

US EPA ARCHIVE DOCUMENT



Defining and Measuring Solid Waste Recycling and Disposal

Illinois · Indiana · Michigan · Minnesota · Ohio · Wisconsin

August 2013

Publication No. 905Q13001

An understanding of terms, definitions and measurement approaches used by state solid waste recycling and disposal programs is important for effective communication between states and the U.S. Environmental Protection Agency. EPA, with assistance from the six states in EPA's Region 5 office, prepared this summary of definitions and measurement approaches in each state. The following was obtained through personal correspondence with state solid waste program managers and research of existing materials about each state's program.

Illinois

Terms and Definitions

Illinois' Environmental Protection Act defines recycling, along with reclamation and reuse, as a "method, technique or process designed to remove any contaminant from waste so as to render such waste reusable, or any process by which materials that would otherwise be disposed of or discarded are collected, separated or processed and returned to the economic mainstream in the form of raw materials or products."ⁱ

The Solid Waste Management Act also offers a definition of recycling: "The process by which solid waste is collected, separated and processed for reuse as either a raw material or a product which itself is subject to recycling. . ."ⁱⁱ It specifically excludes "combustion of waste for energy recovery or volume reduction."

Recycling and Disposal Measurements

Illinois has no state requirement for reporting recycling so the state does not collect recycling tonnages or calculate a statewide recycling rate.

However, the state's Solid Waste Planning and Recycling Act addresses recycling by Illinois counties and municipalities. It requires most counties and municipalities (some are subjected to other criteria due to small population sizes) to include a 25 percent municipal solid waste recycling goal as part of mandatory solid waste plans. Although the plans themselves are mandated, the law does not require counties to collect data to measure progress against the goal.

Until 2010, Illinois EPA asked local solid waste coordinators to voluntarily answer a survey requesting information on recycling efforts. Based on the results, the agency estimated a statewide recycling rate. The last estimate was provided in a 2009 annual landfill capacity report. Due to budget limitations, the voluntary survey is no longer being conducted and the state no longer calculates a statewide recycling rate.

The measurement of disposed waste is addressed by the Illinois Solid Waste Management Act, which requires Illinois EPA to publish an annual report "regarding the projected disposal capacity available for solid waste in sanitary landfills."ⁱⁱⁱ Since 1994, Illinois EPA has published an annual landfill capacity report^{iv} based on information received from landfill owner and/or operators.

Indiana

Terms and Definitions

Indiana law defines recycling as "a process by which materials that would otherwise become solid waste are collected, separated or processed and converted into materials or products for reuse or sale."^v The statute also defines waste-

Mandatory Reporting Requirements by State

	IL	IN	MI	MN	OH	WI
Mandatory reporting for recyclables?	no	yes	no	yes	yes	yes – residential only
Mandatory reporting by disposal facilities (landfills)?	yes	yes	yes	yes	yes	yes
Mandatory reporting by waste-to-energy and incinerators?	yes	yes	yes	yes	yes	yes
Does state calculate recycling rate?	no	no	no	yes	yes – combined reduction/recycle rate	no

Summary of mandatory state laws or regulations that require local governments or facilities to report weight of recycled material or disposed waste to state solid waste agency.

to-energy facilities as those which convert “solid waste into energy or another useful product by incineration.” Such facilities, like landfills and incinerators, are considered “final disposal facilities.”

Recycling and Disposal Measurements

Indiana has no mandated goals for recycling and does not calculate a statewide recycling rate. All solid waste land disposal and processing facilities, including waste-to-energy facilities, are required to report quarterly the origin, type, and amount of solid waste received. Until 2008 these reports were compiled into an annual report by Indiana Department of Environmental Management. While the annual report is no longer created, the quarterly reports are available on IDEM’s website.^{vi}

Solid Waste Management Districts in Indiana are required to report and publish the total amount of solid waste (in tons) disposed of and the total amount of recycling (in tons) carried out in the district in the year for which the district is directly responsible.^{vii}

Michigan

Terms and Definitions

Michigan’s Solid Waste Policy of 2007^{viii} considers recycling a component of waste utilization. While neither term is defined, the policy provides examples of waste reduction and

waste utilization techniques and practices to include “on-site resource management practices to optimize reducing waste at its source and reusing waste without further processing; returnable, recyclable, and/or biodegradable packaging innovations; and beneficial waste utilization technologies such as composting, energy recovery and bio-gasification.”

Recycling and Disposal Measurements

With the exception of the Michigan Beverage Container Act,^{ix} which requires the reporting of beverage containers sold and redeemed by bottlers and distributors, Michigan has no state requirement for reporting recycling or waste utilization. So the state does not collect recycling tonnages or calculate a statewide recycling rate.

However, Michigan’s Solid Waste Policy 2007 addresses recycling in municipalities. It sets a waste utilization goal of 50 percent for municipal solid waste – defined as both residential and commercial waste but not industrial – by 2015. This goal includes the municipal solid waste recycling rate and any other waste utilization practices. It also sets a goal that all Michigan citizens have convenient (curbside or drop-off locations depending on the population) and cost-effective access to residential recycling programs by 2012. As of 2013, 24 counties out of 83 counties have convenient access to residential recycling opportunities.

