

**Committee on Ways and Means  
U.S. House of Representatives  
Hearing on Energy Tax Incentives Driving the Green Job Economy  
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**Testimony of:**

**John Griffith, Chief Executive Officer, Climax Global Energy, Inc., Summit, NJ  
Chris Ulum, Chief Executive Officer, Plas2Fuel Corporation, Tigard, OR**

Thank you Chairman Levin, and members of the House Committee on Ways and Means, for allowing us to submit this written testimony to you. We respectfully request that this testimony be accepted into the written record for this hearing.

**Background**

Despite the best efforts of communities and individuals across the country to increase plastic recycling, today over 90% of all plastics we use in our daily lives are dumped into landfills – approximately 28 million tons per year according to the EPA. Millions of additional tons are landfilled or incinerated from undocumented industrial sources. Improper disposal has become a significant environmental problem, leading to such highly publicized outcomes as the “Pacific Gyre” – a land area in the Pacific Ocean the size of Texas filled with floating plastic debris.

Furthermore, landfill space is an increasing problem in many parts of the country, as diminishing capacity has led to high landfill “tipping fees” borne by municipalities. To reduce these costs, waste is routinely and unnecessarily trucked over long distances, clogging our highways in parts of the country that are already highly congested. And “triple rinsing” and disposal of agricultural plastics is a significant cost burden on our farming community.

At the same time we find ourselves swimming in plastic waste, we are acutely aware of America’s dependence on foreign oil, as we import more than 70% of our daily needs. Today, more than ever, our country needs alternative sources of fuel in order to begin reversing this energy security problem. The emerging plastics-to-oil industry simultaneously addresses these twin problems of plastic waste and energy security with advanced technology solutions, being developed here in the U.S., which cleanly convert waste plastics into high grade synthetic oil.

The recession of 2008-9 has decimated the jobs market, particularly in many industrial and low income rural areas. The technologies being developed by the plastics-to-oil industry will create thousands of green jobs throughout the country, in cities such as Paterson, New Jersey, which has a remarkable industrial history but has fallen on hard times, and states like North Dakota and Montana, which have substantial agricultural plastics but limited recycling infrastructure. By building out a nationwide network of plastic conversion facilities in urban, agricultural and industrial communities, we will give birth to an industry which will clean up a significant environmental problem, create a new, clean, domestic fuel source, and create thousands of permanent green jobs.

The purpose of our testimony is to raise the Committee’s awareness of this breakthrough, widely applicable technology and encourage Members to support H.R. 3592 - The Plastics Recycling Act of 2009. This proposed legislation, introduced by Congressmen Pascrell and Reichert, will stimulate capital

investment into this nascent industry and jumpstart a build-out of clean production facilities throughout the country.

### **Plastics-to-Oil Solution**

A number of companies in the U.S. are developing clean technologies to convert landfill-bound plastics into high grade synthetic oil, which can be refined into ultra-low sulfur diesel fuel, synthetic lubricants or commercial waxes. It is important to note that this business model is geared toward plastics that would otherwise be landfilled, and not those for which recycling markets already exist. There are currently active domestic and international recycling markets for plastics such as soda bottles and milk jugs (soda bottles and milk jugs are polyethylene terephthalate or “PET” and high density polyethylene or “HDPE” respectively). Our goal is to create a new market and beneficial use for plastics which are currently difficult and uneconomic to recycle and thus landfilled.

While these advanced technologies being developed across the country have their own unique aspects, one key characteristic they share is they are non-combustion conversion technologies. They fall into the categories of “pyrolysis” or “gasification”, raising the plastics to high temperatures in an oxygen-starved environment (either no oxygen or partial oxygen). In a reaction chamber, long-chain hydrocarbon molecules that make up the plastics are broken down into shorter chains. These shorter chain molecules are suitable for production of fuels, lubes and waxes. The heat to run the process can be derived from sources such as natural gas or microwave energy.

Another defining characteristic of these technologies is size. Waste plastics pyrolysis and gasification facilities can be built on a small scale, producing 100 barrels of oil per day or less. This small size allows the facilities to be tucked into existing recycling locations, such as at the back end of a recycling facility, or at stand-alone rural and urban locations near sources of consumer, agricultural and industrial waste plastic. High volumes of plastic can be accommodated by building a number of units that can run in parallel.

### **Jobs**

There are certain features that make waste plastic conversion technologies attractive in any economic environment, but particularly so in our current state of high unemployment. First, these technologies, which have been demonstrated by a number of companies, are ready today for commercialization. Companies in the industry have build-out plans in midwestern, upper-midwestern, western and east coast states, with the expectation that hundreds of facilities will be built throughout the country. Enactment of H.R. 3592 will serve as a catalyst for this build-out to occur rapidly rather than over a slower adoption period for the technology. Second, processing facilities will require operators, technicians, maintenance, and materials handling – skilled and unskilled labor. A typical location, the size of which will depend upon the volume of plastics, may employ as few as 15 people and as many as 75 people. And third, the technology will require a steady supply of plastics to be diverted from the waste stream and transported to a nationwide network of facilities, followed by transport of synthetic oil from the facilities to refiners located throughout the country.

The plastics-to-oil industry will create an estimated 12,500 – 25,000 new jobs by 2015 if H.R. 3592 is signed into law. Plant operator, technician, maintenance and materials handling jobs cannot be exported or automated – these facilities require skilled and unskilled people on location to make the operations run.

### **Domestic Fuel Source**

Recognizing that plastics are derived from oil and natural gas, the plastics-to-oil industry reverses the process by converting the plastics into oil – oil that is far cleaner and higher quality than crude oil. For example, products from the plastics-to-oil process contain essentially no sulfur in comparison to crude oil (sulfur was removed in the creation of the plastics). Depending on the specific technology, one ton of plastic yields approximately five barrels of synthetic oil. As noted above, 28 million tons of plastics are landfilled each year, of which approximately 2.5 million tons are soda bottles and clear jugs. The remaining 25.5 million tons is equivalent to 125 million barrels of oil annually, or approximately 6% of domestic oil production.

### **Sustainability**

As noted above, plastics processed using plastics-to-oil technologies are not combusted or incinerated. Therefore, there are no direct air emissions from the process – zero sulfur, dioxins, benzene or other hazardous emissions. Furthermore, lifecycle analysis performed for companies in the industry has validated the net greenhouse gas benefit of plastics-to-oil technologies relative to producing diesel from crude oil. Also, plastics-to-oil technologies consume minimal amounts of water (a commercial facility uses less than one household on a daily basis) and do not discharge water. And finally, converting plastics into oil reduces the land requirements and environmental disruption associated with landfilling and oil exploration and drilling.

### **Conclusion**

The plastics-to-oil industry is technologically positioned for a nationwide build-out. There is widespread recycling industry support for plastics-to-oil, as the technology represents a new market and beneficial use for plastics that are destined for landfilling.

H.R. 3592, with thirteen cosponsors in addition to Congressmen Pascrell and Reichert, proposes a production tax credit to allow this industry to attract capital, and therefore achieve the scale required to operate profitably. While an estimate has not yet been received from JCT, the cost of the credit is expected to be modest as a result of restrictions in the bill, including an in-service date limitation (after enactment), a size limitation, and eligible feedstock and product limitations.

Once again we would like to thank members of the Committee for the opportunity to submit this testimony.

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