerging Technology,
University of Wyoming. November 2017

“”
There are proprietary features of the CCTI technology which have scope to be incorporated into our coal refinery concept, what we have been working on now for over two years…
The CCTI technology is proven at pre-commercial scale in the field and is an exciting and serious candidate.

Richard Horner
Director of Special Projects and Emerging Technology,
University of Wyoming. October 2017
Other Patented Technologies

**Pristine-SA™**
- Convert low-rank coals with high moisture/volatile matter into clean, gasifier feedstocks
- Reduced to fixed carbon and co-fire with biomass
- Reduced VM content to optimum level
- Provides a consistent quality of coal as feed to the gasifier
- No sulfur, tars, and other gases requiring hot or warm gas cleanup

**Pristine™**
- Remove moisture and VM, as per client-specific requirements
- End product is cleaner-burning dry coal
- Following launch of Pristine-M tech, CCTI will advance Pristine tech
- By-product extraction in partnership with University of Wyoming
Company Information & Partnerships

Robin T. Eves, CEO
203.918.2762
reves@cleancoaltechnologiesinc.com

Aiden Neary, COO/CFO
203.918.7706
aneary@cleancoaltechnologiesinc.com

S.K. Grover, Advisor (Tech)
+91.9810139639
whiteslate001@gmail.com

Corporate Office
295 Madison Avenue
New York, NY 10017
Tel. 646.727.4847