Corporate Overview

TDP Technology

It's Time to Minimize the Impact on our Environment

Take Action With Us

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Technology
Ecolomondo is a clean tech company, that has developed the Thermal Decomposition Process, TDP. This proprietary technology is based on a pyrolytic platform that converts hydrocarbon waste into marketable commodity products: carbon black substitute, oil, gas and steel.

TDP Highlights
- A green technology
- Produces quality commodity end-products at lower cost
- Technology that has a global need
- Generates higher added value from waste
- Cleaner and more sustainable
- Already scaled to industrial size
- Low capital cost per ton of capacity
- Abundance of feedstock
- Carbon credits and tipping fees

Strategy
Our strategy is to become a major global manufacturer and vendor of TDP turnkey facilities that treat hydrocarbon waste. Hydrocarbons are molecules that are in all products manufactured using fossil fuel. The most common types of hydrocarbon waste are tires, plastics, disposed diapers, asphalt roof shingles and automobile shred residue (ASR). Once they achieve their end-of-life, these products become feedstock for TDP.

Environmental Urgency
Due to their extraordinary properties, hydrocarbon materials are being increasingly used to manufacture consumer and industrial products. Once they achieve their end-of-life, most of them end up in landfills where they take centuries to decompose, gradually releasing toxins into our fragile ecosystem. Using hydrocarbons as fuel also creates CO₂, the main cause of global warming.

Sustainability: A Global Concern
Hydrocarbon waste has become an increasing source of concern to governments and environmentalists. It is clear that our planet cannot maintain this pace, and the need to recycle and reuse has never been so evident.

TDP does not destroy waste; it transforms it and creates recycled commodity end-products of commercial quality with a low environmental footprint.

Feedstock Supply
Global feedstock supply is abundant and will continue to expand as global consumption increases, mostly caused by a growing population. We estimate the volume of hydrocarbon waste to be 191 million tons per year globally, including 49 million tons per year in the United States alone. Today, environmental sentiment is changing in both private and public sectors, which is responsible for creating an international momentum that encourages and supports waste-to-products programs.

End-Product Demand
New markets and uses for recycled end-products are rapidly making waste-pyrolysis a more viable option in the recycling of hydrocarbon waste. We believe that increased scarcity, caused by increasing consumption, will drive demand and higher pricing for recycled end-products to levels that for the first time, will make waste-pyrolysis a viable alternative.
Tire Waste as Feedstock
Treating tire waste will improve the odds of our success because tires, as a feedstock, yield end-products of higher commercial value than other types of hydrocarbon waste. Scrap tires are abundant and simple to collect as feedstock, and when shredded, even cheaper to transport. In the longer term, it is our goal to treat all types of hydrocarbon waste.

Revenue of TDP Turnkey Facilities
TDP turnkey facilities will generate revenue from the sale of these commodity end-products, along with possible tipping fees, carbon credits, and other industry incentives.

Transforming Waste Into Value
From tire waste, carbon black is the end-product that has the highest commercial value.

We expect that demand for recycled carbon black will continue to increase because of the following market conditions for virgin carbon black.

- Increasing per capita consumption
- Steady growth of global population
- Industry shortages, where demand is expected to outpace supply by 2018
- Environmental restrictions on production of virgin carbon black should increase interest in recycled carbon black substitute

<table>
<thead>
<tr>
<th>End-products</th>
<th>Virgin Market Price</th>
<th>Estimated Market Price for TDP's Recycled End-Products</th>
<th>Quality of End-Products Comparable to:</th>
<th>Users of End-Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Black</td>
<td>$2,000-2,600/ton</td>
<td>$700-800/ton</td>
<td>N330, N550</td>
<td>Strengthening agent for tire and rubber goods, coloring agent for plastics</td>
</tr>
<tr>
<td>Oil</td>
<td>$40-45/barrel</td>
<td>$45-50/barrel</td>
<td>Diesel Light Oil #2 Heavy Oil #4 - #6</td>
<td>Fuel, lubricants, heating oil, asphalt</td>
</tr>
<tr>
<td>Steel</td>
<td>$200-300/ton</td>
<td>$125-150/ton</td>
<td>Busheling #1</td>
<td>Manufacturing of other steel products</td>
</tr>
<tr>
<td>Gas</td>
<td>Reused as an energy source to heat the reactors</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ecolomondo’s Thermal Decomposition Process
TDP is a closed loop, slow pyrolysis technology that operates in an oxygen-free environment, using positive pressure and a batch rotary reactor. The process is mostly energy self-sufficient. Our proprietary automation system allows better control of the process parameters, resulting in each batch being processed under the same repetitive conditions and cycle times. The results are products that are consistent in quality.
The following diagram summarizes the TDP process:

- Scaled-up
- Efficient
- Proven

TDP Turnkey Facilities’ Production Capacity:

