CALIFORNIA COMPOST COALITION

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SB 1383 Brings on MRF First and Compost Most

"MRF First!" was just a concept in the late nineties as investment in the material recovery facility infrastructure was being funded to divert 50% of the waste stream from landfills to comply with AB 939 (Sher, 1989). "MRF First!" was placed into law within AB 2770 (Matthews, 2002), requiring the removal of recyclable materials from the solid waste stream prior to going to conversion technologies. MRF performance was further defined within the context of AB 341 (Chesbro, 2011) to achieve the mandated commercial recycling requirements and was suppose to be the centerpiece of California's statewide goal to source reduce, recycle, or compost at least 75% of our solid waste generated by 2020. California was at only 44% in 2016 as disposal has increase by 6 million tons per year since AB 341 passed, where mandated commercial recycling was supposed to recycle the growth of a rebounding economy.

MRFs have evolved from the big dirty MRFs of the nineties with one black can collection, to source separation with the co-location of multiple MRFs at the same facility, placing a focus on feedstock, technology and quality control. Operators have installed single-stream residential recyclables MRFs, mixed commercial recyclables MRFs, organic waste processing operations, and mixed C&D debris MRFs to increase their facility recycling rates. We have always been source-separationists by designing routes and programs to recover products for their highest and best use.

MRFs were further defined when AB 341 became law, adding to Public Resource Code Section 42649.2 (b)(2); "*Subscribe to a recycling service that may include mixed waste processing that yields diversion results comparable to source separation*"; and Section 42649.3 (i)(2); *"The recovery rate of the commercial waste from the material recovery facilities that are utilized by the businesses, all information, methods, and calculations, and any additional performance data, as requested by the department from the material recovery facilities*".

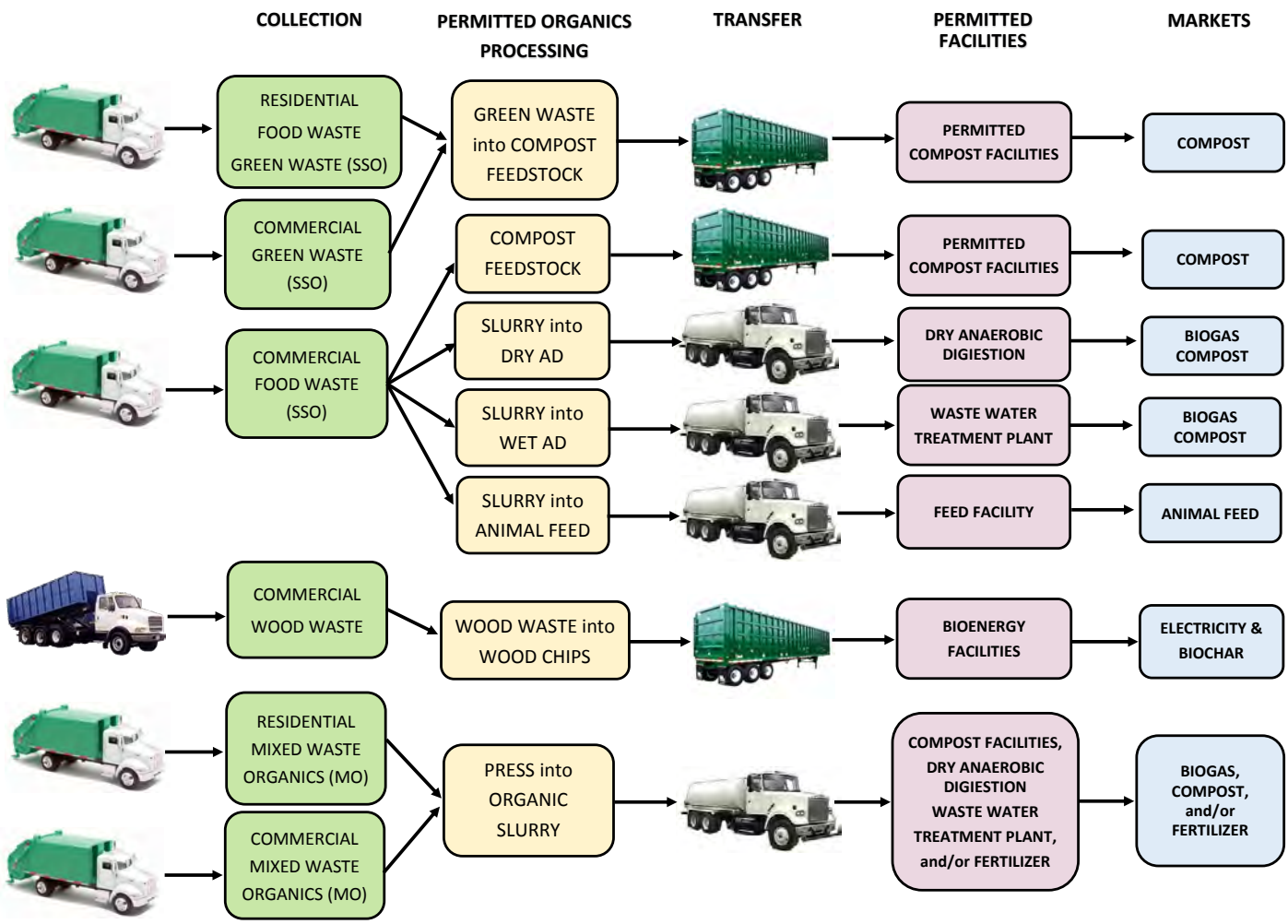
CalRecycle held numerous AB 341 workshops in 2012 and 2013 on mandated commercial recycling where there was MRF performance anxiety about getting the recycling rate up, in order to please CalRecycle staff. The alluring 75% Recycling Plan added more performance anxiety by calling out **Increased Requirements for MRF Performance** and was begging to define 'High Performance.' With a lot of dirty dancing by some of the industry and local government, AB 341 regulations failed to deliver anything on MRF standards as people feared the MRF police were coming to their facility.

