

Greenworks Holdings, LLC

Support for RIN 2060-AR44

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Greenworks Holdings, LLC Business Overview

Who We Are

 Our mission is to prevent waste fats and greases from being used in animal feed and process it into clean burning biofuel that can be used to heat homes and buildings.

What We Do

- Convert collected oils and grease into biofuel to displace or blend with #2, #4 and #6 fossil fuel oils
- Additives are used to make this the cleanest organic fuel oil source and to minimize equipment maintenance
- Control feedstock thru 15,000 contracted sources
- Network of 7 plants, converts cooking oil into clean burning fuel



Greenworks Holdings, LLC is the Largest Producer of Biofuels from Second Use Oils



Redundancy in Processing and Storage Capabilities. Global Logistics Movement via Trucks, Rails, Barge, Ships



Technology Leadership

- Government Program Recognitions
 - Recognized by the Federal Government as an Advanced Alternative Energy Producer
 - Registered Participant in RFS2 Program
 - Registered with EPA for use as Fuel Additive
- Participant in Policy Development
 - Participating Member of the Advanced Biofuels Association (ABFA)
 - Founding Member of the Renewable Biofuel Producers of America (RBPA)
 - o Greenworks Holdings, Pennsylvania
 - Smartfuel America, New Hampshire
 - o Triton Energy, Indiana
 - o Viesel Fuel, Florida
 - RBPA Members all support RIN 2060-AR44



Heating Oil Defined in RFS2

- Renewable Fuel Standard 2 (RFS2) draws on "heating oil" definition from 40 CFR 80.2(ccc)
 - 40 CFR 80.2 (ccc) <u>Heating oil</u> means any #1, #2, or <u>non-petroleum diesel blend</u> that is sold for use in furnaces, boilers, and similar applications and which is commonly or commercially known or sold as heating oil, fuel oil, and similar trade names, and that is not jet fuel, kerosene, or MVNRLM diesel fuel.
- Within the definition of "Heating Oil" in 40 CFR:
 - 80.2(sss) defines #1 and #2 as here below and EPA has interpreted the standard to mean a perfect hydrocarbon, that is no oxygen atoms as is found in biodiesel, ASTM D6751.
 - 80.2 (fff) #1D means the distillate fuel classification relating to "No. 1–D" diesel fuels as described in ASTM D 975–04.
 - 80.2 (ggg) #2D means the distillate fuel classification relating to "No. 2—D" diesel fuels as described in ASTM D975-04.
- Non-petroleum diesel blend in 40 CFR as:
 - 80.2 (sss) Non-petroleum diesel (NP diesel) means a diesel fuel that contains at least 80 percent mono-alkyl esters of long chain fatty acids (emphasis added) derived from vegetable oils or animal fats.



Definition of Heating Oil needs Modified

- Perfect hydrocarbon biofuels or mono-alkyl esters of long chain fatty acids (commonly known as biodiesel as per ASTM D6751) are the only RFS2 fuels that qualify as heating oil
 - Limits the biofuel market
 - Provides an unfair advantage for a small class of biofuels
- Presently, home heating literally means only individual homes as opposed to heating that is more broadly needed.
- As we understand it, the regulations under review:
 - expand the definition to allow the use of biofuels to heat spaces for people
 - includes all biofuels approved under the RFS2 program, and
 - allows biofuels to displace all petroleum products, not just #2D.
- If this is the case, we encourage OIRA to approve the regulations as soon as possible to allow the biofuel market to flourish again.



Approving the Proposed RIN 2060-AR44

- Biofuel jobs will be restored and created even by the four companies mentioned.
- Improved air quality because biofuels could then displace very low quality, high sulfur petroleum products used in cities for heating such as New York, Philadelphia, Boston.
- More biofuels could enter the market more quickly
 - Will probably lower the price of Renewable Identification
 Numbers, helping to curb cost of compliance, and
 - thereby lowering costs to consumers.



Please expedite the review and approval of RIN 2060-AR44

• We believe a clarification in the heating oil definition and "home heating" will allow many of the biofuel companies that are now idle to quickly come back on line and create and save green jobs.



Fuel Oil Comparisons

Specification	No. 2 Fuel Oil	No. 6 Fuel Oil	B-TANETM
Heat Value	138,482 BTU/gallon	147,945 BTU/gallon	130,840 BTU/gallon
Ash	< 0.010 %	0.150 %	< 0.010 %
Sulfur	0.050-0.500 %	0.490	< 0.010 %
Water	0.010 %	0.010	< 0.010 %
Density	7.051	7.920	7.701
Average Efficiency	80.5%	n/a	75.6% - 80.9%
VOC lb/MM BTU	0.0014	0.0019	0.0005
SO2 lb/MM BTU	0.393	2.0933	0.001
CO lb/MM BTU	0.036	0.0333	0.012
NOx lb/MM BTU	0.1429	0.3667	0.225
PM lb/MM BTU	0.0236	0.1540	0.012

