

# ***Innovative Technology Partnerships EPA & DoD***

## ***Collaborating to Develop “Next Generation” Solutions***

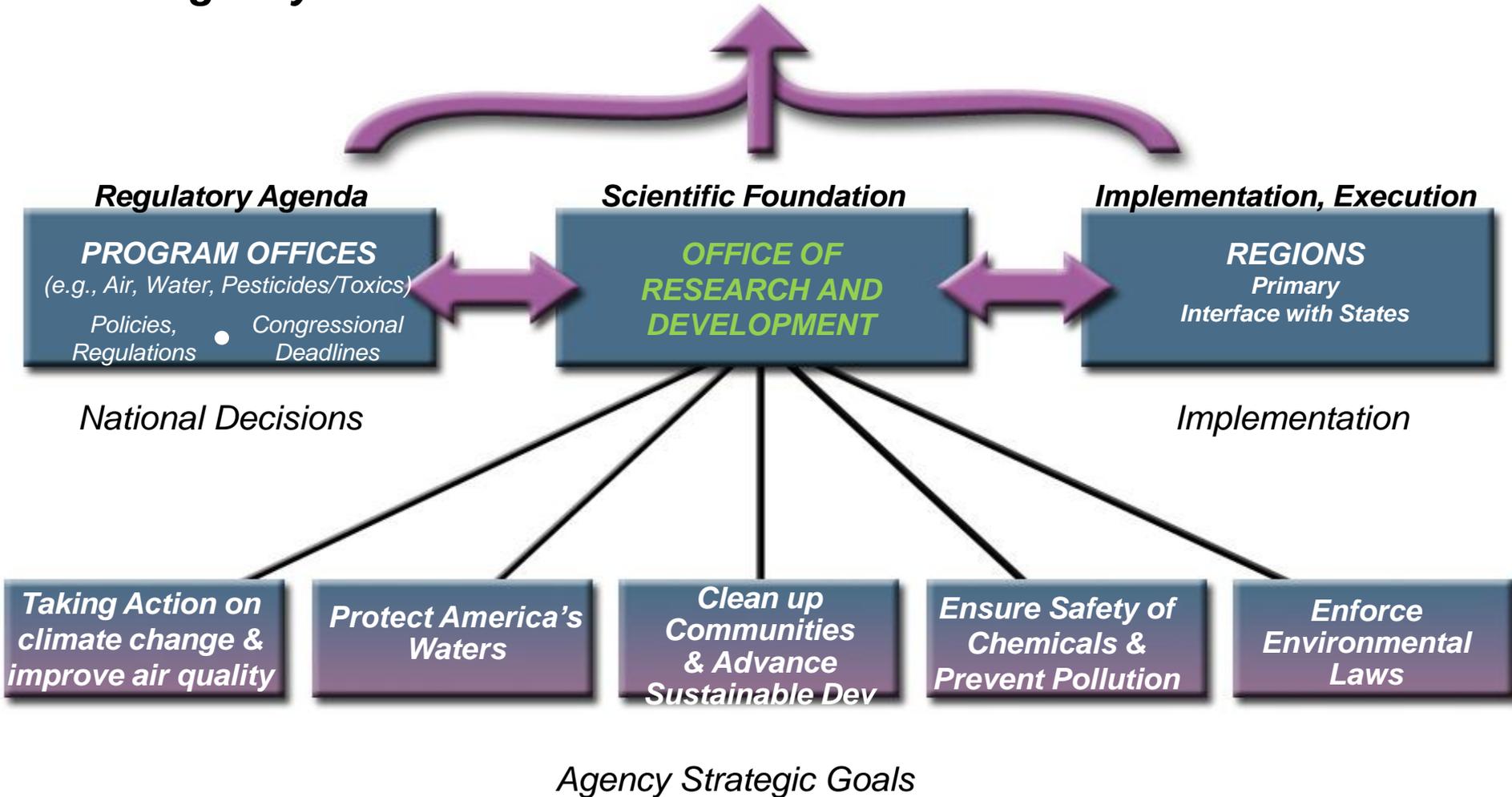


*Leslie Gillespie-Marthaler  
Senior Advisor  
EPA, Office of Research and Development*

