

**ENVISION™ INFRASTRUCTURE SUSTAINABILITY RATING SYSTEM
APPLICATION IN PUBLIC WORKS PROJECTS**



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Senior Vice President
Director of Sustainability
Institute for Sustainable Infrastructure
Professional Development Committee
Chair

Presented at



14th Annual North Texas
Public Works Roundup

May 23, 2013

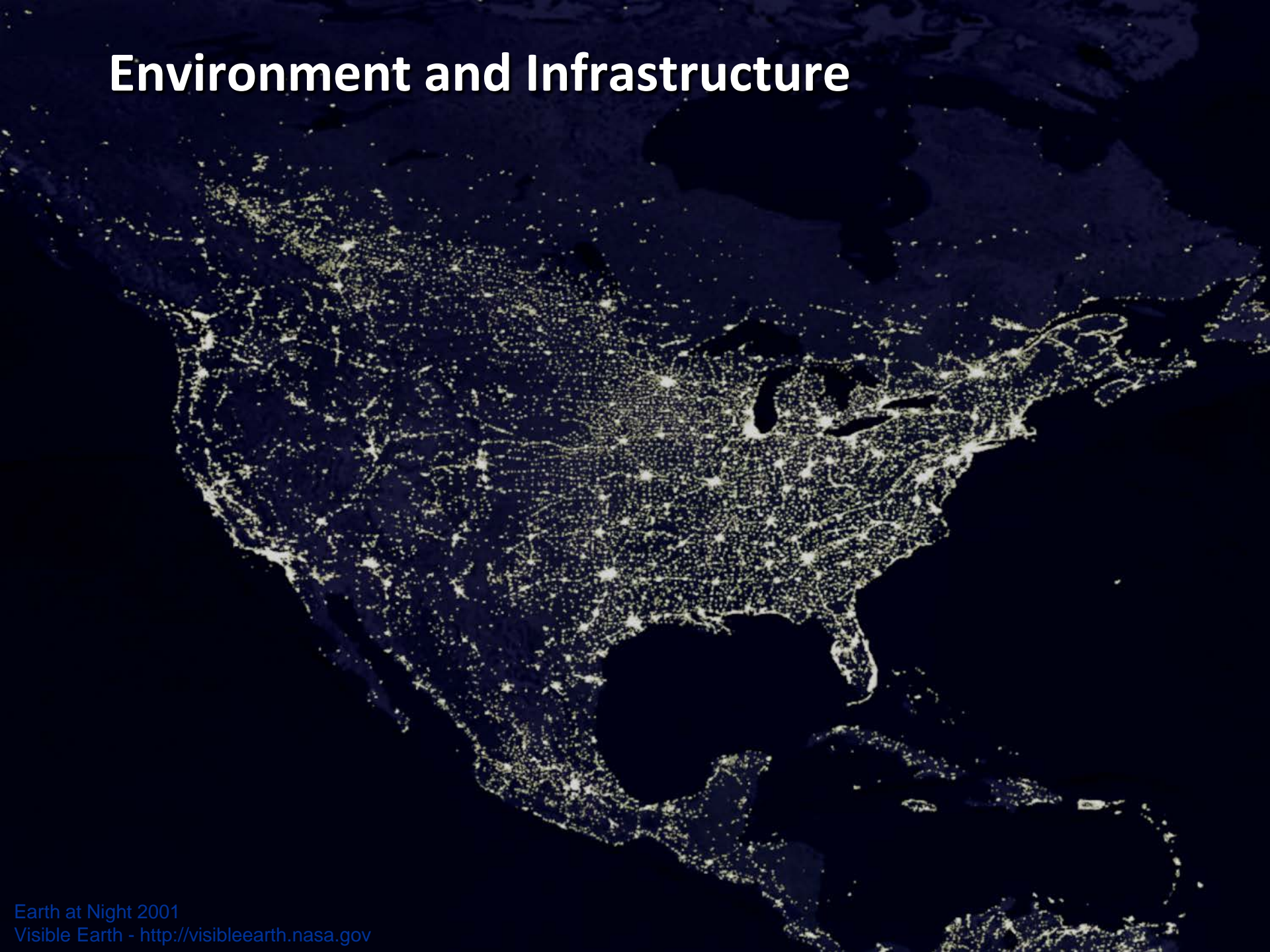


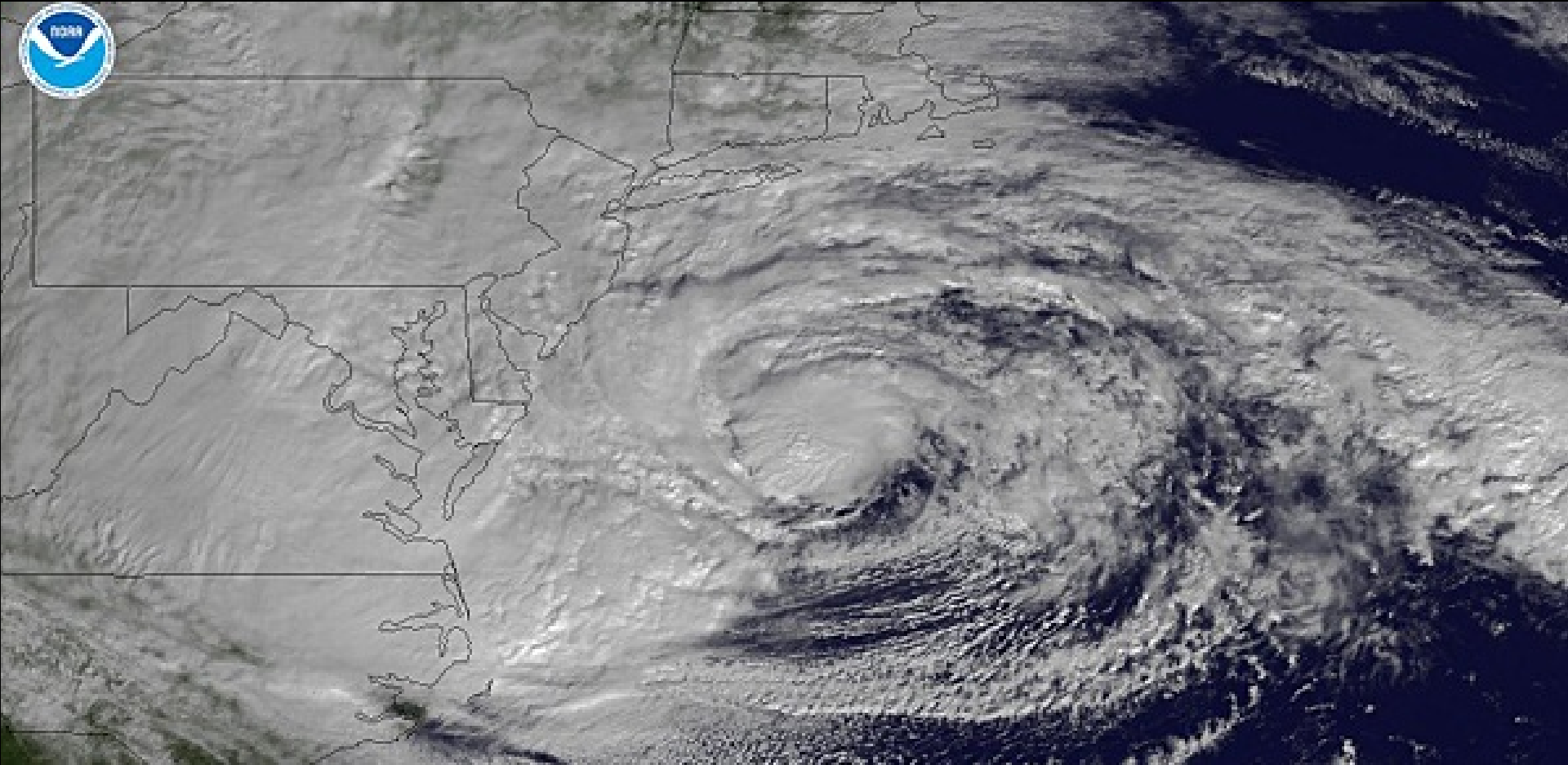
Public Works

Transportation, Water, Energy, Environment



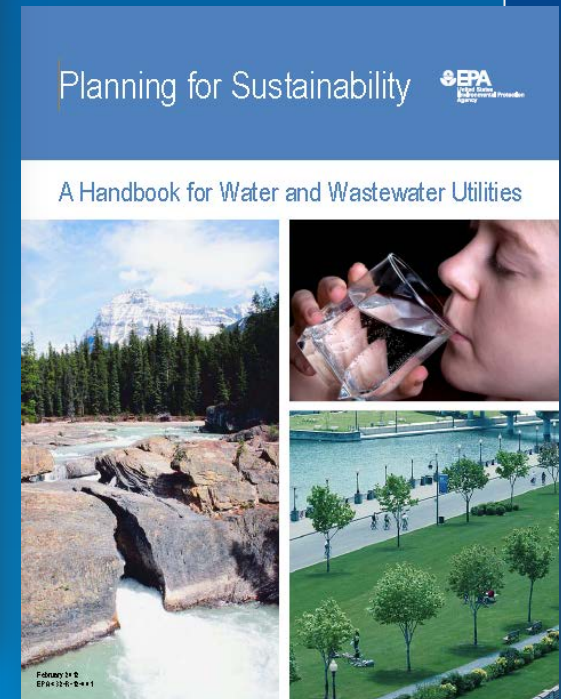
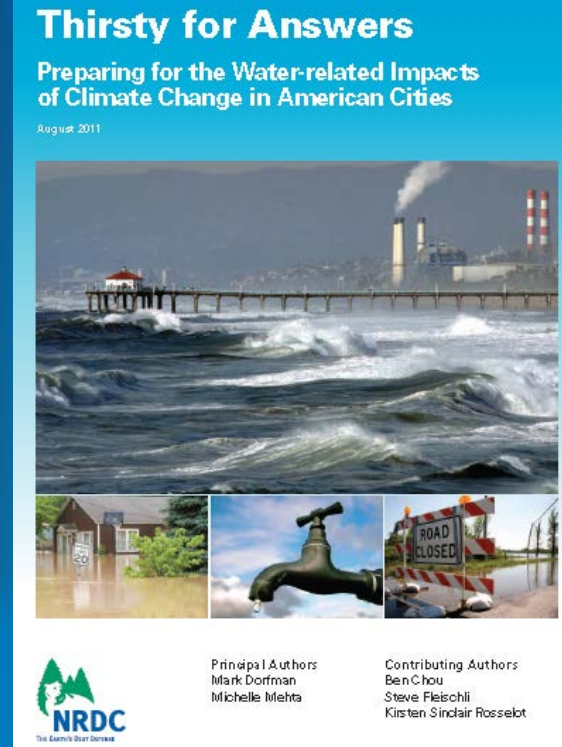
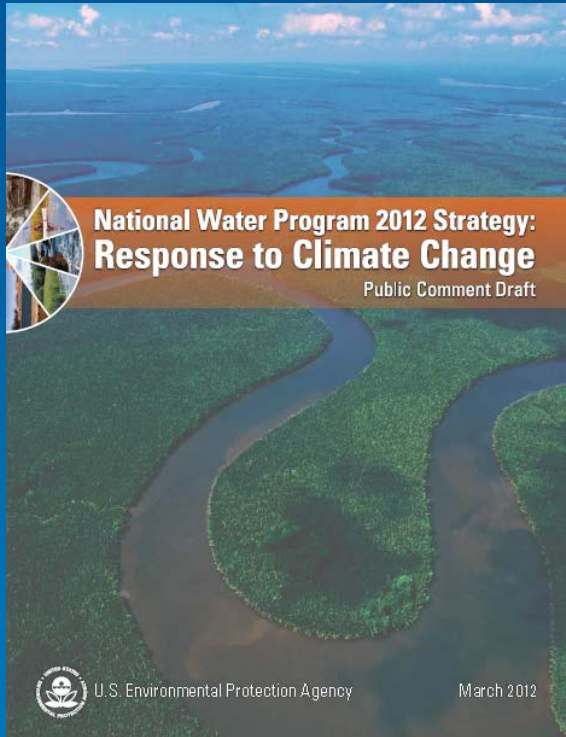
Environment and Infrastructure







Infrastructure Resiliency



2009 REPORT CARD FOR AMERICA'S INFRASTRUCTURE

Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transit	D
Wastewater	D-

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing

Each category was evaluated on the basis of condition and performance, capacity vs. need, and funding vs. need.

AMERICA'S INFRASTRUCTURE G.P.A.

