



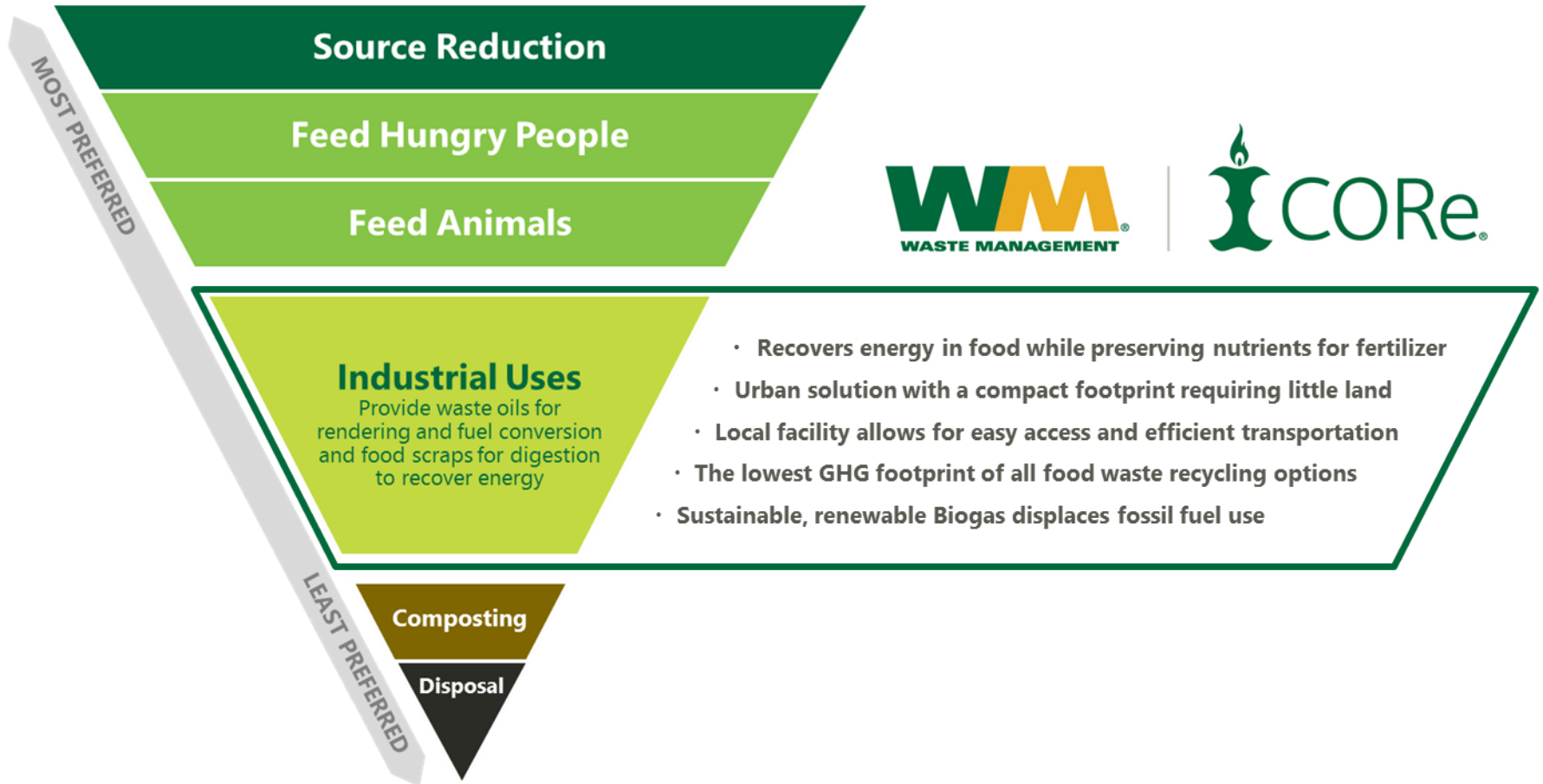
Co-Digestion of Food Waste The Preferred Solution



