

## Puerto Rico and U.S. Virgin Islands

### Infrastructure & Wastewater

	2004 Data	2018 Data	
<b>Total Number of WWTPs:</b>	Territories not included in prior report.	PR: 49 USVI: 8	
<b>WWTP &amp; Biosolids Infrastructure Totals</b>			
Number of Separate Preparers (in- or out-of-state, receiving solids from your state):		PR: 1	-----
Total number of your state's WWTPs sending to those Separate Preparers:		PR: 15+	-----
Number of operating sludge incinerators in your state (total):		0	-----
Fluidized bed:		0	-----
Multiple hearth:		0	-----
Number of Part 258 landfills in your state accepting sewage sludge:	data not requested for 2004	PR: 2 USVI: 2	-----
Number of WWTPs in your state with industrial pre-treatment programs:	data not requested for 2004	PR: 1 (49)	-----
Number of WWTPs in your state with <i>sludge</i> lagoons:	data not requested for 2004	no data	-----
<b>Wastewater Flow Totals</b>			
Total statewide average daily wastewater flow (MGD):	data not requested for 2004	PR: ~200 USVI: ~27	-----
Total statewide WWTP <i>design</i> capacity for wastewater flow (MGD):	data not requested for 2004	no data	-----
Total statewide average daily <i>dry weather</i> flow (MGD):	data not requested for 2004	no data	-----
<b>Other Totals</b>			
Number of documented odor & nuisance complaints received by state in 2018 related to biosolids transportation and use or disposal outside of the gates of the WWTP:	data not requested for 2004	no data	-----
Number of WWTPs involved in those complaints:	data not requested for 2004	no data	-----
Percent of population served by on-site systems (e.g. septic systems):		PR: 40+% USVI: ~50%	-----

PUERTO RICO: U.S. EPA ECHO data includes 2018 data for 49 Puerto Rico water resource recovery facilities (WRRFs). • Caribbean Composting, Inc. is the separate preparer, taking solids from at least 15 PR WRRFs in 2018. • PRASA, the large operator of almost all PR WRRFs, is the one organization with an Industrial Pretreatment Program (IPP) in PR, authorized & overseen by U.S. EPA Region 2. All of PRASA's ~49 WRRFs could be subject to this IPP. • U.S. VIRGIN ISLANDS: NBDP estimated solids production – 2,721 dry metric tons (dmt) – based on populations of cities where the two major WRRFs are located and assumed solids production per MGD to be the same as found at Puerto Rico WRRFs.

### Biosolids Use and Disposal

UNITS:	Territories not included in prior report.	Dry metric tons	
<b>BIOSOLIDS USED OR DISPOSED, 2018 (adjusted total):</b>		<b>16,000</b>	
<b>Summary</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids
Beneficial Use (applied to soils, not including ADC)			22 3,194
Disposal & Alternative Dispositions			42 12,779
Other			
<b>TOTAL</b>			<b>64</b> <b>15,973</b>
<b>Beneficial Use</b>			
	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To... Quantity of Biosolids
Agricultural (EQ, Class A, & Class B)			0 0
Forestland (EQ, Class A, & Class B)			0 0
Reclamation (EQ, Class A, & Class B)			0 0
Class A EQ Distribution (bagged or bulk, public distribution, or unsure where it went)			22 3,194
Beneficial Use Subtotal	-	-	22 3,194
Long-term storage			0
The Class A EQ biosolids are composts produced by two large composting facilities and some smaller WRRF composting operations – all in Puerto Rico.			
Number of acres to which biosolids were applied:			
<b>Disposal &amp; Alternative Dispositions</b>			

	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Going To...	Quantity of Biosolids
<b>Landfill (total)</b>			41	12,515
Burial	data not requested for 2004	data not requested for 2004	41	12,515
Alternative daily (ADC), intermediate, or final cover	data not requested for 2004	data not requested for 2004	0	0
<b>Surface Disposal</b>			1	265
<b>Incineration</b>			0	0
<b>Cement kiln or industrial furnace</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Deep well injection</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Gasification</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004	0	0
<b>Disposal &amp; Alternative Dispositions Subtotal</b>	-	-	42	12,779
<b>TOTAL</b>	-	-	64	15,973

NBDP assumed that all U.S. Virgin Islands solids (an estimated 2,721 dmt) were landfilled in 2018.

### Biosolids Quality Summary

	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	Number of Entities (WWTPs & Sep. Preparers) Producing...	Quantity of Biosolids	NOTE: For "number of entities," the total may not match because some entities go to more than one use or disposal.
<b>Class A EQ</b>			22	3,194	
<b>Other Class A</b>			0	0	
<b>Class B</b>			34	9,794	
<b>Other (no data, etc.)</b>			1	2,986	
<b>TOTAL</b>	-	-	57	15,973	

### Biosolids Treatment Practices

	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	Estimated Number of WWTPs or Separate Preparers Using...	Estimated Quantity of Biosolids Produced Using...	These data are for Puerto Rico only. No data available on treatments for U.S. Virgin Islands solids.
<b>Stabilization</b>					
<b>Aerobic Digestion (total)</b>			27	4,713	
Class A (ATAD/Other)	data not requested for 2004	data not requested for 2004	0	0	
Class B	data not requested for 2004	data not requested for 2004	27	4,713	
<b>Anaerobic digestion (AD) (total)</b>			1	265	
Class A (e.g. thermophilic)	data not requested for 2004	data not requested for 2004	0	0	
Class B (mesophilic)	data not requested for 2004	data not requested for 2004	1	265	
WWTPs co-digesting (FOG, food, glycol, etc.)	data not requested for 2004	data not requested for 2004	0	N/A	
Biogas used (heating, electricity, fuel, etc., scf/year)	data not requested for 2004	data not requested for 2004	1	N/A	
<b>Lime/Alkaline (total)</b>			0	0	
Class A lime/alkaline	data not requested for 2004	data not requested for 2004	0	0	
Class B lime/alkaline	data not requested for 2004	data not requested for 2004	0	0	
<b>Composting</b>			15+	5,308	
<b>Thermal (e.g. heat drying, not incineration/gasificatn/pyroly)</b>			0	0	
<b>Gasification</b>	data not requested for 2004	data not requested for 2004	0	0	
<b>Pyrolysis</b>	data not requested for 2004	data not requested for 2004	0	0	
<b>Hydrolysis (thermal, chemical, etc.)</b>	data not requested for 2004	data not requested for 2004	0	N/A	
<b>Long-term (lagoons, reed beds, etc.)</b>			0	N/A	
<b>Oxidation ditch / extended aeration</b>	data not requested for 2004	data not requested for 2004	no data	N/A	
<b>Other stabilization technology</b>			0	0	
<b>No Data Available on Dewatering &amp; Thickening</b>					