MRFs have been entering a new frontier with quantum technology improvements at the same time SB 1383 (Lara, 2016) was passed. MRF standards are now being placed in regulations based on the AB 341 statutes and SB 1383 targets to recover 50% of all organics by 2022 and 75% of all organics by 2025. The next-generation, high-diversion "mixed organic waste processing facilities" have been designed to produce compost feedstock, dry anaerobic digestion feedstock, wet anaerobic digestion slurry, and fertilizer feedstocks, with each market holding their own market specification for allowable contamination. The organic waste recovery rate can be as high as 70% for the mixed organic waste processing line, and when co-located with the on-going source-separation programs that will also be expanded, the facility organic waste recovery rate can be as high as 90%, exceeding the target of SB 1383.

MRF performance cannot be viewed in a vacuum or defined by one dirty processing line, but needs to be evaluated as a recycling system complimented by other MRF processing operations within the same facility. Source-separation thrives and the new organic processing line dives deeper into the waste stream, going after the mixed organics in solid waste that would have gone otherwise to the landfill and is truly "MRF First!". SB 1383 regulations are expected to be adopted in 2018 and become affective in 2022 sending regulatory signals to local government, generators and the recycling industry to start planning to divert over 15 million new tons by 2025 and adding over 100 new composting and anaerobic digestion facilities.

