

# Sustainable Materials Management

## *“Organics Matter”*



Georgia Recycling Coalition  
Jay V Bassett  
USEPA Region 4



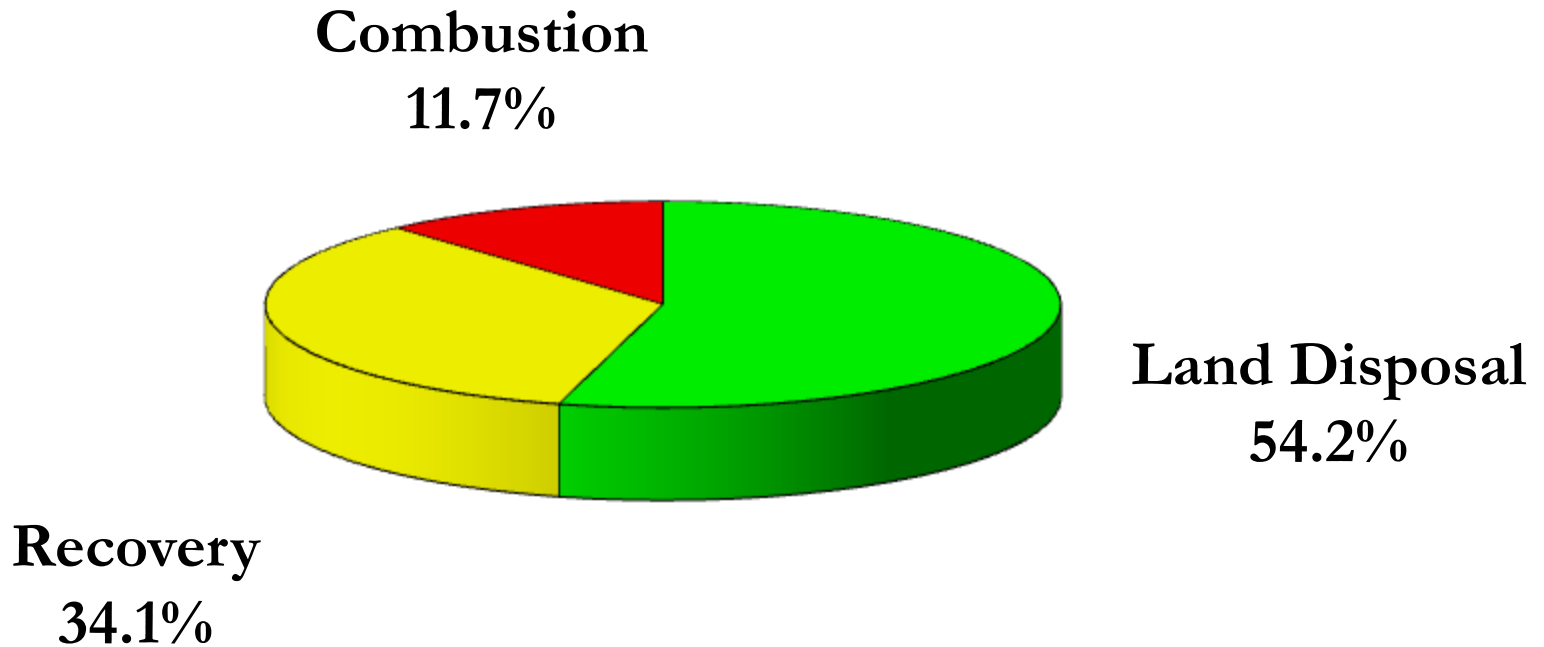


**33.44 Million Tons**  
**of Food Residuals**  
**Landfilled =97%**

**Only 2.5% recycled/  
Composted**

 **Rethink**

# Municipal Solid Waste Management in the U.S.



# EISA, Energy Independence and Security Act (December 2007)

- **Required changes to the RFS program (e.g. RFS2 regulations)**
- **Significantly increased volumes of renewable fuel – to 36 billion gallons**
- **Separation of the volume requirements into four separate categories of renewable fuel: cellulosic biofuel, biomass-based diesel, advanced biofuel, total renewable fuel**
- **Restrictions on the types of feedstocks that can be used to make renewable fuel, and the types of land that can be used to grow and harvest feedstocks.**
- **The RFS2 Regulations went into effect July 1, 2010**



