REMEDIATION ROUNDTABLE

February 24, 2015

Connecticut Department of Energy and Environmental Protection

www.ct.gov/deep/remediationroundtable

Agenda

- Updates
- Remediation LEAN Metrics
- Wave 2 Proposed RSR Changes: “Other Edits” Edition
- ITRC as a Resource
- Brownfields Website Tools
- DECD Brownfields LEAN Report Out
- Background Workgroup Report Out

Website Updates

- Revised:
  - RSR Approval/Notice Request Transmittal Form
  - Well Receptor Guidance
- Totally new:
  - Siting Clean Energy on Brownfields
  - PREPARED Municipal Workbook [*SOON!!!*]
  - Notice AUL Draft Discussion Document
  - QA/QC APH RCP
- DEEP.remediationroundtable@ct.gov

Website Update - TCE Guidance

- Joint Department of Public Health and DEEP publications on TCE Developmental Risk
  - Guidance for handling risk of exposure from TCE release
  - Background information on developmental risks posed by TCE
  - Any questions or concerns at a particular site? Contact DEEP Remediation Division or DPH Environmental Occupational Health Assessment Program
  - TCE Guidance Web link 
    - 45 day feedback period

Questions / Comments

Please **state your name** and speak loudly.

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Remediation LEAN Metrics and the Transformation Roadmap

Jan Czeczotka
Assistant Director
Remediation Division

Remediation LEAN Events

Name	Date	Status
Engineered Control Application	June 2007	Completed
Environmental Land Use Restriction Application	February 2009	Completed
Potable Water Program Improvements	November 2010	Completed
Additional Polluting Substances Approval	March 2011	In Progress
RSR Improvements	August 2012	In Progress

Engineered Controls - June 2007

Goals:

1. Reduce review time from initial submittal to DEEP approval
2. Create formal application process
3. Create guidance document with clear instructions clarifying what is required in an application and the review process

Engineered Controls - June 2007

Achievements:

- ✓ Two part application process identifies problem designs early in process
- ✓ Specialized review staff allows prioritized review
- ✓ Application tracking system
- ✓ Conditional approvals allow construction to proceed while details of long-term obligations are reviewed

ELUR – February 2009

Goals:

1. Reduce duration from initial submittal to DEEP approval from an average of nine months to four months = 55% reduction in processing time

Average number of days from date the ELUR application is received to the date of Commissioner Approval = 460 days (in 2008)

ELUR – February 2009

Achievements:

- ✓ 69% reduction in processing time
- ✓ Average number of days from date the ELUR application is received to the date of Commissioner Approval = 145 days (2014)
  - ➢ Difference of 315 days

ELUR – February 2009

Achievements:

- ✓ New, streamlined Application Form
- ✓ New website
- ✓ New guidance
- ✓ Revisions to regulations and statutes
- ✓ Birth of other, self-implementing types of use restrictions

Potable Water – November 2010

Goals:

1. Establish sustainable contaminated well list and well water sampling/water treatment maintenance scheduling procedures
2. Reduce timeframe for homeowners to receive sampling results
   - up to 1 month or more to within 3 days
3. Reduce time from receipt of initial notice of potentially polluted drinking water well to providing treatment
   - Avg. time (2010) = 8-10 weeks

Potable Water – November 2010

Achievements:

- ✓ Contaminated well list initial data entry is complete – fits into long-term database development
- ✓ Improvements to well water sampling scheduling
- ❖ Streamlined approval process for providing treatment from 2-3 days to <1 day

APS – March 2011

Goals:

1. Identify and implement improvements to the Additional Polluting Substance (APS) Request Process
   - Turnaround time prior to Lean event was 5-20 months
2. Address backlog and provide interim process to move toward future state
3. Future State
   1. Provide list of APS criteria
   2. Provide formula and defaults for calculating APS
   3. Provide guidance for calculating APS using non-default conditions or full Risk Assessment

APS – March 2011

Achievements:

- ✓ Responded to all backlogged requests
- ✓ Removed all formerly confusing criteria information from website
- ✓ Outreach via Remediation Roundtable of efforts/procedures to improve process
- ✓ Established expedited process for approval of APS criteria through single point-of-contact
  - ➢ New turnaround time 2-4 weeks

APS – March 2011

Achievements:

- ✓ Provided updated list of criteria for use with ETPH (Wave 1) and EPH/VPH/APH analytical methods and check box forms for expedited approval
- ✓ Provided toxicity data for 210 compounds to DPH for review

APS – March 2011

Additional tasks in process to fulfill Future States:

- Finalize APS list for website as checkbox form for expedited approval
- Finalize formulas/calculator tool for website where no APS criteria listed
- Write guidance for calculating APS using non-default inputs

RSR Improvements – March 2012

Goals:

1. Identify specific sections to be improved to enhance cleanup of pollution
2. Eliminate identified non-value added process steps
3. Provide clarification of requirements where appropriate
4. Identify opportunities for self-implementation

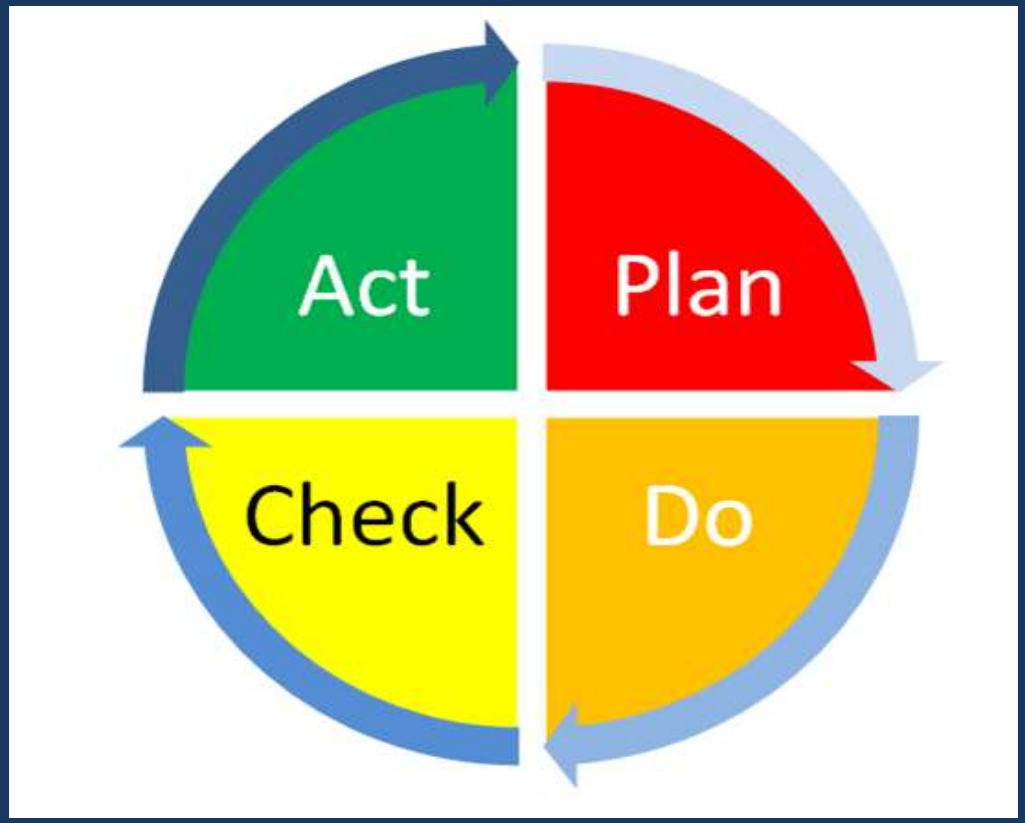
RSR Improvements – March 2012

Achievements:

- ✓ Wave 1 Amendments June 2013
- ✓ Wave 2 Amendments in development
  - ➢ 8 Draft Discussion Documents
- ✓ Risk Evaluation

LEAN as Iterative Process

Continuous Improvement



Cleanup Transformation Roadmap

2013 & 2014

- Municipal Liability Relief
- Wave 1 RSRs
- EUR statute

2015

- Significant Hazard Phase-in (2013 amendments)
- DEEP Recommendations – Risk Assessment Evaluation
- Regulation Reform:
  - RSR Wave 2
  - Spill Reporting
  - Soil Reuse

2016

- RSR Wave 2, Spill Reporting, and Soil Reuse regulation adoption process
- Statewide Groundwater Reclassification process
- Information management system and website upgrade

Questions / Comments

Please **state your name** and speak loudly.

