

P.A. 096-0026 Study: CNT Research

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Natural Resources Program*

*Illinois EPA Stakeholder Meeting
Springfield, Illinois
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CNT Research

- State Survey
- Illinois MS4 Program
- Green Infrastructure Portfolio Standard
- GI Cost-Benefit Analysis

State Survey

Issues to watch:

Types of standards

- volume control, release rates, groundwater recharge, pollutant load, erosion, resource protection

Thresholds, exemptions

Flexibility

Green infrastructure requirements

Maintenance requirements

Illinois MS4 General Permit:

*New Requirements
for:*

**Small Municipal
Separate Storm
Sewer Systems**

General NPDES Permit No. ILR40

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand East

P.O. Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit

For

Discharges from Small Municipal Separate Storm Sewer Systems

Expiration Date:

Issue Date:

Effective Date:

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act, the following discharges may be authorized by this permit in accordance with the conditions herein:

Discharges of only storm water from small municipal separate storm sewer systems, as defined and limited herein. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Receiving waters: Discharges may be authorized to any surface water of the State. To receive authorization to discharge under this general permit, a facility operator must submit an application as described in the permit conditions to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.

Illinois Small “MS4s”

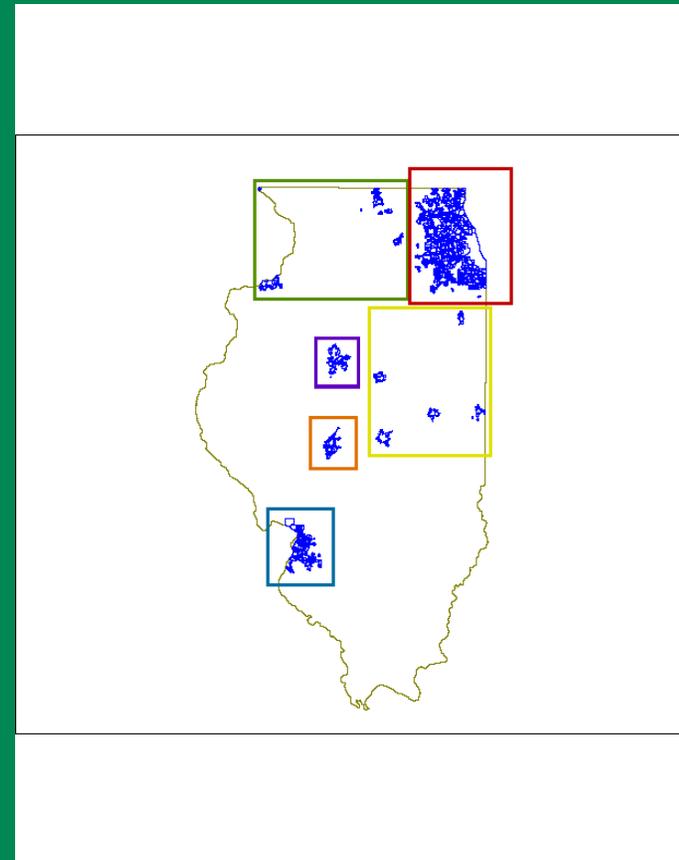
“Small MS4s” =

Municipalities serving
fewer than 100,000 people
in urban areas:

≥50,000 total population

≥500 people/square mile

In Illinois about 435
municipalities are covered
by ILR40



Green Infrastructure Requirements in Updated IL40

1. Education
2. Training of staff and contractors
3. Best management practices
4. Applicability to public surfaces
5. Applicability to existing developed property

Limitations of IL40

1. **Applicability limited to “urban areas”**
2. **Lack of performance standards**
3. **Burden rests on municipalities**