# EPA's Renewable Fuels Program

Renewable fuels:  
Include liquid and gaseous fuels and electricity derived from renewable biomass energy sources, as opposed to fossil fuels

**Fuels and Fuel Additives**

You are here: EPA Home > Transportation & Air Quality > Fuels & Fuel Additives > Renewable Fuel Standard (RFS) > Regulations & Standards

## Renewable Fuels: Regulations & Standards

**News: 2013 Renewable Fuel Standards for Renewable Fuel Standard program (RFS2): Final Rulemaking**

EPA is establishing the volume requirements and associated percentage standards that apply under the RFS2 program in calendar year 2013 for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel. The standards ensure that transportation fuel sold in the United State contains a minimum volume of renewable fuel as required by the Energy Independence and Security Act of 2007.

- **Fact sheet: EPA Finalizes 2013 Renewable Fuel Standards (PDF)** (3 pp, 143K, EPA-420-R-13-042, August 2013)
- **Final Rule (PDF)** (8 pp, 569K, published August 15, 2013)

**News: EPA Denies Petitions for Reconsideration of the Final Rule Establishing the 2013 Biomass-Based Diesel Volume**

In November 2012, EPA received two petitions for a reconsideration of the September 27, 2012 rulemaking entitled "Regulation of Fuels and Fuel Additives: 2013 Biomass-Based Diesel Renewable Fuel Volume" which established a volume requirement of 1.28 billion gallons for biomass-based diesel in 2013 under the

**Regulations & Standards**

- The RFS program regulations are located in 40 CFR 80 subpart M.
- For the most updated fuel regulations, please visit the Electronic Code of Federal Regulations (e-CFR).

Sign up for Fuel Program alerts

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## Iowa City Exploring Waste Diversion

by Administrator on August 18, 2013 in [BioFuel Industry Info](#), [Business News](#), [Our Environment](#)

By Adam B Sullivan | August 12, 2013 | Press-Citizen.com As much as 80 percent of trash could be kept out of landfill. One person's trash could be another person's renewable energy source. Iowa City is moving forward on plans that officials hope will divert most of the waste coming into the landfill. The city [...]

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## A Trash to Treasure Alchemist

by Fiberight on June 3, 2013 in [BioFuel Industry Info](#), [Business News](#)

By TIM BORTZ | May 21, 2013 | BioMass Magazine Converting an existing dry...



## OS Bio Plant ch, Florida

- 8mmgal/yr cellulosic ethanol
- 6 MW gross power generated
- Vegetative & Yard Waste + MSW (permitted)
- Strong US, State government partnership
- Ground broken in February 2011
- Construction completed - June 2012
- Fuel & Power Registration - Aug 2012
- Renewable Power Generation - 3Q 2012
- Cellulosic Ethanol Production 4Q 2012



# Regulatory Requirements of Separated Municipal Solid Waste (MSW)

- Renewable biomass means each of the following (including any incidental, de minimis contaminants that are impractical to remove and are related to customary feedstock production and transport):
  - (7) Separated yard waste or food waste, including recycled cooking and trap grease, and materials described in § 80.1426(f)(5)(i).
- Separated yard waste and food waste includes waste that is one of the following:
  - *Separated yard waste*, which is a feedstock stream consisting of yard waste kept separate since generation from other waste materials. Separated yard waste is deemed to be composed entirely of cellulosic materials.
  - *Separated food waste*, which is a feedstock stream consisting of food waste kept separate since generation from other waste materials, and which includes food and beverage production waste and post-consumer food and beverage waste. Separated food waste is deemed to be composed entirely of non-cellulosic materials, unless a party demonstrates that a portion of the feedstock is cellulosic through approval of their facility registration.
  - *Separated municipal solid waste (separated MSW)*, which is material remaining after separation actions have been taken to remove recyclable paper, cardboard, plastics, rubber, textiles, metals, and glass from municipal solid waste, and which is composed of both cellulosic and non-cellulosic materials, and collected according to a plan submitted to and approved by U.S. EPA
- **Therefore, since separated MSW was not one of the seven categories specifically cited in EISA, EPA was only able to allow it in the RFS2 program if separated MSW most closely resembled a mixture of separated yard waste and food waste, with recyclable materials removed to the extent “practicably” possible**