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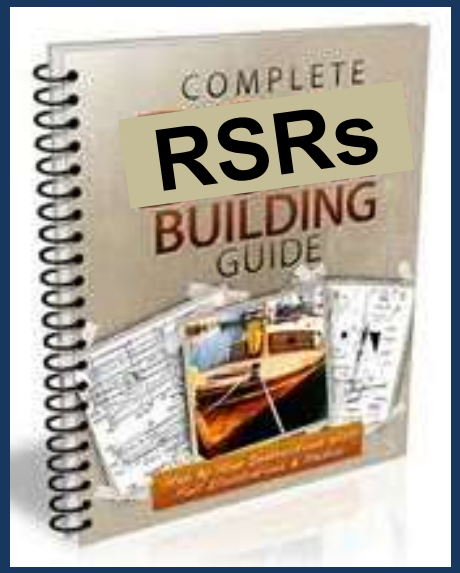
Wave 2 – RSR Changes
“Other Edits” Edition

Kevin Neary
Environmental Analyst 3
Remediation Division

Building the RSR changes

- Wave 2 opportunity large scale improvements
- Make RSRs more comprehensible
  - More cohesive
  - Better organized
  - Language modifications
  - Minor concept improvements
- Use the 8 Discussion Documents to craft new sections of the RSRs



Language Changes

- Repeat certain wording
- Modify language that needed clarification in RSR factsheets (Nov 2013)
- Definition improvements
  - Background (workgroup)
  - Motor vehicles (specify)
  - Residential Activity
  - Intermittent watercourse

Language Changes

- Residential Activity exclusion
  - Large campus areas not used for residential activity - college parking lots, furnace building…

Language Changes

- Intermittent watercourse

Drainage swale vs. Intermittent stream

OR

Language Changes

- When is Intermittent watercourse a drainage swale
- Man-made and exhibits two of the following features
  - No evidence of scour or deposits of recent alluvium material
  - Flows only during rain events
  - Lack of specific hydrophytic vegetation
- Aquatic Life Criteria would not apply to drainage swales because they are not watercourses

Language Changes

- Use different term for "seasonal variation" for Volatilization compliance monitoring in soil vapor
  - Four quarters of sampling not needed
  - Heating and Cooling seasons need to be sampled
- Add language to allow use of mass analysis of inorganics for compliance with PMC
  - Must comply with 20:1 dilution ratio
  - Currently being done for characterization
  - Cost savings

Language Changes

- Better define “polluted” throughout RSRs
- 72 times “polluted” in RSRs
- In certain instances could eliminate confusion by being more specific
  - Polluted above analytical detection limit 
  - Polluted below applicable criteria 

Minor Concept Improvements

- Organize Public Notice section
  - Create new subsection that list the various public notice requirements
  - Clarify when more than one notice is required
  - Better description of what specific public notices are for

Minor Concept Improvements

- Modify aspects of SWPC
  - Replace 7Q10 for Q99 in the alternative SWPC calculation
  - Allow the use of a reasonable dilution – attenuation factor for surface water plumes at property boundary
    - Plumes above SWPC but below some multiplier
    - Discharge point certain distance away
    - Use site-specific information to conclude no risk to surface water body

Minor Concept Improvements

- Revise TI section based on workgroup recommendations
  - Better define what NAPL is considered removable
  - Insert “add timeframe” to concept of prudent
  - Need for long-term obligations
  - Availability of stewardship-like permit
  - Improved public notice process

Minor Concept Improvements

- Clarify Widespread polluted fill variance to allow broader use:

- Requirements:
  - (A) "No VOCs" exceeding RSR criteria
  - (B) No potential for potable wells
  - (C) No new unaddressed releases

Minor Concept Improvements

- Clarify Widespread polluted fill variance to allow broader use:
- Consider:
  - Degree (severity) of pollution
  - Proportion below the watertable
  - Potential for remediation to improve surface water quality
- Clarification:
  - Variance is not a waiver of the need to comply with applicable SWPC

Minor Concept Improvements

- Formalize Upgradient Policy

Minor Concept Improvements

- Add requirement for 1 to 5 year recurring notification to DEEP when using soil vapor mitigation system

Wave 2

Please provide comments to:

DEEP.cleanup.transform@ct.gov

Questions / Comments

Please **state your name** and speak loudly.

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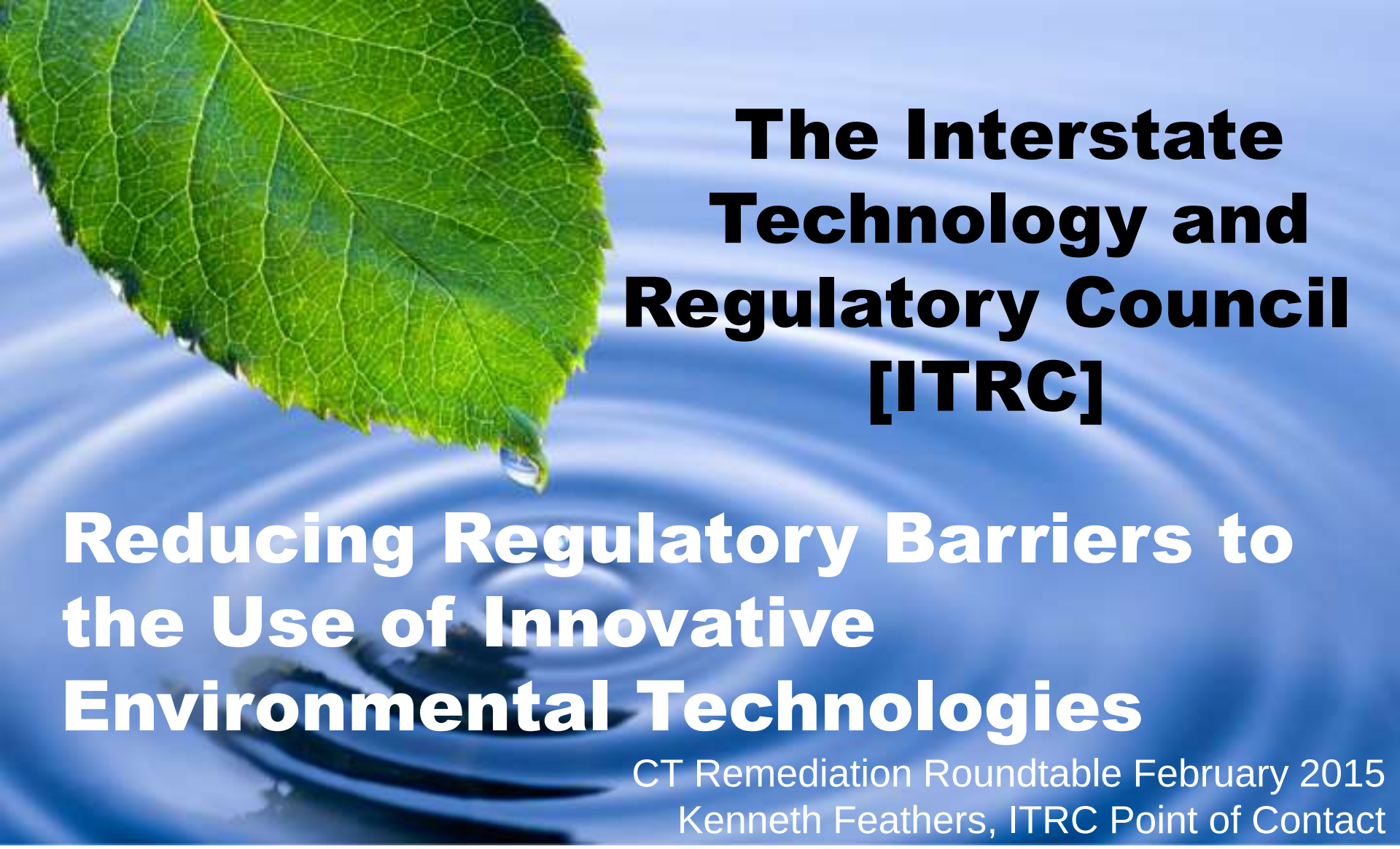


