

**Evaluation of the Oneida Seven Generations
Corporation Proposal for a Pyrolysis Gasification
facility at the Oneida Nation in Wisconsin**

By Greenaction for Health and Environmental Justice

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Greenaction for Health and Environmental Justice has reviewed and written this evaluation of the proposed pyrolysis municipal solid waste plant at the request of the Oneida Nation in Wisconsin and other community members. We reviewed written materials provided by the Oneida Seven Generations Corporation (OSGC), the technology provider American Combustion Technologies Inc. and the company that would construct the proposed facility, Alliance Global Conservation. We also reviewed statements made by company officials that were printed in Kalihwisaks, the Oneida Nation's newspaper.

We submit this information in the spirit of respecting tribal sovereignty and the belief that the facts will enable the Oneida Nation to make a fully informed decision. We are very concerned that claims have been made in support of the garbage plant that include incorrect and very misleading statements regarding key aspects of the project and technology.

Summary of Concerns:

Air Pollution:

- **Claim:** OSGC and ACTI claim the technology would use a "Closed Loop Process"
- **Reality:** This is not a closed loop process, as gases created by heating the waste would be directly sent to internal combustion engines to be burned, releasing emissions into the air.
- **Reality:** Tests conducted at the IES pyrolysis demonstration plant in Romoland, California proved that toxic air contaminants are emitted into the environment.
- **Reality:** Alliance Global Conservation admits that NO_x, CO, particulates and Volatile Organic Compounds (VOCs) would result from the combustion of the syngas. VOCs include highly toxic carcinogens – cancer causing chemicals.

Unproven technology:

- **Claim:** "Today there are 87 Waste-to-Energy plants in the US."
- **Reality:** Not one of these 87 plants is a commercial, permitted pyrolysis gasification facility for municipal solid waste (MSW).
- **Reality:** ACTI's website doesn't even mention pyrolysis.

Not an Incinerator?

- **Claim:** OSGC and ACTI claim the process is not incineration and does not use "...any type of incineration or burning..."
- **Reality:** The proposed process is a two-stage incineration process. The first step is the heating of the waste and creating syngas, but the second step is incineration and involves the direct burning/combustion of the syngas.
- **Reality:** Alliance Global Conservation admits there is combustion of the syngas.

What Energy?

- **Claim:** OSGC and American Combustion Technologies, Inc. claim they can generate 5 megawatts of electricity. The builder, Alliance Global Conservation, claims on their website this proposed project would generate 6.4 megawatts per hour.
- **Reality:** We have seen absolutely no reference, mention or documentation of their claim that they can generate electricity from the system. They only claim 5 or 6.4 megawatts, which is not much energy at all, but none of these companies have provided any documentation for even that minimal claim. There is no information provided about where energy has allegedly been generated by any of these companies – or any other company that might be treating municipal solid waste with the proposed pyrolysis technology. The companies don't even agree on how much energy they can generate.

IES Pyrolysis Plant in Romoland, California:

- **Claim:** Company officials refer to a pyrolysis plant in the Los Angeles, California area as an example.
- **Reality:** The only existing commercial pyrolysis plant designed for treatment of solid waste in the Los Angeles area – or anywhere else in the United States to our knowledge – is the demonstration plant in Romoland, California operated by IES.
- **Reality:** The IES facility is a problem-plagued pyrolysis plant. This facility does not have commercial permits despite years of attempts.
- **Reality:** In October 2010, IES was fined \$6000 by the South Coast Air Quality Management District for a 2009 violation of: "Operating equipment which puts contaminants in the air without having a permit to operate."

REVIEW OF WRITTEN MATERIAL FROM AMERICAN COMBUSTION TECHNOLOGIES INC. & ONEIDA SEVEN GENERATIONS CORPORATION

Claims on ACTI's website:

A review of the website of the technology provider (www.american-combustion.com) raises numerous important concerns and questions.

- (1) Despite this company's proposal to use pyrolysis technology, their website does not contain the word "pyrolysis" anywhere.
- (2) Despite their claim that they are not proposing incineration, their website (and their company name) focus on combustion and incineration. The website's home page is filled with references to "burners."
- (3) We found no mention anywhere on their website about this company ever actually operating any commercial Municipal Solid Waste pyrolysis gasification system, and our internet research failed to find any such information.

- (4) They claim that their technology “Meets all South Coast Air Quality Management requirements” yet we can find no documentation of that claim at all.