D

ESTIMATED 5 YEAR INVESTMENT NEED

\$2.2 TRILLION

BURIED NO LONGER:
Confronting America's Water Infrastructure Challenge

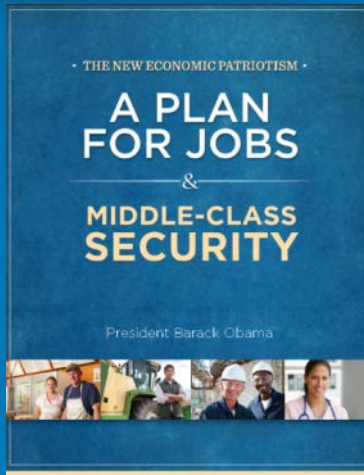
American Water Works Association
For Sustainable Solutions in the Water



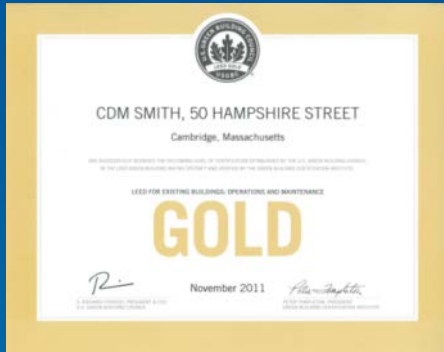
Infrastructure Investment



Immediate investments in infrastructure and a bipartisan National Infrastructure Bank, modernizing our roads, rail, airports and waterways while putting hundreds of thousands of workers back on the job.



President Obama would commit half of the money saved from responsibly ending wars in Iraq and Afghanistan to reducing the deficit and *the other half to putting Americans back to work rebuilding roads, bridges, runways, and schools here in the United States.*



GREEN BUILDING FACTS

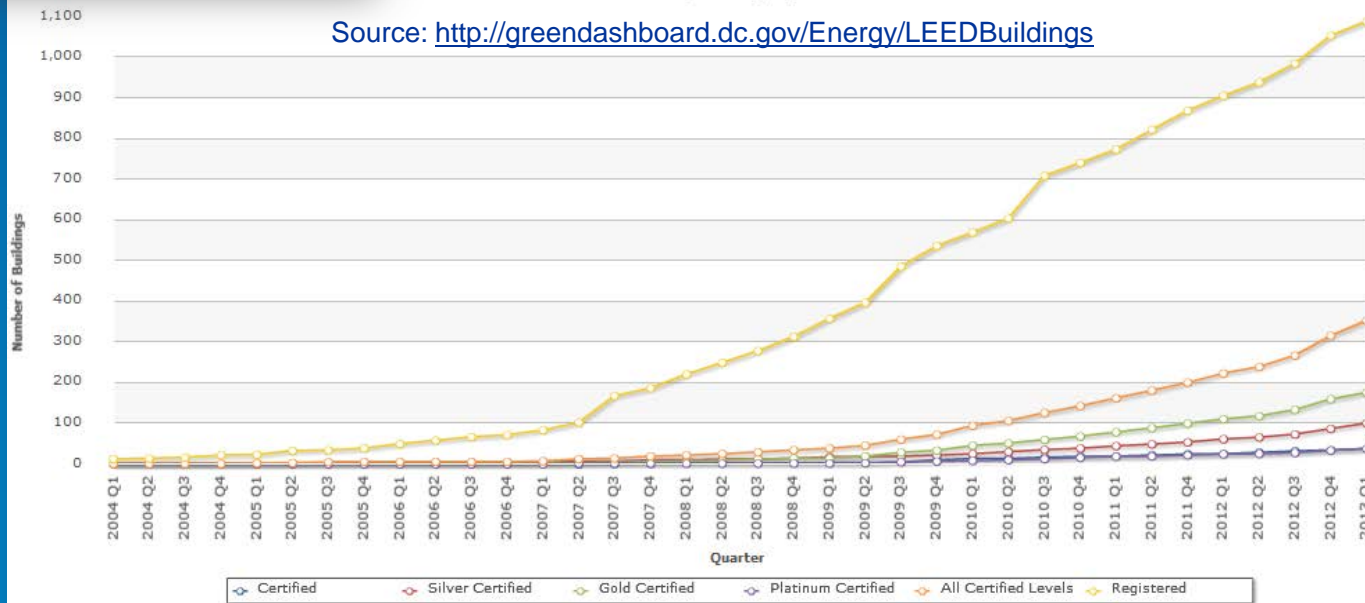
Market Impact

- By 2015, an estimated 40-48% of new nonresidential construction by value will be green, equating to a \$120-145 billion opportunity¹.
- 2 billion square feet of building space are LEED-certified (as of June 2012).
- LEED is referenced in project specifications for 71% of projects valued at \$50 million and over⁶.