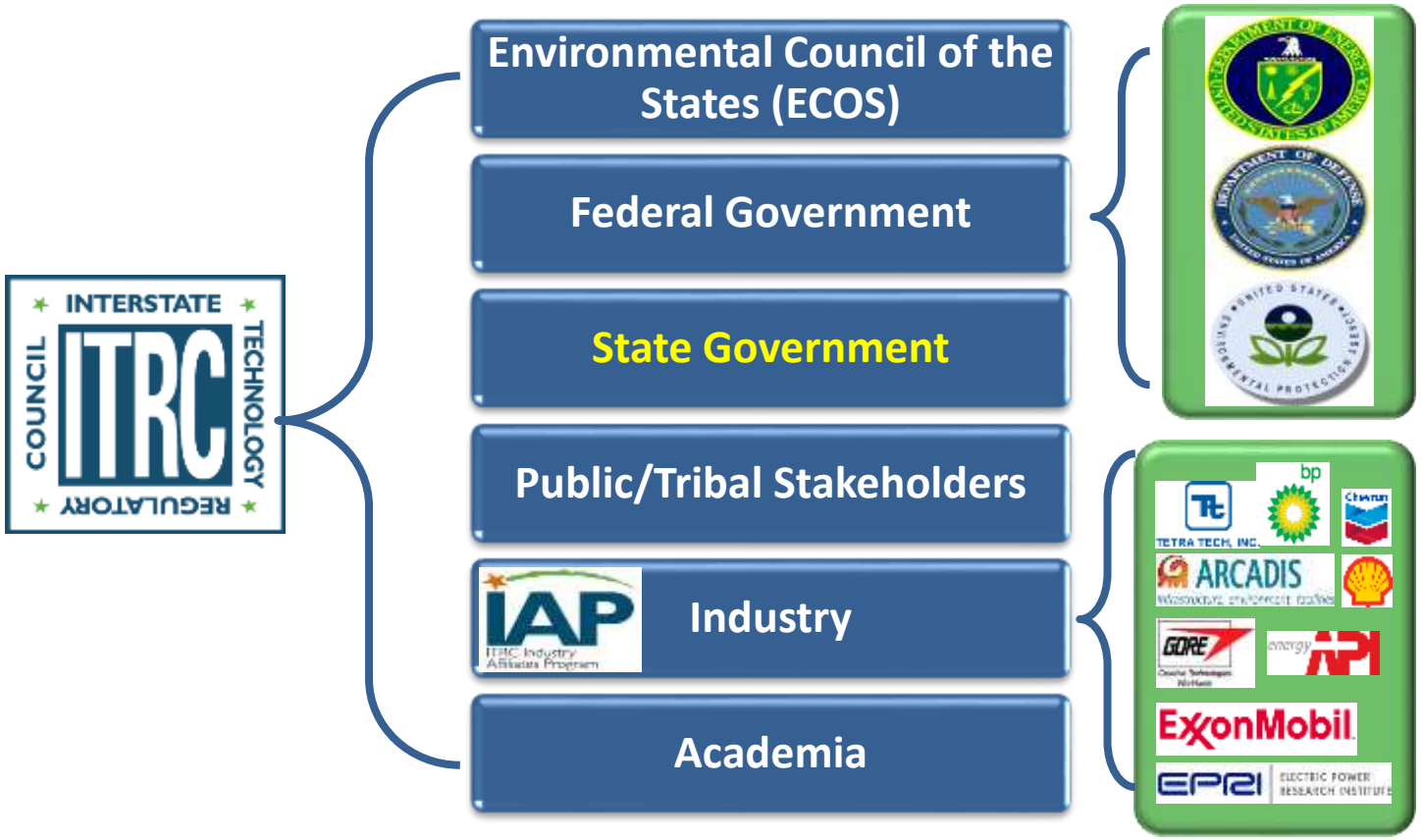
The Interstate Technology and Regulatory Council [ITRC]

Reducing Regulatory Barriers to the Use of Innovative Environmental Technologies

CT Remediation Roundtable February 2015

Kenneth Feathers, ITRC Point of Contact

ITRC: A state led organization advancing innovative environmental decision making