Mixed Waste Organic Collection Service

Organic Waste Flow Chart—SB 1383

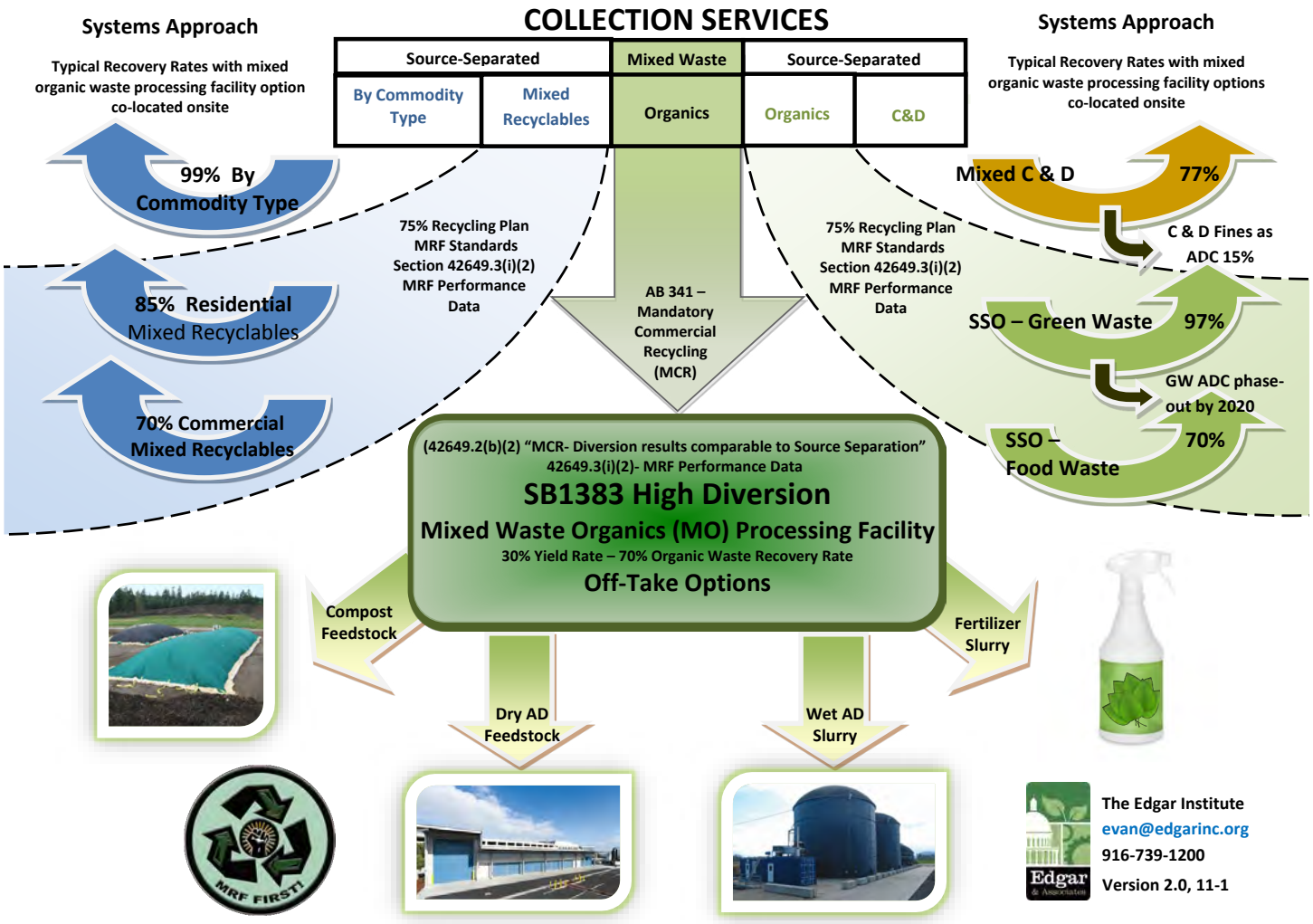


SB 1383 Proposed Regulatory Text was released on October 24, 2017 for public comments, which are due on November 30, 2017, and will be considered in the next draft version due out in late January 2018. “Mixed Waste Organics Collection Service“ is being defined for the first time, to differentiate from “Source-Separated Collection Service”, and means a waste collection service that collects organic waste with other solid waste in a mixed waste collection container or a disposal container can send the material to a high diversion mixed waste processing facility that recovers the organic waste at the level specified in Section 30.2 and Section 17409.5.1, which is at least 50% organic waste 50% by 2022 and 75% by 2025.