*June 3-6, 2012*

# EPA Office of Research and Development

**Agency Mission: Protect Human Health and the Environment**



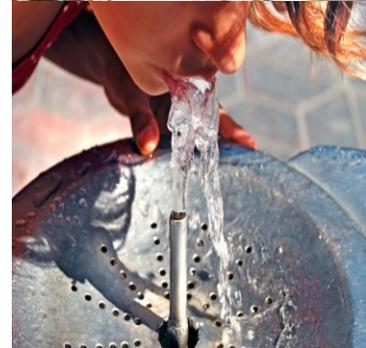
# ORD National Research Programs

|  |   |
|--|---|
| Global Change Research                   | <b>Air, Climate &amp; Energy</b>            |
| Clean Air Research                       |   |
| Human Health and Ecosystems Research     |   |
| Drinking Water Research                  | <b>Safe and Sustainable Water Resources</b> |
| Water Quality Research                   |   |
| Human Health and Ecosystems Research     | <b>Sustainable and Healthy Communities</b>  |
| Pesticides & Toxics Research             |   |
| Fellowships                              |   |
| Land Research (Excluding Nanotechnology) |   |
| EDCs Research                            | <b>Chemical Safety for Sustainability</b>   |
| Computational Toxicology Research        |   |
| Human Health & Ecosystems Research       |   |
| Human Health Risk Assessment (NexGen)    |   |
| Pesticides & Toxics Research             |   |
| Land Research (Nanotechnology)           |   |
| Clean Air Research (Nanotechnology)      |   |
| Human Health Risk Assessment             | <b>Human Health Risk Assessment</b>         |
| Homeland Security                        | <b>Homeland Security</b>                    |

# Partnerships to Promote Technology

**EPA's Office of Research and Development (ORD) currently has 2 partnerships with DoD to promote innovative technology development and demonstration:**

- Partnership with Army to promote the development and demonstration of new applications and technologies that can be used on installations striving towards Net Zero water, waste, energy and other mutual goals. (MOU signed Nov 28, 2011)
- Partnership with DoD to advance innovative research and demonstrate cutting-edge technology solutions in support of both institutions' goals for increased resource efficiency, balanced resource use, and greater resource resiliency on military bases. (MOU signed Feb 7, 2012)
- Partnerships seek to transfer joint technology successes broadly to benefit communities across the U.S. and world-wide.



# EPA-Army Net Zero Partnership

- Our initial focus is on Net Zero Water at two installations: **Fort Riley, Kansas** and **Joint Base Lewis-McChord, WA (JBLM)**.
- Through ORD's **Safe and Sustainable Water Resources (SSWR) National Research Program**, EPA scientists and engineers are working with the Army, DOE, USACE, and other partners to identify installation technology needs.



# National Water Challenges

## *National Water Challenges*

**Nutrient Reduction Strategies**  
**Legacy & Emerging Contaminants**  
**Sustainable Water Infrastructure**  
**Systems Approach to Watershed Protection**  
**Climate Impacts**