ITRC Purpose & Mission

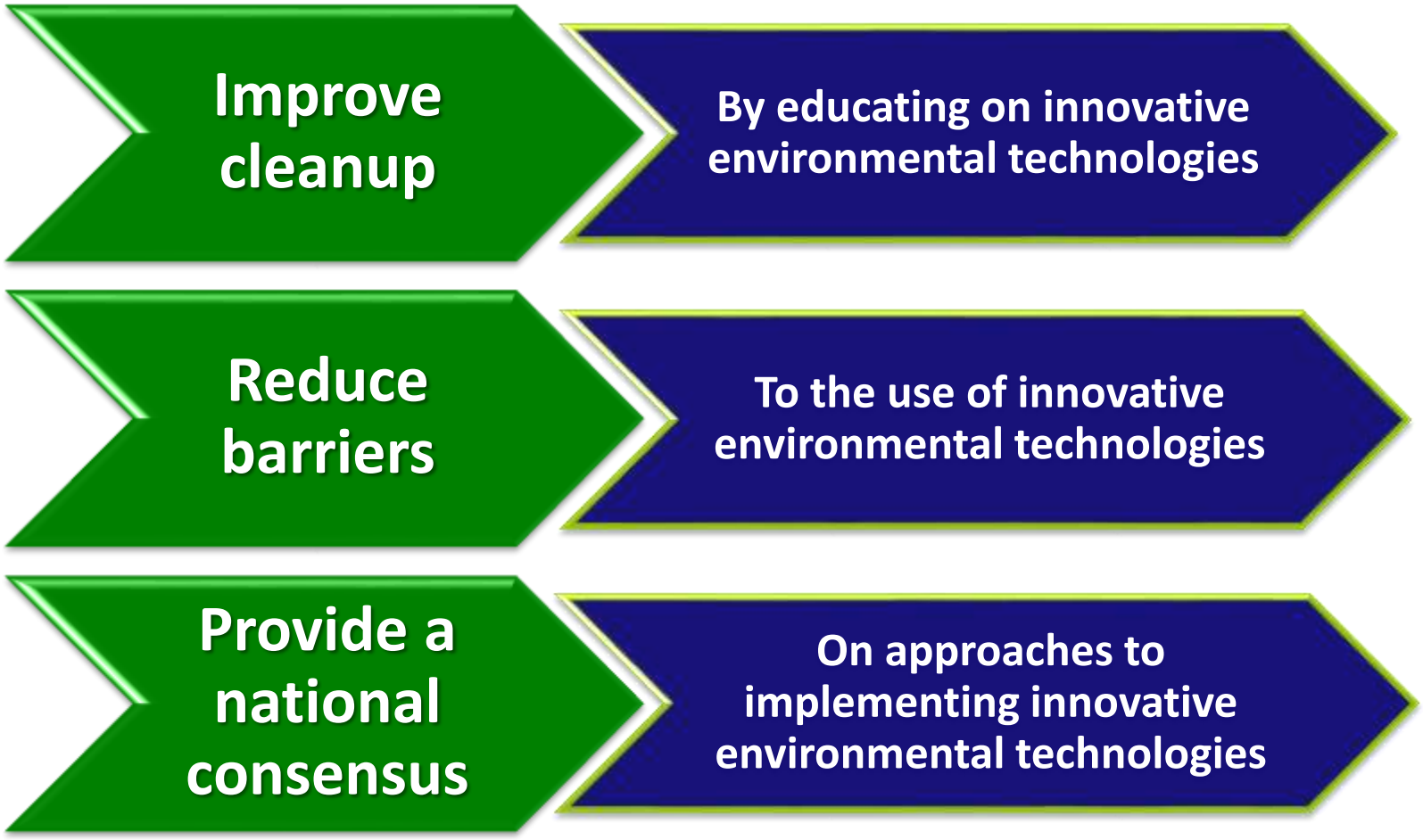
- **ITRC Purpose**

  To advance innovative environmental decision making

- **ITRC Mission**

  Develop information resources and help break down barriers to the acceptance and use of technically sound innovative solutions to environmental challenges through an active network of diverse professionals

ITRC Role in the Environmental Community



How ITRC Does It

ITRC uses a proven, cost-effective approach to develop guidance documents and training courses