With no legislative authority for Department of Environmental Quality to collect recycling tonnages, in 1999 the Michigan Recycling Coalition conducted a series of surveys of local recycling coordinators and others in the state and estimated a statewide recycling rate for residential, commercial and institutional materials.^x

State law requires that landfills report the amount of waste received. This information has been compiled into an annual report since 1996.^{xi} In addition, tonnage incinerated in the state's waste-to-energy facilities is reported.

Minnesota

Terms and Definitions

Minnesota statute defines recycling as “the process of collecting and preparing recyclable materials and reusing the materials in their original form or using them in manufacturing processes that do not cause the destruction of recyclable materials in a manner that precludes further use.”^{xii} It further defines a resource recovery system as one “used for the recovery of materials or energy from solid waste, or for the collection, transportation, separation, sorting, processing or storage of solid materials which aids in the recovery of materials or energy from solid waste.”^{xiii}

Recycling and Disposal Measurements

Minnesota collects recycling tonnage as required by law and calculates a statewide recycling rate. The state's ability to measure recycling is a result of comprehensive waste reduction and recycling legislation in 1989 which mandates all counties to annually report recycling, waste generation and disposal tonnage of residential, commercial and industrial materials. Included in the disposal reporting are both the method of disposal and destination of the waste material.

Ohio

Terms and Definitions

Ohio's Revised Code defines recycling^{xiv} as “the process of collecting, sorting, cleansing, treating, and reconstituting waste or other discarded

materials for the purpose of recovering and reusing the materials.”

Ohio is unique in that it calculates a combined waste reduction and recycling rate rather than simply a recycling rate. This rate is not defined, but Ohio's Solid Waste Management Plan^{xv} explains that “the methodology for calculating waste reduction allows solid waste management districts to credit volume reductions due to incinerating solid waste toward the reduction/recycling rate.”

Recycling and Disposal Measurements

Ohio collects reduction and recycling data provided by solid waste management districts to calculate a reduction/recycling rate.

Ohio's Solid Waste Management Plan, mandated by the passage of solid waste legislation in 1989, requires each of the 52 solid waste management districts to annually report the quantity of materials (residential and commercial) reduced/recycled. Quantities of materials diverted from landfills can be included from composting, land application of solid waste, energy recovery, incineration (currently Ohio has no operating, mixed waste incinerators) and source reduction. The districts collect data through a voluntary reporting system involving contracts with haulers, processors and other parties that handle recycled commodities.

The state's plan establishes goals for recycling at the district level of at least 25 percent of the solid waste generated by the residential and commercial sector and at least 66 percent of the solid waste generated by the industrial sector. It does not have statewide goals for waste reduction/recycling.

Ohio's plan also requires all disposal facilities submit annual reports with tonnages and destinations for the waste.

Wisconsin

Terms and Definitions

By statute,^{xvi} recycling is defined as “the series of activities by which solid waste is collected, sorted, processed and converted into raw

materials and used in the production of new materials.” It specifically “excludes the use of these materials as a fuel substitute or for energy production.”

Recycling and Disposal Measurements

Wisconsin collects only residential recycling tonnage; it does not, therefore, calculate a statewide recycling rate. Wisconsin’s 1990 Solid Waste, Reduction and Recycling Law requires each of its 1,080 “responsible units” to collect and report recycling information associated with

single-family and small apartment buildings but not large apartment buildings, commercial or industrial facilities. Materials recycling facilities that collect from residential programs must report amounts of both residential and commercially collected recyclables as well as any recyclables from local government recycling programs.

In addition, landfills and incinerators must report annual disposal data.

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ⁱ <http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=041500050K3.380>

ⁱⁱ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1588&ChapterID=36>

ⁱⁱⁱ <http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1588&ChapterID=36>

^{iv} <http://www.epa.state.il.us/land/landfill-capacity>

^v <http://www.in.gov/legislative/ic/code/title13/ar11/ch2.html#IC13-11-2-180>

^{vi} <http://www.in.gov/idem/5079.htm>

^{vii} <http://www.in.gov/legislative/ic/code/title13/ar21/ch3.html#IC13-21-3-13>

^{viii} http://www.michigan.gov/documents/deq/DEQ-WHM-STSW-MI_SW_POLICY_198170_7.pdf

^{ix} [http://www.legislature.mi.gov/\(S\(wb2c1i55ch4b5h45eiertrzu\)\)/mileg.aspx?page=GetObject&objectname=mcl-Initiated-Law-1-of-1976](http://www.legislature.mi.gov/(S(wb2c1i55ch4b5h45eiertrzu))/mileg.aspx?page=GetObject&objectname=mcl-Initiated-Law-1-of-1976)

^x <http://www.michiganrecycles.org/index.php/measuring-recycling>

^{xi} <http://www.michigan.gov/deq/0,4561,7-135-3312-47581--,00.html>

^{xii} <https://www.revisor.mn.gov/statutes/?id=115A.03>; Subd. 25b

^{xiii} <https://www.revisor.mn.gov/statutes/?id=116F.02>; Subd. 6

^{xiv} <http://codes.ohio.gov/orc/3736.01>

^{xv} http://www.epa.ohio.gov/Portals/34/document/general/state_plan_2009.pdf

^{xvi} http://docs.legis.wisconsin.gov/code/admin_code/nr/544.pdf