<table>
<thead>
<tr>
<th>Waste Feedstock</th>
<th>Thermal Reaction (Reactor)</th>
<th>Gaseous Hydrocarbons</th>
<th>Condenser</th>
<th>Gas/Oil Separator</th>
<th>Gas</th>
<th>Oil</th>
<th>Solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Feedstock</td>
<td></td>
<td></td>
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</tbody>
</table>

Using scrap tires as feedstock, the end-products are:

- Gas
- Oil
- Carbon Black
- Steel

TDP Turnkey Facilities’ Production Yields:

<table>
<thead>
<tr>
<th>End-products From Tire Waste</th>
<th>2-reactor</th>
<th>4-reactor</th>
<th>6-reactor</th>
<th>8-reactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Black (tons)</td>
<td>5,096</td>
<td>10,192</td>
<td>15,288</td>
<td>20,384</td>
</tr>
<tr>
<td>Oil (barrels)</td>
<td>43,170</td>
<td>86,340</td>
<td>129,510</td>
<td>172,680</td>
</tr>
<tr>
<td>Gas (tons)</td>
<td>1,176</td>
<td>2,352</td>
<td>3,528</td>
<td>4,704</td>
</tr>
<tr>
<td>Steel (tons)</td>
<td>1,682</td>
<td>3,364</td>
<td>5,046</td>
<td>6,728</td>
</tr>
</tbody>
</table>

TDP Turnkey Facilities’ Production Capacity:

<table>
<thead>
<tr>
<th>Production Capacity (tons)</th>
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<tbody>
<tr>
<td>Tire waste</td>
</tr>
<tr>
<td>Per batch</td>
</tr>
<tr>
<td>Per day</td>
</tr>
<tr>
<td>Per year</td>
</tr>
</tbody>
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TDP Turnkey Facilities’ Production Yields:

<table>
<thead>
<tr>
<th>Yearly Production Yields of End-products</th>
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<tr>
<td>End-products From Tire Waste</td>
</tr>
<tr>
<td>-----------------------------------</td>
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<tr>
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<td>Oil (barrels)</td>
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<tr>
<td>Gas (tons)</td>
</tr>
<tr>
<td>Steel (tons)</td>
</tr>
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</table>
TDP’s Output:

![Pie chart showing TDP’s output percentages: 51% Oil, 39% Carbon Black, 9% Gas, 1% Particulate and vapor loss.]

Comments from Industry Experts

Our solution has been studied by two renowned technical institutes from Canada: Polytechnique Montreal (Chemical Engineering Department); affiliated with the University of Montreal and by University of Western Ontario (Institute for Chemicals and Fuels From Alternative Resources). Independent industry experts have also reviewed TDP’s technology, performed mass balance audits and confirmed the quality of TDP’s end-products.

What sets Ecolomondo’s Technology Apart?

Our technology is simple, sustainable, reliable and profitable. TDP turnkey facilities have the following key advantages:

- Quality and consistent end-products
- High industrial yields
- Low production costs
- Low capital investment per ton of capacity
- High forecasted profits, ROI, and early payback
- Little scale up required
- Modular, giving each facility flexibility in size and capacity to be profitable

Pilot Plant

Through ongoing research and development, we have developed an industrial-scale plant, which we call “Pilot”. It consists of two reactors, located in Contrecouer, Quebec, Canada. At Pilot, each reactor is capable of processing 6.5 tons of tire waste in 8-hour cycles. Thanks to our Pilot Facility we have been able to repeatedly validate and improve reactor payloads, cycle times and production yields.

Even though most tests performed at our Pilot Plant were on tires, Pilot has been able to validate that TDP can also decompose other types of hydrocarbon waste including disposed diapers, asphalt roof shingles, plastics and car fluff.
Pyrolysis Industry
Most in the waste pyrolysis industry are in a pre-commercial stage and for the most part do not have proven results on a large industrial scale as we do. Many projects have spent millions of dollars to develop waste-to-energy or waste-to-products pyrolysis facilities, only to have failed. Pyrolysis could be a serious option to prevent landfilling and burning of waste.

Even though waste-pyrolysis has traditionally not been a profitable option, times are changing. Today, it is being considered as an effective and competitive alternative.

Our Market Strategy

Key Markets
Clients for TDP turnkey facilities will come from the public or private or sector. They will consist of industry groups, such as municipal waste facilities, landfill operators, licensees, entrepreneurs, waste processors and recyclers.

A new market that is now evolving for Ecolomondo is the “Manufacturers’ Responsibility Program” (MRP) or “Extended Producer Responsibility” (EPR). Governments and industries have begun to implement this type of program, whereby manufacturers are responsible to take back and dispose of the products they manufacture that have achieved their end-of-life.

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