Select Projects

Form Teams

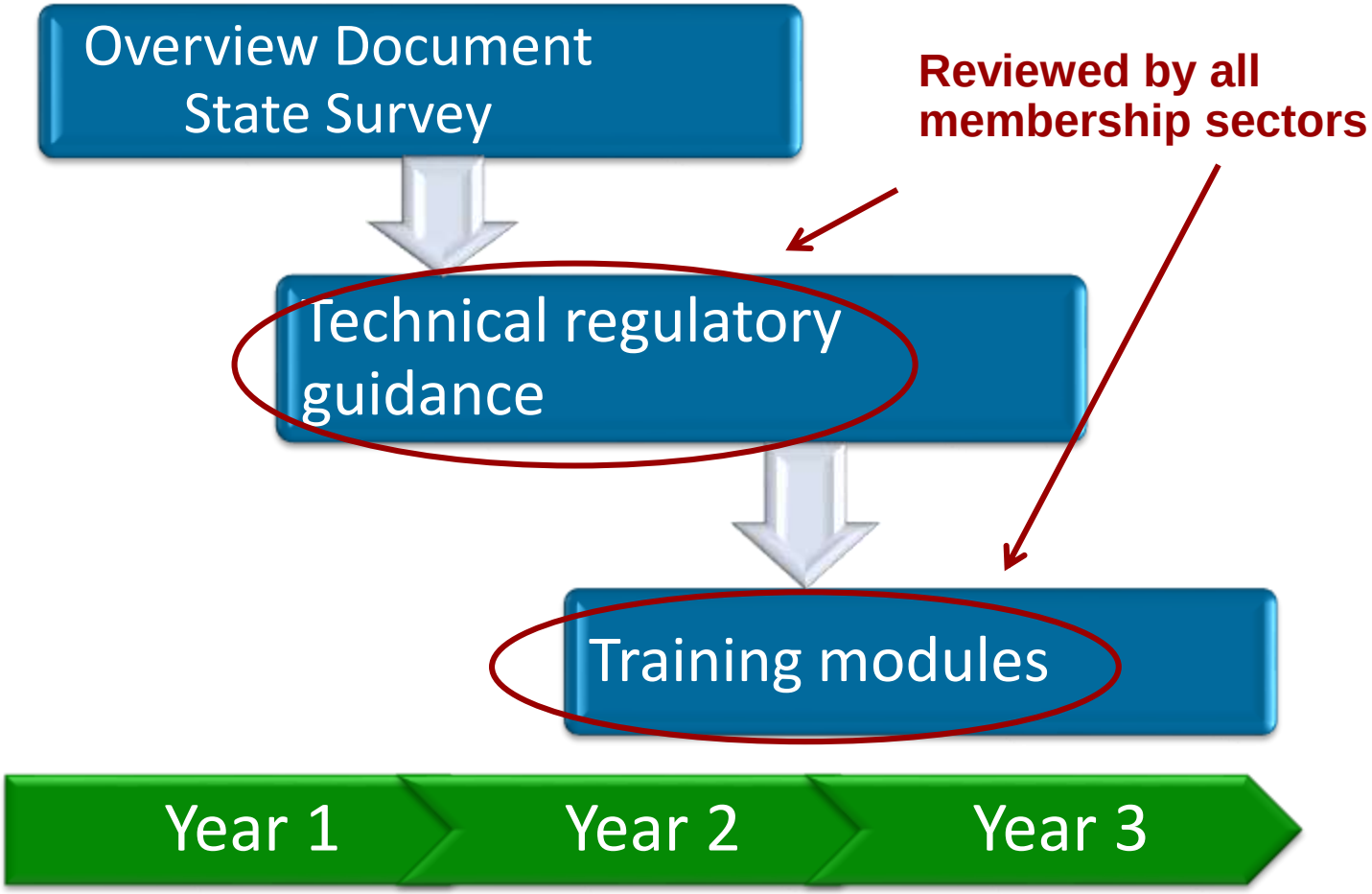
Develop Documents and Training

Conduct Training

Implement Solutions

Since 1995:
109 documents
71 training courses

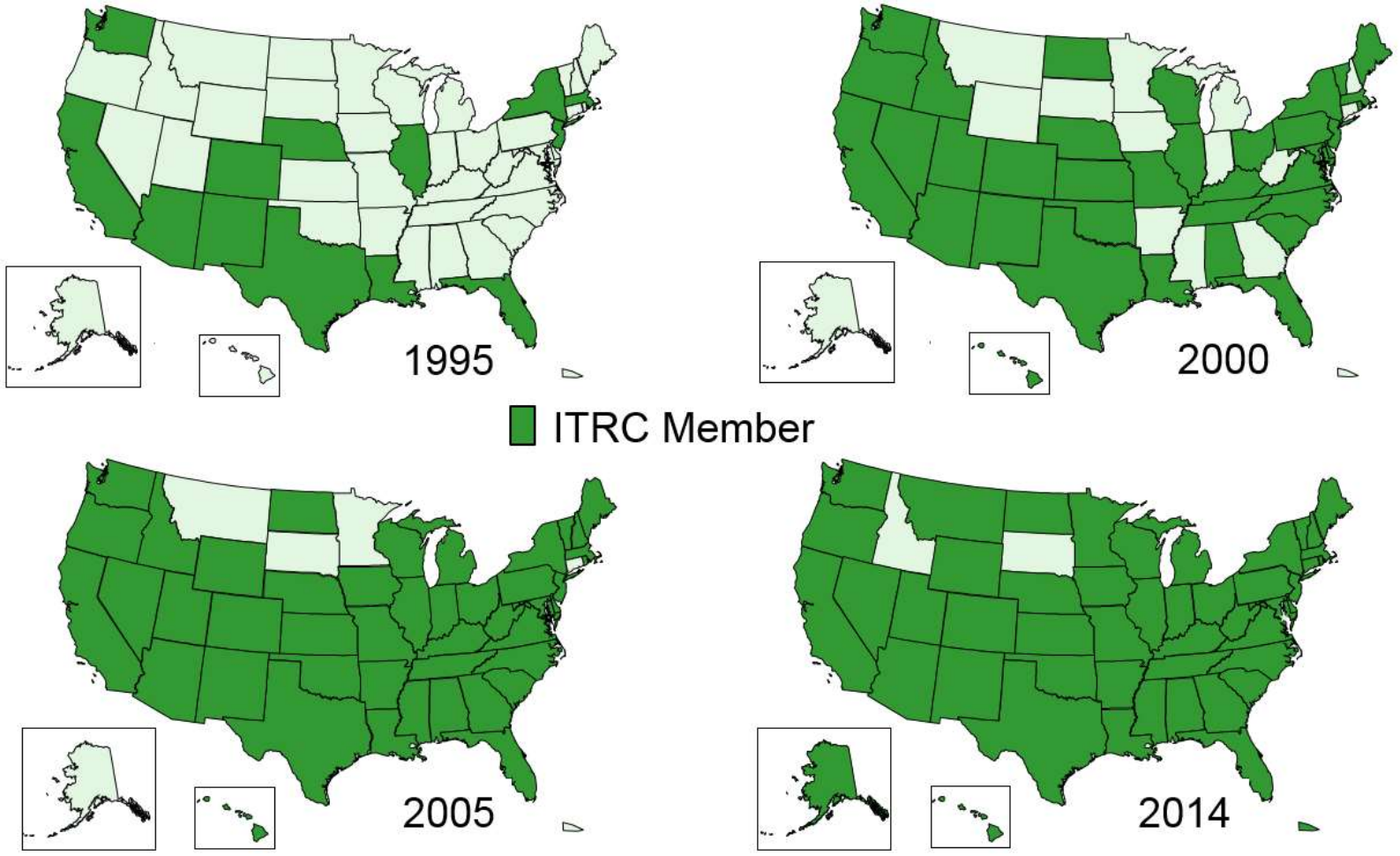
Typical Project Schedule



Selected ITRC Projects in 2015

- DNAPL Site Characterization
- Long-term Contaminant Management using Institutional Controls
- Geostatistics for Remediation Optimization
- Remediation Management of Complex Sites
- Petroleum Vapor Intrusion - *Classroom Training*
- *NEW!* Characterization and Remediation in Fractured Rock
- *NEW!* Bioavailability in Contaminated Soil

State Engagement Over 19 Years



Connecticut and ITRC

- One of the last states to become active
- Some incompatibility with regulatory framework concepts embedded in ITRC approach
- Few state lead remedial decisions
  - LEP program – LEPs select remedial approach
  - Endpoint regulations not process regulations
- Long state process for regulatory change
- Concern over guidance as regulation

Benefits to the State

Streamlining regulatory processes

Harmonizing approaches

- Free training and knowledge on the use of innovative environmental technologies/approaches
- Shortened learning curve by obtaining advance knowledge of innovative technologies/approaches
- Access to peers and experts in other regulatory agencies
- Information and technology transfer to support development of regulations and guidance

How Can You Get Benefit From ITRC?

Increasing knowledge

Decreasing approval time

Reducing environmental costs

- Download and use free ITRC documents
- Take free internet training or attend classroom training
- Join an ITRC team and help write documents and develop training courses

- Links

www.ITRCweb.org

www.itrcweb.org/Guidance

www.clu-in.org

- Questions

Kenneth.Feathers@ct.gov

860.424.3770

Questions / Comments

Please **state your name** and speak loudly.

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Brownfields Website Tools: Clean Energy and PREPARED Municipal Workbook

Mark Lewis
Brownfields Coordinator
Office of Constituent Affairs &
Land Management

Website Updates

Two New Web Based Tools on Tap

- Siting Clean Energy on Connecticut Brownfields

- PREPARED Municipal Workbook

Siting Clean Energy on Connecticut Brownfields

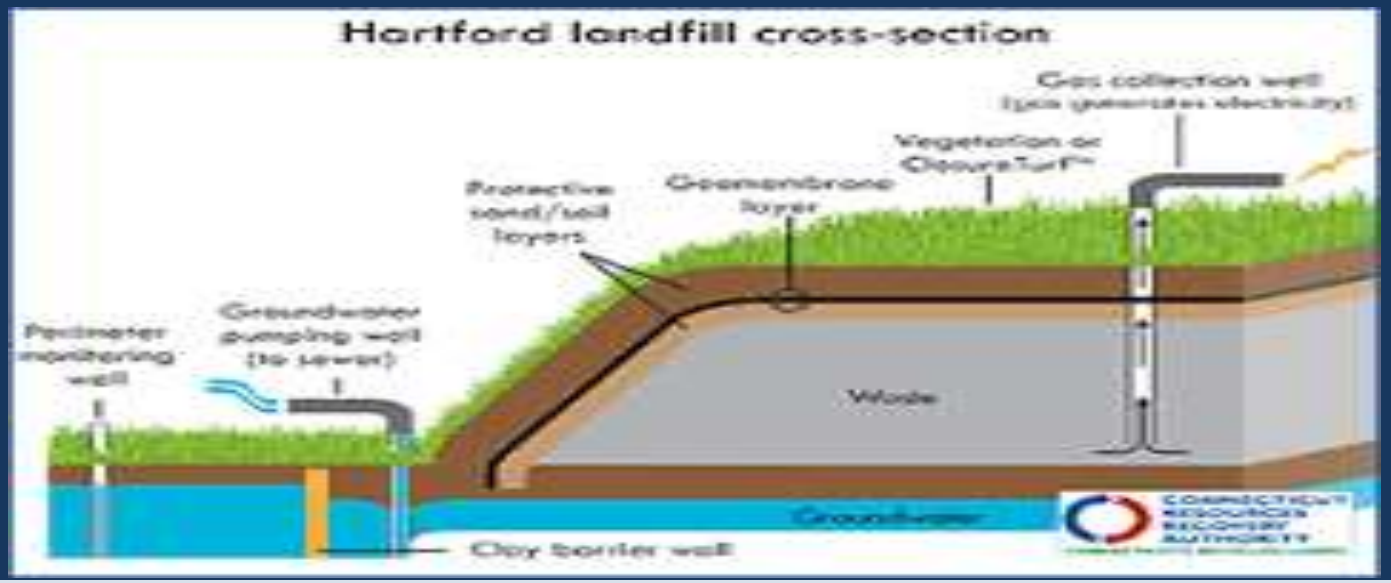
Brownfields Can be an Ideal Location for Alternative Energy Sources

- Solar
- Wind
- Hydroelectric
- Landfill Gas
- Other Technologies

Planned “eco park” at Seaside Park Landfill Bridgeport

Combines Several DEEP Goals

- Brownfield remediation & redevelopment
- Leverage existing infrastructure
- Encouraging clean/ renewable energy
- Environmental justice
- Promoting green jobs



Web Site Purpose

- Resource for locating energy facilities on brownfields
- Content from across DEEP, DECD and EPA
  - Technical and Policy Information
  - Financing and Incentives

Plainfield Renewable Energy biomass power plant
On former Gallup's Quarry Superfund Site, Plainfield

Current and Future State

- Published on DEEP Website February 4, 2015
- Stay Tuned for Future Changes

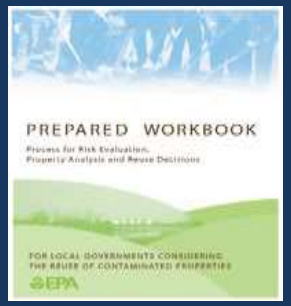
The Web Site Team

- Marcos Quispe- Bureau of Energy & Technology Policy
- Camille Fontanella- Remediation Division
- Lynn Olson-Teodoro- Remediation Division
- Naomi Davidson- Office of Information Management

PREPARED Municipal Workbook

What is It?

A tool to help cities and towns decide the best approach to brownfield redevelopment



Currently

- Paper workbook and EPA Region 1 web page
- Not state specific

Coming Soon to a DEEP website near you

- A web- based document with fillable worksheets
- Links to state and Federal resources
- Connecticut specific

PREPARED Municipal Workbook

- Joint DEEP/ EPA Region 1 Project
- Region 1 selected to pilot for all EPA
- Connecticut selected as test site
- Hopefully a model for other states

MARK LEWIS

PREPARED Municipal Workbook

The Landing Page (Takes you to all steps)

First Step

Stakeholder engagement underlies every step

What Does it Include?