Evaluation of “ACTI Transformation Technology” Power Point – on ACTI website

- (1) “Three steps for Transformation Technology” slide talks about “Transformation of Sync. Gases to Liquid Energy” and is focused on treatment of sludge, not Municipal Solid Waste.
- (2) “Benefits of the Transformation Technology” slide refers to “Producing substantial amount of clean energy from waste” yet provides absolutely no documentation of that claim. Where has this company, or even this pyrolysis technology treating municipal solid waste, generated “substantial amounts of energy”?
- (3) “The Technology” slide claims “Meets all California Emission requirements” but provides no documentation of that claim.
- (4) “Closed Loop Process” claim is not true as the gases created by heating the waste would be directly sent to internal combustion engines to be burned, releasing emissions into the air.
- (5) “Sludge transformation is non-polluting.....” is a false claim. There would be emissions of some amount of toxic and criteria pollutants, as their own power point admits.
- (6) Their “Simple System Diagram” shows a “flue stack” that likely is an emissions point contradicting the claim this is a closed loop system.
- (7) Their “Benefits of Transformation” slide claims “Complete destruction of all pollutants” and we challenge that claim as impossible. For example, metals cannot be destroyed at all by any combustion process.

American-CombustionTECH-1.pdf Document “Pyrolysis Gasification Process and Technology:

This document about their pyrolysis gasification process and technology was downloaded from the OSGC website. It makes numerous claims that are incorrect or misleading:

- (1) Claims that this process takes place “...in the absence of oxygen.” However, this claim is not correct as the garbage they would treat in the pyrolysis process already contains oxygen in the waste.

- (2) Claims “Increase Recycling Rates” yet provides no documentation that any pyrolysis system has helped a local or regional area increase recycling. They cite studies referring in general to “waste-to-energy” facilities but not to pyrolysis plants. Also, there are important examples of poor and reduced recycling next to waste-to-energy plants such as near the “waste-to-energy” mass burn garbage incinerators in Hempstead, New York, Detroit, Michigan and Stanislaus County, California.
- (3) Claims “Oneida Energy will be converting 150 tons of MSW/day into 5MW of electricity/hour, which is enough to power 5,000 homes.” However, there is absolutely no evidence presented, or known, of where this type of pyrolysis facility treating garbage has generated this amount (or any amount) of electricity. Where is proof of their claim? Where is one pyrolysis plant treating garbage that generates 5 megawatts per hour?
- (4) In the section entitled “Types of Waste-to-Energy Systems” they claim pyrolysis gasification is an “Existing technology-developed and widely used.” They also claim there are “87 Waste-to-Energy Plants in the U.S.” However, they fail to say that there are no commercial pyrolysis plants in the US treating garbage, so these claims are totally misleading.

Alliance Global Conservation Website (allianceglobalconservation.com):

The company states that they were founded approximately 6 months ago, so it appears they lack experience building this type of facility. This company admits that the facility proposed at Oneida would be “the first of its size Pyrolysis Based Waste-to-Energy Plant in the state of Wisconsin and the United States of America.” Does the Oneida Nation in Wisconsin want to be the guinea pig for an unproven technology that will pollute the environment?

Their website admits that Volatile Organic Compounds (VOCs) which are toxic pollutants, likely including carcinogens, will result from the “combustion of syngas.” This is an important admission that toxic air contaminants will be produced and released. It is also important to note that despite the denials that the gasification pyrolysis process involves incineration, here is yet another admission that indeed combustion is an integral part of the process.

Claim: Their website homepage says that their sister company “...Alliance Construction and Design is proud to be the first company in the country to design and build a fully enclosed Gasification system converting over 150 tons of waste per day into 6.4MW of electricity per hour. The amount of energy produced by this system can be compared to the energy produced by 19 (750kW) wind turbines.”

Reality: The claim that they are the “first in the country to design and build...” such a facility is premature, of course, as the facility is not yet approved or built.

Reality: They provide no documentation for the claim they can convert “over 150 tons of waste per day into 6.4 MW of electricity per hour,” nor do the point to any similar facility in the world that does this.

Reality: This claim of 6.4 MW conflicts with claims by other project partners of 5 MW, although it appears that neither claim is based on any actual operating experience or similar model.

Oneida Seven Generations Corporation Website:

- (1) Is this really Green and Renewable Energy?: The section on “Renewable Energy” says that “OSGC has organized an autonomous tribal enterprise that was structured to develop, build and operate an energy recovery facility that will generate electricity from waste...producing green energy “ However, garbage is not considered renewable or green energy by the environmental movement. Real renewable energy can be harnessed from the sun and wind, not by burning garbage. Society’s goal for decades has been to reduce, reuse and recycle garbage, not keep disposing and making more garbage.
- (2) There is absolutely no proof presented that the proposed facility can generate any electricity whatsoever.