# Regulatory Requirements of the MSW Separation Plan

- Recycling actions are considered to occur if recyclable paper, cardboard, plastics, rubber, textiles, metals, and glass that can be recycled are separated and removed from the municipal solid waste stream to the extent reasonably practicable according to a plan submitted to and approved by EPA
- The separation plan must provide ongoing verification that there is separation of recyclable paper, cardboard, plastics, rubber, textiles, metals, and glass wastes to the extent reasonably practicable and which documents the following:
  - Extent and nature of recycling that occurred prior to receipt of the waste material by the renewable fuel producer or foreign ethanol producer;
  - Identification of available recycling technology and practices that are appropriate for removing recycling materials from the waste stream by the fuel producer or foreign ethanol producer; and
  - Identification of the technology or practices selected for implementation by the fuel producer or foreign ethanol producer including an explanation for such selection, and reasons why other technologies or practices were not.





**Expanding RFS2 Eligibility to Include Renewable Electricity, Renewable Diesel and Naphtha Produced from Landfill Biogas:** In response to industry petitions, EPA proposes to allow three new fuel pathways to generate RINs: renewable electricity produced from certain kinds of biogas, renewable diesel and naphtha produced from qualifying biogas.

- **Electricity from Landfill Biogas is a Qualifying Cellulosic Biofuel.**
- **Fuel from Landfill Biogas is Derived From Cellulose.**

EPA is seeking comments on demonstration of 15 percent emission reductions achieved for on-site energy recycling and consumption, would allow these additional fuels to meet the 60 percent threshold.

- **Landfill Gas Liquids and Naphtha may be Advanced**
- **Biofuels Electricity from Biogas Produced from Waste or Wastewater Sludge Not Evaluated.** EPA is specifically seeking comment on whether biogas-to-electricity derived from waste or wastewater feedstocks should qualify as cellulosic or advanced biofuels.

to comments on the proposal concerning the potential for these crops to behave as invasive species, EPA is adopting additional registration, recordkeeping, and reporting requirements that were developed to address the potential for GHG emissions related to these concerns.

- **Fact Sheet:** EPA Issues Supplemental Final Rule for Additional Qualifying Renewable Fuel Pathways under the RFS Program (PDF) (3 pp, 147K, EPA-420-R-13-040, June 2013)
- **Final Rule (PDF)** (14 pp, 512K, published July 11, 2013)

**Notice of Proposed Rulemaking: RFS Pathways II and Technical Amendments to the RFS2 Standards**

EPA is proposing to amend certain provisions of the renewable fuels standard (RFS2) program regulations. This proposal also includes various changes to the E15 misfueling mitigation regulations (E15 MMR) which are minor technical corrections and amendments to sections dealing with labeling, E15 surveys, product transfer documents, and prohibited acts. Finally, we are proposing changes to the survey requirements associated with the ultra-low sulfur diesel (ULSD) program.

- **Fact Sheet:** Notice of Proposed Rulemaking: RFS Pathways II and Technical Amendments to the RFS2 Standards (PDF) (2 pp, 541K, EPA-420-R-13-015, May 2013)
- **Proposed Rule (PDF)** (38 pp, 418K, published June 14, 2013)

**Final Rule to Identify Additional Fuel Pathways under the Renewable Fuel Standard Program (RFS)**

EPA has identified additional renewable fuel production pathways and pathway components that could be used in producing qualifying renewable fuel under the RFS program. This final rule describes EPA's evaluation of biofuels produced from renewable oil and biomass, as well as renewable methane and renewable methane blendstock made