- Instructions for each section
- Word or Excel fillable worksheets (not locked)
  - You don't have to fill out every one
- Links to federal, state & other resources
- Contacts for further information

Schedule

- Project started summer 2014
- Beta test with towns December 2014
- To be published February or March 2015

Why Use It?

- Provides a structure for thinking about reuse
- Documents decisions for the future
- Communication tool for team members
- Not a requirement

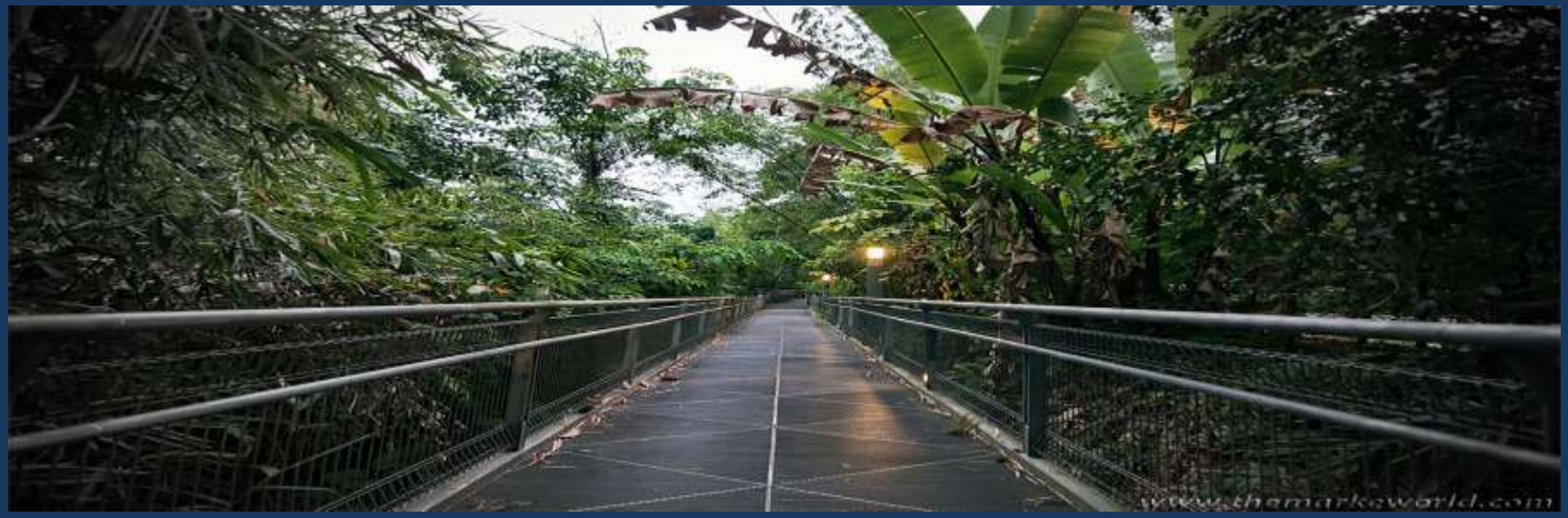
The Team

- Camille Fontanella- Remediation Division
- Lynn Olson-Teodoro- Remediation Division
- Naomi Davidson- Office of Information Management
- Mark Lewis- DEEP Brownfields Office
- Graham Stevens- Office of Constituent Affairs and Land Management
- Kathy Castagna- EPA Region 1
- John Podgurski- EPA Region 1
- Vita Nuova (EPA Contractor)

Thanks to Our Beta Testers

- Valley Council of Governments- Arthur Bogen
- Juliet Burdelski, Paola Mantilla- City of Meriden
- Town of Stratford- Brian Carey
- City of Bridgeport- Frank Croke
- DECD- Don Friday
- Pullman & Comley- Gary O'Connor
- Town of Somers- Lisa Pellegrini
- City of West Haven- Joe Riccio, Eileen Krugel
- City of Torrington- Erin Wilson
- EPA- Kathy Castagna, John Podgurski , Patricia Overmeyer
- Sheila O'Malley- City of Ansonia

Website Walk Thru



Siting Clean Energy on Connecticut Brownfields

Prepared Municipal Workbook

[Coming Soon!]

Connecticut Department of Energy and Environmental Protection

MARK LEWIS

Questions / Comments

Please **state your name** and speak loudly.

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Revitalizing Connecticut's Brownfields

Tim Sullivan, Deputy Commissioner

Connecticut
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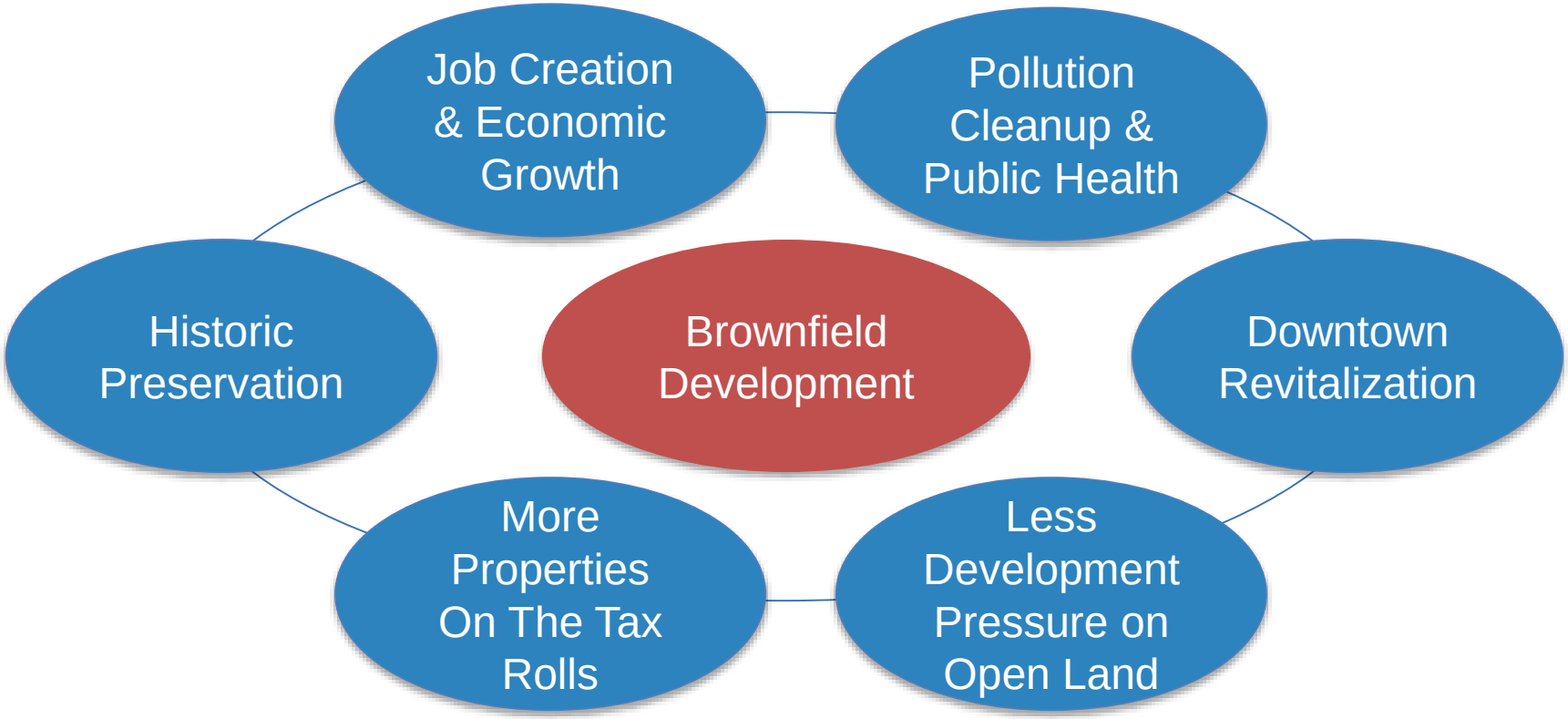
Why Brownfield Development?