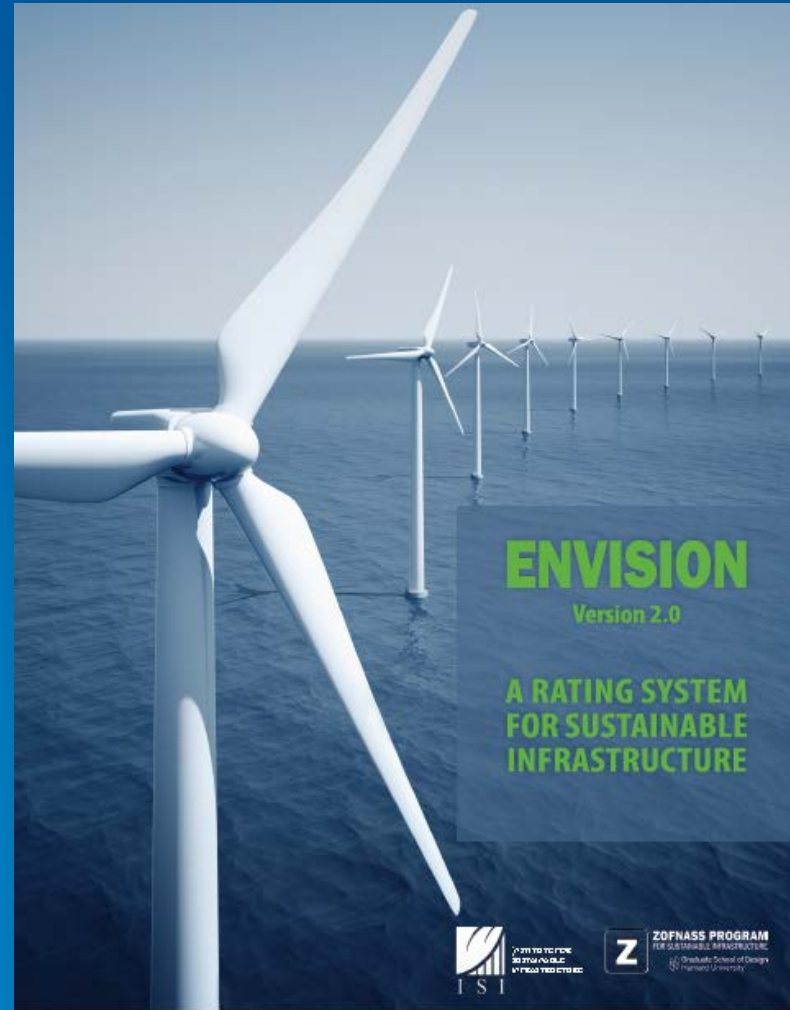
LEED Buildings

Last update: 01/07/2013

Source: <http://greendashboard.dc.gov/Energy/LEEDBuildings>



Civil Engineering “Transformational Change”



Why Envision™?

- Provides objective framework for assessing project sustainability
- Builds sustainability awareness in project team and stakeholders
- Helps address client requirements for demonstrating project sustainability

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INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE

News FAQs Rating System ISI Credentials Project Application Professional Development ISI Blog Resources

Building Tomorrow's Infrastructure Today

Envision™ Rating System
Click Here

Envision™ Checklist
Click Here to Download Checklist

Verifiers
ISI is actively recruiting Verifiers for the Envision™ Sustainable Infrastructure Rating System. Click Here to find out more.

ISI provides third-party project **VERIFICATION** for the Envision™ Sustainable Infrastructure Rating System
Click here to find out more

Latest News
Charter Member Window Closing... details
HDR to Credential Hundreds of Employees... details
Recognizing a Founder... details
Easy Updating of Your ISI Information... details
Faculty Discounts for Credentialing... details
New Envision™ Presentation Templates... details
Rebuilding America's Infrastructure... details

ISI Credential Application
Register here for the ISI Credential and Training Program. You must be registered and your application accepted to participate.