Source-separated organic waste (SSO) would include co-collected food waste and green waste where mixed waste organics (MO) is co-collected with other solid waste. The draft regulations allow a hauler to reject collection of source-separated organic waste with greater than 10% contamination rate. The industry standard for these SSO commercial routes have been averaging a 30% residual rate, with mostly plastics contamination. Even with a proven generator education, outreach, and a training program for source-separation, the collection of post-consumer organics from restaurants is challenging, where a 30% residual rate is deemed as best management practices. Responsible generators will be key to keep residual rates low, where even the best education and training program with enforcement will be problematic to keep below 10%. The MO hauler could have tiered pricing based on residual amount to drive lower contamination rates, and/or collaborate with the mixed waste organic processing facility based upon the processing equipment and off-take agreement. Where the MO hauler and the MO processor are the same company, a streamline systems approach could be installed with the local government agency and the generator can right-size the service to provide cost-effective solutions to meet local markets.

The draft regulations indicate that MO Collection Services going to a “High Diversion Mixed Waste Processing Facility” are allowed if the service had the service prior to 2020. This artificial date makes little sense, especially if the on-going source-separation of organics is continuing and expanding. A hauler would keep all source-separation programs in place and provide all of the education and training needed to expand source-separation, and the hauler would offer MO services in addition to SSO in order to squeeze out as much organics as possible and offer a complete MRF First service to the jurisdiction.

Mixed Waste Organic Processing Facility



FACILITY ORGANIC RECOVERY RATE 90%

Material Recovery Facilities come in many shapes and sizes and are defined by their feedstocks, processing technology, recovery rates, and off-take markets. CalRecycle published a relevant study in June 2006, "Characterization and Quantification of Residuals from Material Recovery Facilities", which analyzed four types of MRFs: multi-stream, single-stream, C&D, and mixed waste processing facilities. The residual percentage was determined to be 6% for multi-stream, 14% for single-stream, 23% for C&D, and 81% for mixed waste processing, where the study identified this type of facility as a "dirty MRF". The residual rate is what is opposite the recovery rate, as the residuals goes to the landfill for disposal. The market product that leaves the MRF has a certain contamination rate that must meet a market specification such as 0.5% for green waste to land application and 1.0% for mixed paper going to China starting in 2018.

A lot has changed since 2006 where some of these older dirty MRFs increased their recycling rate to 30% or more and have also offered source-separated services. Mandated commercial recycling brought the dry commingled commercial recyclables processing lines co-located near the single-stream line with a residual rate of 30%. Source-separated commercial organic waste programs being co-located at the MRFs have been averaging 30% residual.

Newer high diversion mixed waste processing facilities have been operating at over a 75% average recovery rate, with just a 25% residual rate.

The terminology for "Mixed Waste Processing Facilities" has been stigmatized by being dirty even if there is a high-diversion clarifier, and may be termed out to process mixed organics if the collection service had not been in place by 2020. New "Mixed Waste Organics Processing Facilities" are being proposed and should be defined in the CalRecycle regulations. Source-separation programs continue to be expanded, and the residential and commercial MO is processed on a new organics processing line, which can yield 30% organic slurry from the MO,and translates to a 70% organic waste recovery rate, based upon the CalRecycle Waste Characterization Study of 2014. A "Mixed Waste Organics Processing Facility" can recover 70% organic waste, and when co-located with source-separated programs, the facility organic waste recovery rate could be 90%, and exceed the SB 1383 target.

Measuring contamination in organics recovered from mixed waste organics collection is important to the operator and need not be placed in the SB 1383 regulations. Off-take agreements for composting, dry AD, wet AD, and fertilizer production facilities, will have their own contamination rate dictated by market conditions.