“Cleaning up Connecticut brownfields is an important component of our economic development agenda.” – Gov. Dannel P. Malloy



An Historic Commitment to Brownfields

Connecticut has made an unprecedented commitment to investing in brownfield redevelopment

- Since FY2012, the State has invested ~$85m in 48 projects to remediate and redevelop contaminated sites in 33 cities and towns across the State
- In addition to these funded investments there is a pipeline of ~$30m of investment commitments as of February 2015
- In CY2014, $35+m was awarded to 55 projects in 35 cities and towns
- For every dollar invested by the State, $3.43 has been or will be invested by non-State partners
- **Since ~1995, the EPA has invested a total of $190m nationwide**

Success Stories: National Welding, Newington

Photo courtesy of The Hartford Courant

Success Stories: National Welding, Newington

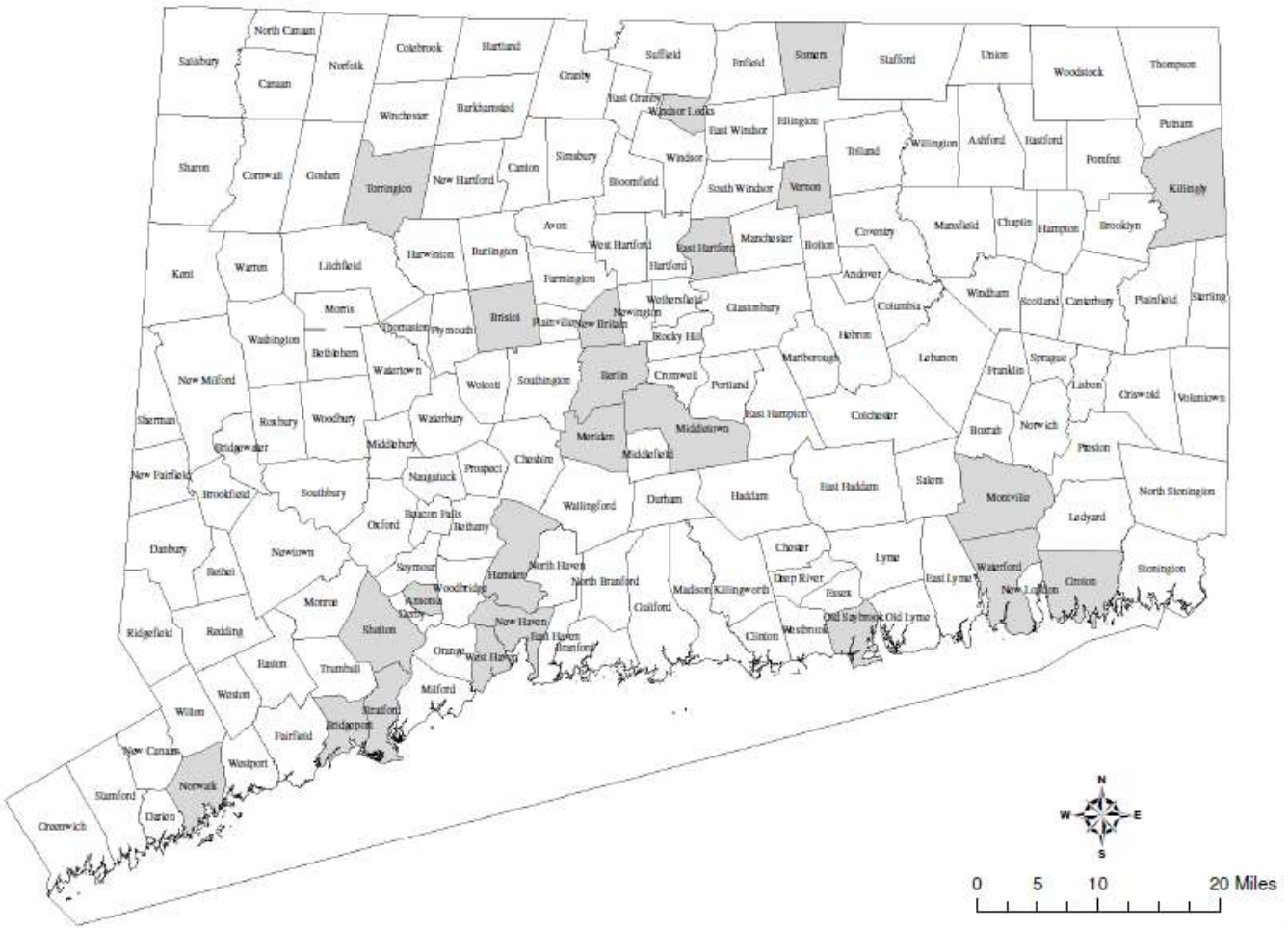
“The town's biggest eyesore is finally coming down.”
– Hartford Courant, October 17, 2014

Round 5 – Largest-Ever CT Funding Round

In May 2014, Governor Malloy announced that DECD would accept applications for up to $20m of brownfield funding

- OBRD conducted six regional information sessions
  - Added $1m sub-round for municipal assessment grants
- OBRD received 42 remediation applications requesting $74.9m
  - OBRD received 12 assessment applications requesting $2.0m
- Inter-agency review committee – OBRD, SHPO, DEEP, DOH, OPM – reviewed all applications jointly
  - In-person interviews in July (remediation applications)
- On August 27, Governor Malloy announced that $27m had been awarded to 20 remediation projects statewide
- On September 18, Governor Malloy announced that $1.7m had been awarded to 11 assessment projects statewide