Envision Credentialed Professionals
Click here to search for a credentialed ENV SP

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http://www.sustainableinfrastructure.org/index.cfm

Envision™ - Applicable to “Horizontal” Civil Infrastructure



ENERGY

Geothermal
Hydroelectric
Nuclear
Coal
Natural Gas
Oil/Refinery
Wind
Solar
Biomass



WATER

Potable water distribution
Capture/Storage
Water Reuse
Storm Water Management
Flood Control



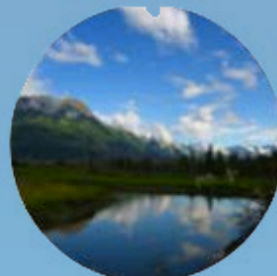
WASTE

Solid waste
Recycling
Hazardous Waste
Collection & Transfer



TRANSPORT

Airports
Roads
Highways
Bikes
Pedestrians
Railways
Public Transit
Ports
Waterways



LANDSCAPE

Public Realm
Parks
Ecosystem Services



INFORMATION

Telecommunication
Internet
Phones
Satellites
Data Centers
Sensors

Envision™ Suite of Tools

- Checklist
 - Educational tool
 - Comparison of project alternatives
 - Yes/no questions based on the Envision rating system
- Envision™ Sustainable Infrastructure Rating System
 - Web-based tool includes guidance manual and scoring system
 - Used by project team for self-assessment, or for third-party objective review by ISI Verifiers
 - Prerequisite for Envision certification award eligibility
 - Helps guide project team in developing a sustainable project
- Economic optimization tool, Construction and O+M, Life Cycle Assessment ...

60 Credits in 5 Categories



**QUALITY
OF LIFE**

Purpose, Community, Wellbeing



LEADERSHIP

Collaboration, Management, Planning



**RESOURCE
ALLOCATION**

Materials, Energy, Water



**NATURAL
WORLD**

Siting, Land & Water, Biodiversity



**CLIMATE
AND RISK**

Emission, Resilience

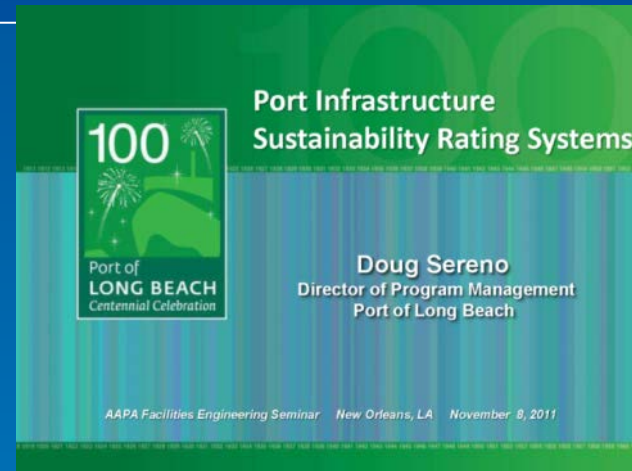
Rating System Elements

	Section and Objective Numbers	Objectives	Required for Project	Level Of Achievement	Score	Objective Available Points
QUALITY OF LIFE						
QL1	QL1.1	Improve community quality of life. Improve the net quality of life of all communities affected by the project and mitigate negative impacts to communities. details / guidance	YES	Restorative <input type="button" value="v"/>	25	25
			Notes: <input type="text"/>			
	QL1.2	Stimulate sustainable growth and development. Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability. details / guidance	YES	Superior <input type="button" value="v"/>	5	16
		Notes: <input type="text"/>				
QL1.3	Develop local skills and capabilities. Expand the knowledge, skills and capacity of the community workforce to improve their ability to grow and develop. details / guidance	Assessor Decision Include <input type="button" value="v"/>	Improved <input type="button" value="v"/>	1	15	
		Notes: <input type="text"/>				

Envision™ Advocates



Massachusetts Water Resources Authority



Federal Leadership in Environmental, Energy, and Economic Performance

- The Federal government occupies nearly 500,000 buildings
- EO 13514 Requires:
 - Agencies to develop sustainability plans
 - 30% reduction in vehicle fleet petroleum use by 2020
 - 26% improvement in water efficiency by 2020
 - 50% recycling and waste diversion by 2015
 - 95% of all applicable contracts will meet sustainability requirements
 - Implementation of the 2030 net-zero-energy building requirement



Federal Government and LEED®



High Priority Performance Goals

Department of Commerce

- **Sustainable Manufacturing and Building Practices:** Raise the number of firms adopting sustainable manufacturing processes through the Manufacturing Extension Partnership by 250 by the end of 2011. Raise the percentage of construction projects involving buildings or structures funded by Economic Development Assistance Programs that are certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) or a comparable third-party certification program to 12 percent.