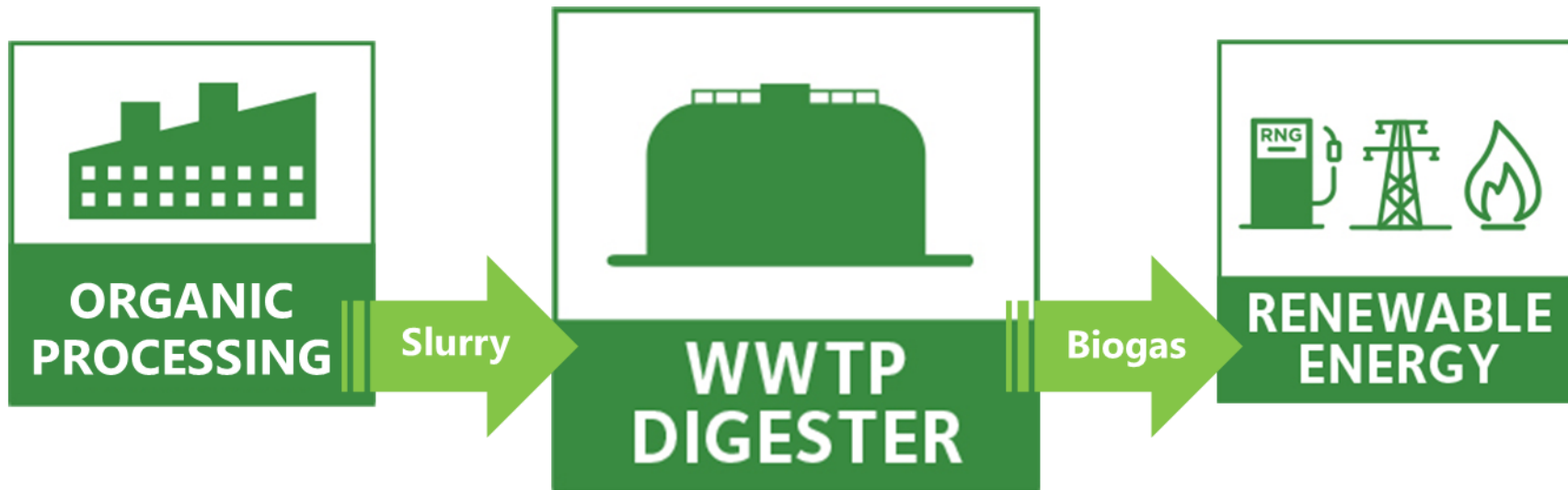
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Food Recovery Hierarchy



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“**Co-digestion** is a process whereby **energy-rich** organic waste materials (food scraps) are added to dairy or **wastewater (WWTP) digesters** with excess capacity. In addition to diverting food waste and FOG from landfills and the public sewer lines, these **high-energy** materials have at least **three times** the methane production potential (e.g. biogas) of biosolids and manure.”





WM CORE[®] Co-digestion

Acceptable **contamination** of up to **25%** and a wide range of materials including **pre-and-post consumer food waste**

Removes unwanted **contaminates** through **dual separation** process

Able to accept **packaged food material (PFM)** that would otherwise be sent to disposal

Compact footprint suitable for **urban** locations

WM operates **4 CORE[®] facilities** in the US



WM Composting

Acceptable **contamination** limited to **<1%**

Limited acceptability of non-homogenous commercial and residential food waste

Limited screening capabilities mean **contamination** may end up in final product, **reducing value**

Increased space requirements means moving operations **outside of urban setting** and increasing **transportation costs**

WM operates **36 compost facilities** in the US

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Fast Facts Co-Digestion

>70%



Increase in renewable **biogas** production with as little as 10% **EBS® volume addition**

>85%



Conversion rate of **EBS®** from **food waste** that are converted to biogas

~0%



Little to no additional generation of biosolids with **EBS®** according to **independent, peer reviewed** research

About Waste Management CORe



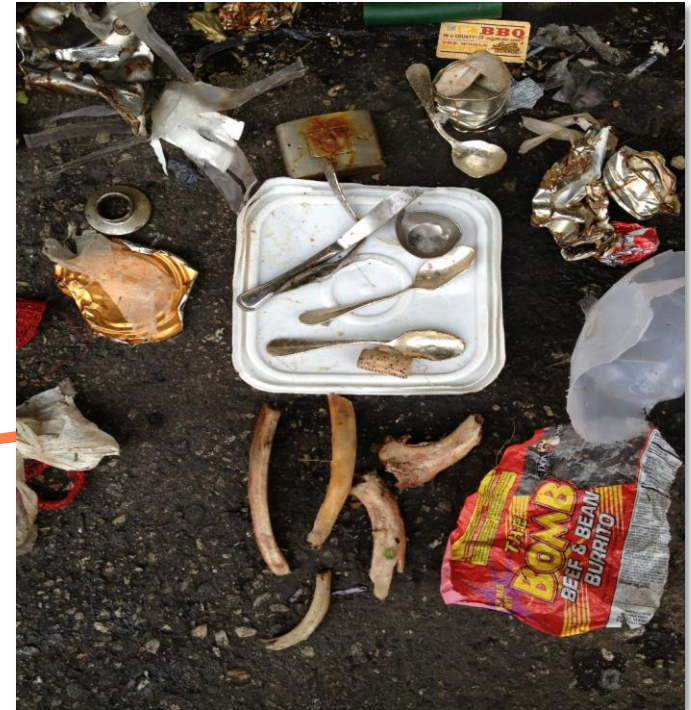
WM CORE® Inbound Source Separated Organic Food Waste



