

EPA Sustainable Infrastructure Forum

How Engineering Firms Can Help
Communicate Research Needs
and/or Help Move New/Innovative
Technologies to Implementation

Presented by:

Paul H. Reitz, P.E.

Principal

Reitz & Jens, Inc.

What is Sustainable Infrastructure?

USEPA Website:

“Meeting the needs of the present generation without compromising the ability of future generations to meet their needs“

University of Toronto Website:

“...New infrastructure, and rehabilitation, re-use or optimization of existing infrastructure, which is consistent with the principles of urban sustainability and global sustainable development“

Goals of Sustainable Infrastructure

- Minimize Life Cycle Costs/Maximize Investment of Public Funds
- Minimize Long Term Environmental and Social Impacts
- Efficiently Use Non-Renewable Resources

Barriers to Implementing New Technology

- Clients - fear of unknown outcomes, limited funding
- Contractors - lack of installation experience, liability
- Engineers - lack of design and performance experience, liability
- Public - concern for efficient use of funding

If you need something and only have a limited amount of \$\$\$, would you spend it on a sure thing or a perceived unknown?

The Engineers Role in Infrastructure Development

Client's Representative

- Identify and Solve Issues
- Regulatory Compliance
- Cost Control
- Construction Quality Assurance

Professional Duty

- Protect Human Health and the Environment

How Can Engineers Help

- Liaison with local stakeholders/clients – Identify potential projects/opportunities
- Provide technical assistance in developing alternatives for adapting successful practices to local conditions
- Communicate Client constraints and needs to the regulatory community
- Identify and Participate in potential local pilot/case study projects – Long term monitoring
- Advocate proper use of Sustainable Infrastructure to Clients

Alternatives to Assist Implementation

● Education

- Educate stakeholders (Clients, Engineers & Contractors) in practical Sustainable Infrastructure implementation
- Sponsor local pilot/case studies
- Recognition (Awards) for successful Sustainable Infrastructure projects (ex. LEED)

● Financial Support

- Grants to Cities for implementation of new technologies
- Assist in presenting full cost price of infrastructure to the public
- Support local governments during efforts to fully fund infrastructure programs

● Reduce Risks to All Stakeholders

Local Sustainable Infrastructure Successes

- Highway Construction Recycling/Reuse
 - PCC rubberization
 - Recycled Asphalt Product
 - 40/64 Reconstruction
- Trenchless pipe replacement
 - Directional Boring
 - Sliplining
 - Pipe Bursting
- Brownfields Redevelopment
- Mine/Quarry Reclamation

Local Sustainable Infrastructure Challenges

- Urban Stream Stabilization
- Pervious pavements
- Low impact site development
- Other Best Practices

Questions?

Your Thoughts?