Round 5 Assessment and Remediation Winners

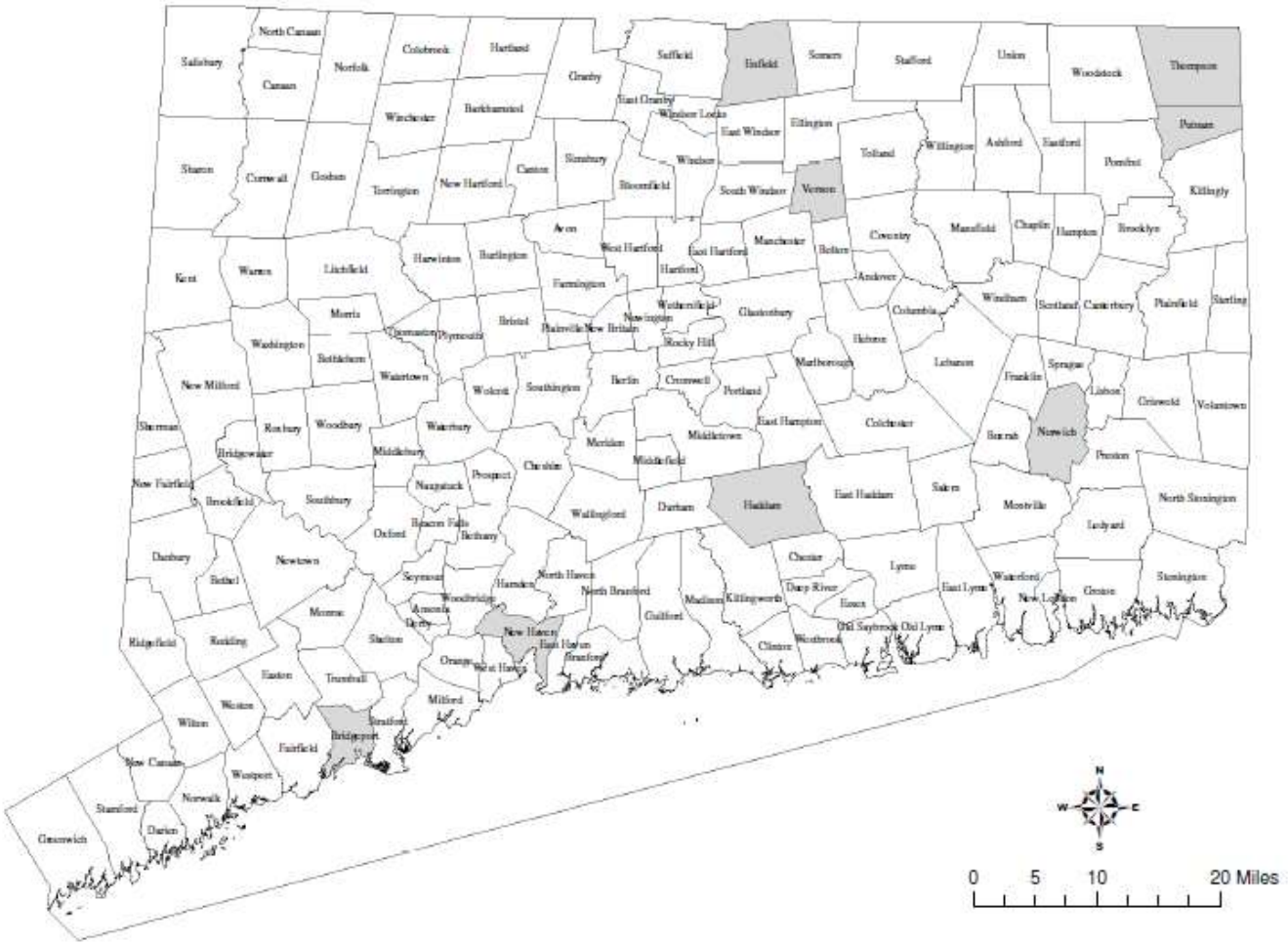


Historic Brownfield Revitalization

On October 3, Governor Malloy announced a specialized round of funding to promote redevelopment of historic mills

- Eligible applicants: municipalities and economic development agencies
- Properties must be registered (or eligible to be registered) on the Federal or State historic register
- Targeted activities: soil assessment, hazardous building material assessment, structural analysis, reuse planning
- $2.2m of awards across 8 projects announced on **January 23, 2015**

Round 6 Assessment and Planning Winners



Ongoing / New Initiatives

In addition to managing a significant pipeline of projects, OBRD is also focused on a number of key initiatives

- Refreshed www.ctbrownfields.gov
- Published forward funding schedule – next grant round to be announced March 2015
- Refreshing Statewide inventory
- Published forgiveability criteria
- Implementing LEAN process improvement
- 2015 legislative agenda

2015 Legislative Agenda

DECD is working closely with DEEP and the Brownfields Working Group to advance several program improvements

- New program: Brownfield Areawide Revitalization (BAR) Grants

- Loan/Grant programs:
  - Equalizing maximum loan and grant sizes
  - Ending municipal authority to pass grants through as loans
  - Allowing acquisition as eligible cost for loan recipients
  - Enabling DECD to award additional grant funds for legitimate unexpected cost overruns
  - Exempting HBM-only loans from VCP requirements

- Expanding State-owned brownfield initiative to include formerly State-owned sites

DECD/DEEP LEAN Exercise

DECD Commissioner Catherine H. Smith has prioritized LEAN to improve our processes and do more with less

- Week-long deep dive in late October 2014
- Significant and substantial client input
- Key follow-ups:
  - More frequent and detailed client education
    - **December 10 all-clients conference at Goodwin College**
  - Developing boilerplate, no-AG review contract for Assessment Grants (saves time and $)
  - Streamlining financial review for brownfields loans
  - Developing new/refreshed Standard Operating Procedures for OBRD (saves time, better consistency)

Revitalizing Connecticut's Brownfields

Tim Sullivan, Deputy Commissioner

Connecticut
still revolutionary

Background Workgroup Status Update

Carl Gruszczak, Jr.
Environmental Analyst 2
Remediation Division

Workgroup Task

Goal: Guidance document for determining background conditions

Determining background was one of the top guidance document topics requested in a previous Remediation Roundtable survey

External Workgroup Members

- Gail Batchelder – Loureiro Engineering Associates
- Brian Conte – GEI Consultants
- Christopher Frey – GZA GeoEnvironmental, Inc.
- Eric Henry – Kleinfelder
- Jamie Jarvis – LEP
- Jim Morrison – Antea Group
- Brian Washburn – HRP Associates
- Tim Whiting – LEP

Expanded Scope

- Characterization vs. Compliance Concept
  - Background guidance focused on the compliance endpoint
  - However, background is important for release determination as well:
    - Often don't have a lot of up-front characterization information at this point
    - Becomes a more critical data gap in a release-based program
    - Need something workable in these situations

Research/Review Performed

- Looked at other available documents, including:
  - States
    - California
    - Washington
    - Massachusetts
    - New York
  - ITRC (Risk Assessment)
  - Federal Government
    - EPA
    - DoD (NAVFAC)

Document Plan

- The current plan for the workgroup to develop 3 document sections:
  - First is going to be focused on the technical concepts of background only
  - Second will discuss the current regulations along with the Department's expectations when complying with them – using CSM methods
  - Third would be focused on the "future state" – making recommendations and/or discussing implementation

Working Definition

- "Background Concentration" means the site-specific concentration of a substance in soil, groundwater, or other environmental media that would be expected to exist in the absence of any release due to current or historical site-related or nearby activities. A background concentration may be a combination of a naturally occurring condition and an anthropogenic influence.

Working Definition

- Streamlining the definition would remove some implementation elements currently embedded within the definition. These may need to be picked up elsewhere if adopted:
  - "Similar texture and composition"
  - "General geographic vicinity"
  - "Not within any other release area"
  - "Nearest location upgradient and unaffected by a release"

Future State Concepts

- "Future state" concepts being evaluated by the Workgroup:
  - Anthropogenic Background vs. Release
    - Atmospheric Deposition
    - Transportation Corridors
    - Other possible sources…
  - Special Cases
    - Pesticides
    - Urban Soils
    - Others…

Other Possible Recommendations

- Also may recommend other background implementation concepts:
  - Handling a natural occurring concentration
  - Handling an anthropogenic influence
    - On-site source
    - Off-site source
      - Regional condition
      - Upgradient source of contamination
        - » risk management

Other Possible Recommendations

- Could introduce a tiered approach to the demonstration of a background condition
  - Default value
    - Organic (ND)
    - Inorganic (natural)
  - Local sampling
    - Without use of statistics
    - With use of statistics

Background Table Discussion

- Propose a Table of Background Values:
  - Values well below criteria
  - State-wide or Regional?
- Recent Paper – Major and Trace Element Geochemistry and Background Concentrations for Soils in Connecticut (Brown, USGS and Thomas, Connecticut Geological Survey - 2014)
  - http://www.northeasterngeoscience.org/32-1/32-1.pdf
- Other data sources?

Requesting Input/Feedback

- Any comments on what is presented here would be greatly appreciated
- Send to: carl.gruszczak@ct.gov
- Also looking for input on what we should be looking into
  - Keep in mind presentation was not comprehensive of all topics that have been discussed

Questions / Comments

Please **state your name** and speak loudly.

www.ct.gov/deep/remediationroundtable

Remediation Roundtable

E-mail: DEEP.remediationroundtable@ct.gov

Web: www.ct.gov/deep/remediationroundtable

Next meeting: June 9, 2015

Schedule and agenda on website
www.ct.gov/deep/remediationroundtable

Submit comments to the Roundtable Committee at
DEEP.remediationroundtable@ct.gov