CALIFORNIA COMPOST COALITION

Urban Waste Dictionary

New Waste Age Garbonics

MRF First! was coined in nineties with some other favorites from that era

AB 939 Plus *n* 1: waste generation inflation to 20 pounds per person per day **2**: source reduction of 25% to reach 2000 goals **3:** Waste Management Dr. Tseng's new waste generation study <Your numbers don't rattle – Eaton> **4**: triple-sided paper copier v 1: hyper generate waste to reach resource conservation goals **2**: grasscycling by consultants **ant 1**: real recycling programs **2**: CIWMB audits

ADC Abuse *v* **1**: 3 feet on raw green waste on landfill face **2**: C&D dozer compaction on top of C&D dozer compaction on top of C&D, etc. n 1: visionary concept with self fulfilling prophecy by industry **2**: unaccountability at gate house **3**: Alternative Intermediate Cover **4**: FONTANA factors, COLTON coefficients, CAL-MAT calculations in 2000 **syn** River in Egypt **ant** functional use

ADC Futures *n* **1**: cheap bioreactor organic storage on top of landfill for 10 years to get AB 939 recycling credit today **syn** *var of* **BIOCONVERSION**

Death, Taxes and Garbage *n* **1**: Consistent items in life that will always occur regardless of bi-partisanship. *"There will always be death, taxes, and garbage"*

Feet to the fire *v* 1: to recycle adamantly mandately <I think, therefore I recycle – cogito ergo recyclo – Joe Garbarino> **2:** to enforce recycling <Keep their feet to the fire – Vaccarezza/Pellegrini> **ant** good faith effort (southern dialect)

Houston, we have a problem *n* **1**: consolidation of the industry **2:** concentration of landfill capacity ownership v tastes cheap, less filling **syn** <Main Street, not Wall Street> **KELLAR CANYON**

MRF First *v* **1**: process MSW via MRF prior to bioconversion **2**: process MSW via MRF prior to landfilling (eco-dialect)

Mad Dow Disease n 1: clopyralid tainted compost

Mine is a terrible thing to waste *n* **1**: unprocessed inerts for mine reclamation for cheap AB 939 credits **a** NU-WAY LANDFILL **b** CAL-MAT **ant** Waste Board policy of 1999 says no credit

NAFTA-style Chinese wages *n* **1**: prisoner labor to MRF against private industry **ant** HR 22 (stopped PIA from expanding statewide MRF system)

Organic Titanic *n* **1**: siege on the organic industry from outside threats a: clopyralid **b**: Sudden Oak Death Syndrome **c:** arsenic wood waste **d**: ADC Abuse **e**: deregulation of tiers **syn** AB 939 Compliance Orders **ant** AB 2356 (Keeley), USDA Compliance Orders, load checking, functional use and specifications, Registration SWFP

Spatial Profiling *v* **1**: landfill land use patterns as part of SWFP **2**: mapping environmental justice 3: recycling in da hood

Trail of tiers *n* **1**: permit equity **2**: 5-year regulatory process to get to 10% residual policy **syn** Solid Waste Facility Permit

Trash Bash *n* **1**: an association of Italians, Armenians, and politicians eating sushi **2**: annual successful event

Una-Mulcher *n* **1**: one who composts without a permit **2**: see BIO-FUELS *v* **unamulching** inventory control by fire

Use a train – lose a loan *n* **1**: export fee on solid waste or no Waste Board funding **2**: Napa to Rabanco and RMDZ funding **ant**

Windrows '97 *n* **1**: Registration SWFP up to 10,000 cubic yards in tiered permit structure **ant** green waste composting deregulation to 12,500 cubic yards without a SWFP in 2002

Zero Waste *v* not a *n* <Verb not a noun – Jones> 1: the act of wasting **2**: future goal of sustainability *n* **1**: MSW as a bioconversion feedstock

The California Compost Coalition is a registered Lobbying Coalition with the Fair Political Practices Commission (FPPC), created in 2002 by a group of compost operators in response to demands for increased recycling of organic materials & production of clean compost, bioenergy, renewable natural gas, and biochar.

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