Envision™ Momentum

White House Council on Environmental Quality

"Executing a Sustainable Infrastructure Vision" Roundtable



Envision™ Opportunities

- ISI Membership
- Sustainability Professional Accreditation (ENV SP)
- Committee Involvement
- Application on Projects
- Inclusion in RFPs

The screenshot displays the ISI website interface. At the top, there is a navigation bar with links for Home, About Us, Join ISI, Contact Us, Search, and Login. The ISI logo and the text 'INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE' are prominently displayed. Below the navigation bar is a dark banner with the text 'Building Tomorrow's Infrastructure Today'. The main content area is divided into several sections: 'Envision™ Rating System' with a 'Click Here' button, 'Envision™ Checklist' with a 'Click Here to Download Checklist' button, and 'ISI Credential Application' with a registration notice. A 'Latest News' section lists several articles with 'details' links. On the right, there are sections for 'Accepted Applicants' and 'Envision Credentialed Professionals'. The footer contains copyright information for 2012 and contact details for the Institute for Sustainable Infrastructure.

Envision™ Opportunities: ISI Committees

- **Accreditation Committee** (Chair: Anastasia Harrison, Gensler) Establishes criteria and qualifications for Sustainability Professional (ENV SP) designation; manages credentialing process.
- **Economics Committee** (Chair: John F. Williams, Impact Infrastructure) Develops economic metrics supporting the business case and investment incentives for sustainable infrastructure development.
- **Professional Development Committee** (Chair: Tom Pedersen, CDM Smith) Designs, produces and delivers educational and training products for members, the general public and public officials, to include webinars, educational modules, conference sessions and symposia; produces education and training programs for the accreditation function on behalf of the Accreditation Committee.
- **Intergovernmental, Nonprofit and Global Affairs Committee** (Chair: Diane M. Linderman, Vanasse Hangen Brustlin, Inc.) Responsible for intergovernmental coordination with federal, state and local agencies and organizations; international and global development; relationships with not-for-profit organizations; public testimony and general speaking engagements; organizes the Executive Forum for Sustainable Infrastructure series.
- **Recognition Committee** (Chair: Nathan Beil, KCI Technologies) Develops and oversee the establishment of awards, criteria of eligibility, the management of the project application process and the designations associated with recognizing individual projects as qualifying sustainable infrastructure within the parameters of the ISI rating tool.
- **Research and Resource Committee** (Chair: Cameron Thomson, Arup) Responsible for research associated with the development of the rating tool and related infrastructure subjects; oversees ISI relationships with academia and research contracts; directs ISI sustainable infrastructure resource center.
- **Technical Committee** (Chair: Michael Cline, Hannum, Wagle & Cline) Responsible for the design, content, development and continuous improvement of the ISI rating tool. The committee is organized by infrastructure sectors and by disciplines. The Committee has several subcommittees.

Why Envision™?

- Provides objective framework for assessing project sustainability
- Builds sustainability awareness in project team and stakeholders
- Helps address client requirements for demonstrating project sustainability

Public Works and Envision™

- Civil infrastructure is being designed for the next 50 years
- Resilience and sustainability are important considerations for all public works projects
- Envision provides a framework for guiding project design and rating project sustainability
- Application of Envision will help public works agencies improve the quality of life of our communities

ENVISION™ INFRASTRUCTURE SUSTAINABILITY RATING SYSTEM APPLICATION IN PUBLIC WORKS PROJECTS

Tom Pedersen, ENV SP

CDM Smith

Cambridge, MA

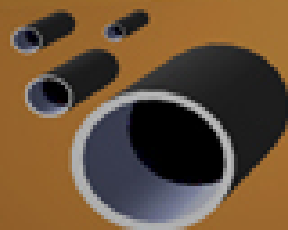
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NCTCOG

North Central Texas Council of Governments



14th Annual North Texas

Public Works Roundup

and SPROW Forum



Hosted by the North Central Texas Council of Governments' Public Works Council