WM CORE® Residuals Separation



Contaminants Removed



Contamination Detail

WM CORE[®] Food Waste Organics to EBS[®]



CORE[®] SSO Receipt Hopper & Bioseparator



EBS[®] Mixing & Storage Tank



EBS[®] Product

THINK





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Greater Lawrence Sanitary District



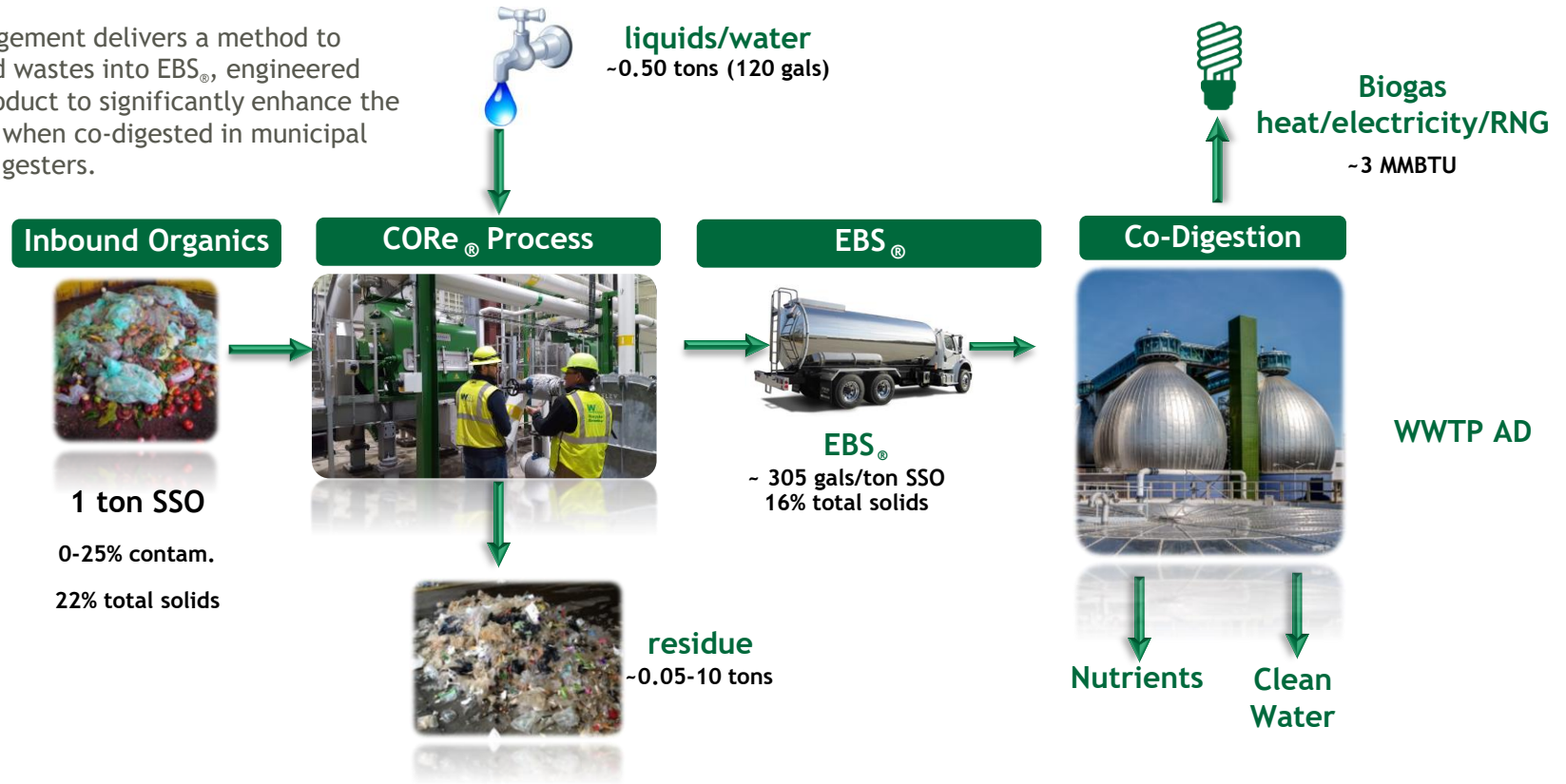
- **Progressive** WWTP in New England
- Recognized by MassDEP and EPA for **innovation**
- Investing over **\$24 million** in the **"Organics Energy Project"**
- **Over \$7 million** provided by the DEP, DOER, CEC, and CWT of Massachusetts
- **Renewable energy** produced will be used for facility heat and electricity
- Energy savings of **\$2.5 million** per year, with potential to **export to grid**
- **Longstanding, successful** program creating fertilizer from biosolids
- **100%** of fertilizer product sold to **local** agriculture and landscape businesses