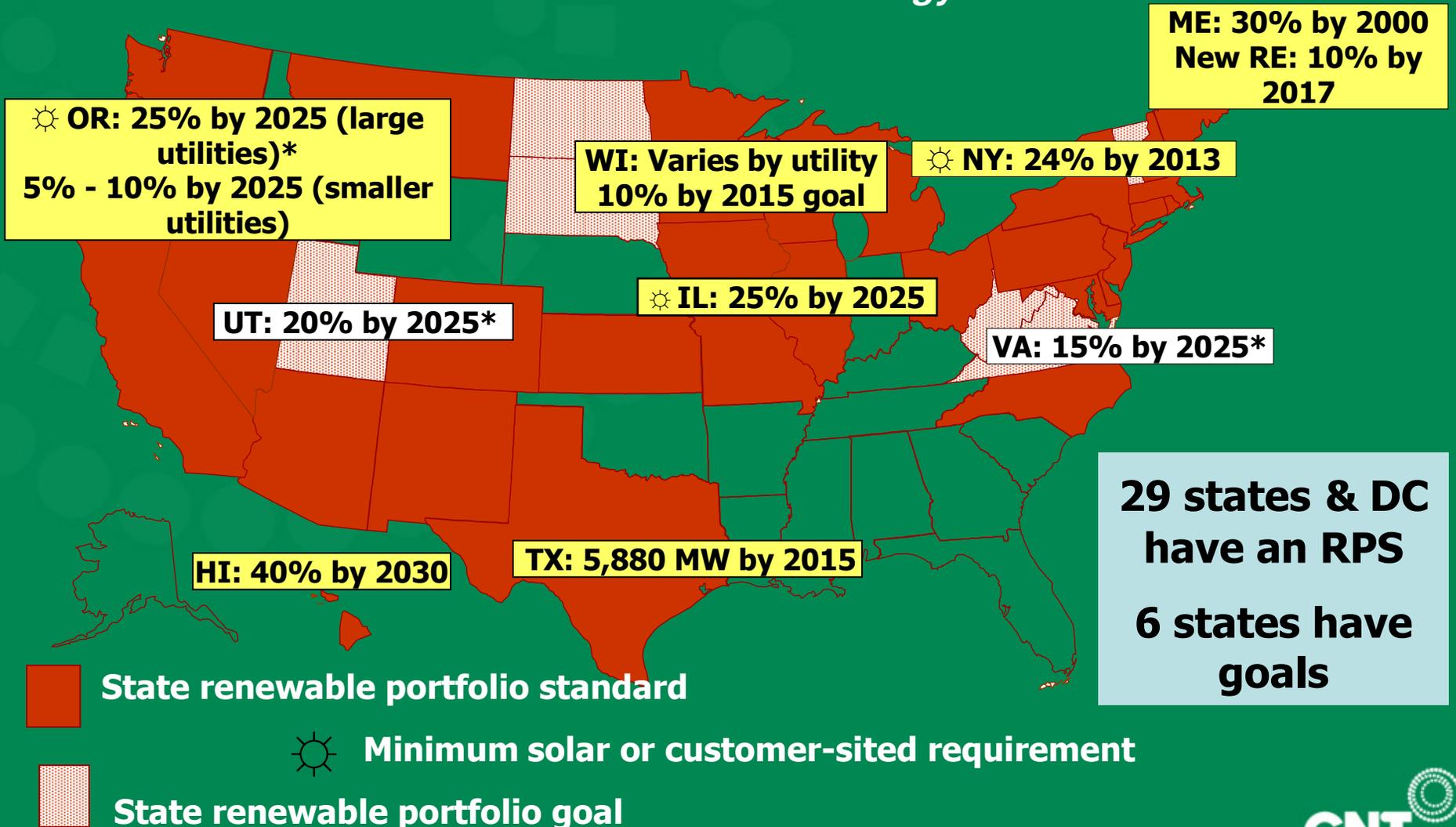
Green Infrastructure Portfolio Standard

Concept:

Establish a goal of gradually increasing the percentage of stormwater in an area that is managed with green infrastructure.

Renewable Energy Standards

From: Interstate Renewable Energy Council



Portfolio Standard Potential Elements

- Metrics
 - Type of goal to be achieved
 - Eligible green infrastructure technologies
 - Information technology; database
- Administrative body
- Enforcement or incentive mechanisms
- Maintenance program

Green vs. Grey

Costs and benefits of using **green** as compared with using **grey** infrastructure

Green Values Calculator®

GREEN INFRASTRUCTURE VALUATION

- What is Green Infrastructure?
- How Landscapes Work
- About This Site
- Resources

GREEN INFRASTRUCTURE CALCULATOR

Calculator

Green Interventions:

- Roof Drains to Raingardens at All Downspouts:
- Half of Lawn Replaced by Garden with Native Landscaping:
- Porous Pavement used on Driveway, Sidewalk and other non-street pavement:
- Green Roofs:
- Provide Tree Cover for an Additional 25% of Lot:
- Use Drainage Swales instead of Stormwater Pipes:

Site Statistics:

- Select a scenario: **Dense Urban Neighborhood**
- Is this an existing site:
- Total size of site: **5** acres
- Number of lots: **44**
- Average Roof Size, including Garage: **1000** ft.²

Results

The difference between the conventional system and the green intervention(s) you chose **decreases** the total 100 year life cycle costs and **increases** benefits by **\$46,286!** This strategy reduces peak discharge by **44%**.

Hydrologic | Financial | Financial Detail | Scenario Detail

Hydrologic Results

Lot Level Improvements:	Conventional	Green	Reduction
Lot Discharge (cf)	547	258	52.8%
Lot Peak Discharge (cfs)	0.16	0.07	55.5%

Total Site Improvements:

	Conventional	Green	Reduction
Total Peak Discharge (cfs)	9.63	5.40	43.9%

Detention Size Improvements:

	Conventional	Green	Reduction
Total Detention Required (ft ³)	24,090	11,151	54%