OSGC Link to Gasification Technologies Council: : http://www.gasification.org/page_2.asp?a=1

- (1) It should be noted that this website does not mention pyrolysis.
- (2) Despite denials by OSGC and ACTI that this technology includes incineration, this website admits it: “*The syngas can be burned to produce electricity...*”
- (3) The graphic entitled “How Does Gasification Work” located on the home page fails to include the incineration equipment that burns the syngas – leaving the impression there is no burning/combustion/incineration, yet on the same page they admit the syngas can be burned.
- (4) The website section entitled “State of the Gasification Industry” says “There are more than 140 gasification plants operating worldwide. Nineteen of those plants are located in the United States. “However, while sounding impressive, the reality is that not one of the nineteen gasification plants in the U.S. is treating municipal solid waste, and none of them are commercial, permitted pyrolysis plants.
- (5) This website says “For more information on GTC member companies involved with biomass gasification” and they provide links to five companies. However, not one of these companies is a pyrolysis technology company.
- (6) This website’s section on plasma gasification says “...a facility in Utashinai, Japan has been in commercial operation since 2001, gasifying municipal solid waste and auto shredder waste to produce electricity.” This website fails to state that little or no electricity is generated into the grid by that plant run by Hitachi Metals. When the City of Sacramento, California sent staff to visit the Utashinai plant in 2009, they discovered that this plant was unable to put any electricity whatsoever into the grid. Also, this is a plasma arc plant, and does not use pyrolysis. The City of Sacramento voted to reject the plasma arc proposal.

Oneida Seven Generations Corporation letter to Neighbors, December 29, 2010:

In this letter, OSGC makes several claims that are not correct:

- (1) Claim: “It will meet or exceed current federal standards for safety, emissions and pollutants.”

Reality: The IES pyrolysis plant was found in violation of the law for "Operating Equipment Which Puts Contaminants In The Air Without Having a Permit To Operate." The South Coast Air Quality Management District (California) fined IES \$6000 for this violation in October, 2010.

Reality: There is no similar operating plant pointed to by proponents so the claim it will meet or exceed current federal standards is wishful thinking at best.

(2) Claim: "The gasification technology to be used is not new nor it an experimental prototype."

Reality: As mentioned above, there are no operating, commercial, permitted pyrolysis facilities treating garbage in the U.S., nor have proponents pointed to any similar facility anywhere.

(3) Claim: "There is no incinerator."

Reality: The syngas created by the heating of the garbage would be incinerated in internal combustion engines. ACTI's website and presentations are filled with references to burning and combustion.

Oneida Nation Newspaper, Kalihwisaks, September 9, 2010 article "Getting to know the Oneida Seven Generation Corporation's Waste to Energy Project" (page 5)

"Claim: OSGC has focused on technologies and systems that do not use any type of incineration or burning..."

Reality: The syngas created by the gasification process is incinerated/burned in internal combustion engines.

IES Facility in Romoland, California:

We understand that OSGC and American Combustion Technologies may be using the IES pyrolysis demonstration plant in Romoland, California as their model facility. If correct, this would be a terrible model that should alarm the Oneida Nation and the other neighbors of the proposed OSGC plant. A tribal official now denies that the IES plant is their model, but has not provided information about where the facility they refer to is – and we don't believe there is another commercial pyrolysis facility for solid waste treatment.

- (1) The Romoland facility has been unable to secure commercial operating permits since the facility was built over six years ago.
- (2) In October 2010, IES was [fined \\$6000](#) by the South Coast Air Quality Management District for a 2009 violation of: "Operating Equipment Which Puts Contaminants In The Air Without Having a Permit to Operate." <http://www.aqmd.gov/hb/attachments/2011-2015/2011Jan/2011-Jan7-011.pdf> and

http://www.aqmd.gov/webappl/fim/prog/novdetail.aspx?novid=P49741¬ice_type=NOV&fac_id=122334

- (3) Emissions Source tests conducted at the Romoland facility in June-July 2005 confirmed this technology emits dioxin and other toxic air contaminants as well as other pollutants. The SCAQMD preliminary evaluation of the test results found some emissions exceeded those from typical garbage incinerators. (“Status Update by South Coast Air Quality Management District on IES Romoland’s Permit, September 2005”).

Conclusion:

We respectfully urge the Oneida Nation to reconsider this project that would pollute the environment and undermine true renewable energy efforts, and instead pursue safer, truly green and viable economic development projects.