Thank You

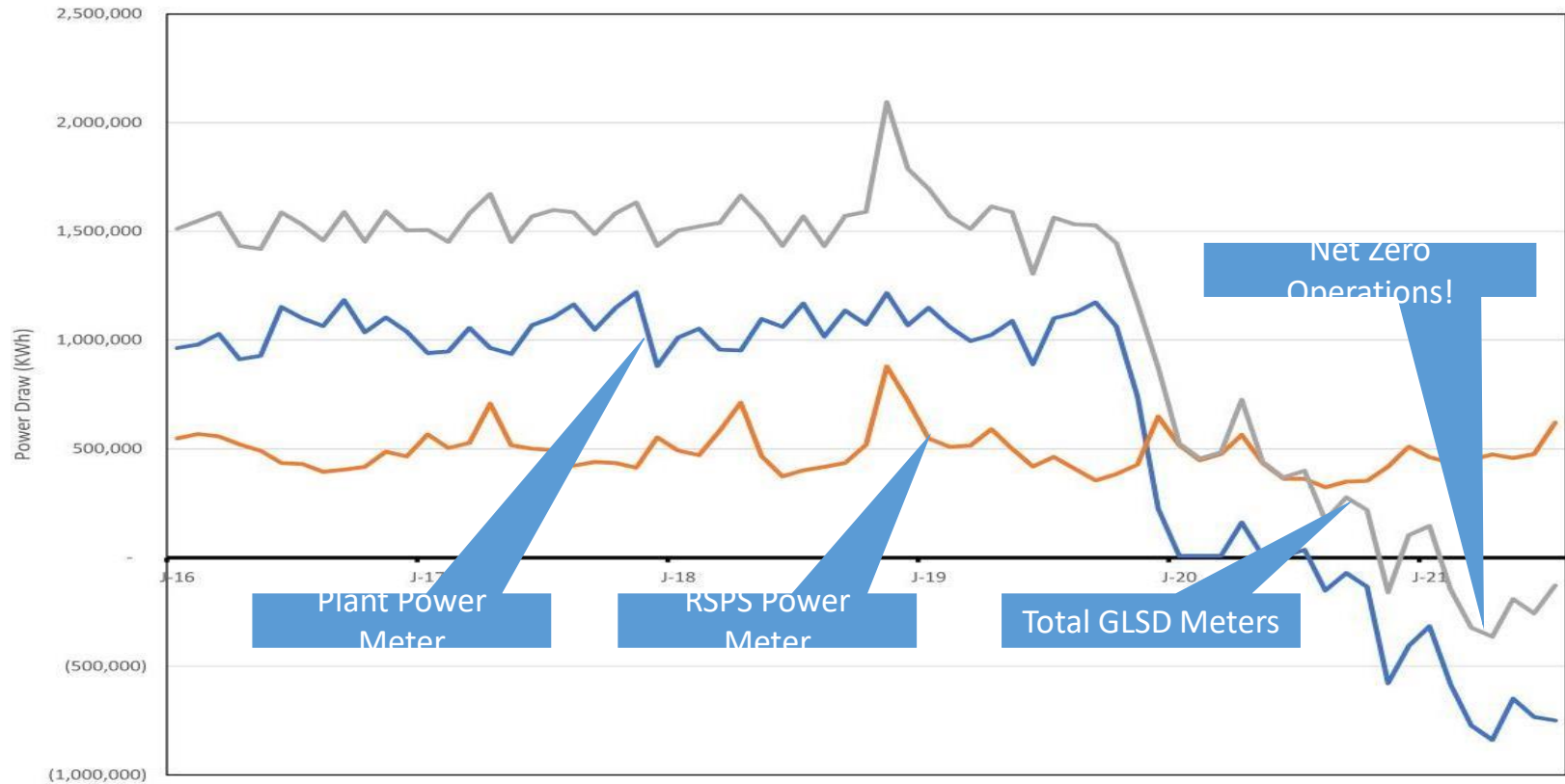
Appendix

WM CORe® & Co-Digestion Performance Metrics

Waste Management delivers a method to convert food wastes into EBS®, engineered bioslurry product to significantly enhance the biogas yield when co-digested in municipal anaerobic digesters.



Achieving Net Zero Power Status



GLSD Biogas Generation & Biosolids Product (2014 vs 2019)