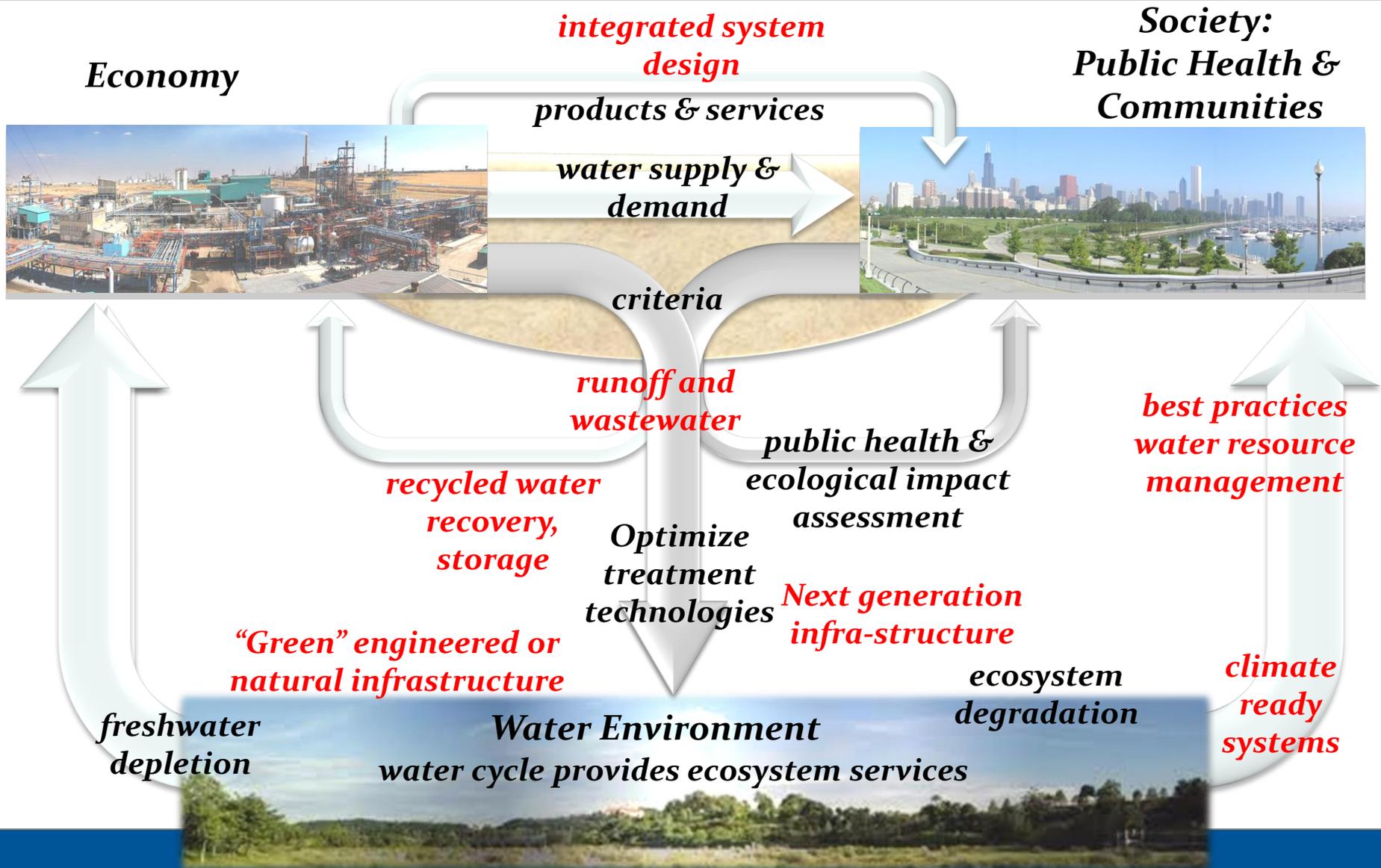
## *EPA/ORD Research*

**Watershed Protection & Restoration**  
**Sustainable Solutions for Waterborne Chemical & Microbial Contaminants**  
**Green Infrastructure to Manage Stormwater Runoff**  
**Next Generation Water Treatment Technologies**  
**Integrated Systems Approach**

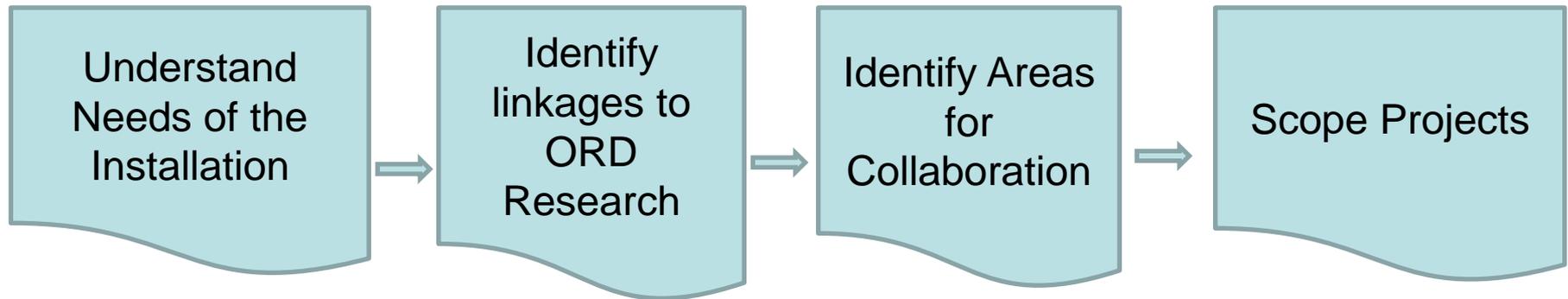
*\*Climate is a stressor considered across the research program*



# Water Resources Systems Research Approach



# Collaborative, Needs-Based Approach to Partnership



## Focus Areas Identified to Date:

- Drinking Water/Waste Water Systems – water reuse opportunities, improved efficiency in treatment/distribution, energy recovery and efficiency
- Aging Infrastructure – Condition assessments, monitoring and leak detection, optimization combinations of old and new distribution lines
- Stormwater Management – Improve wet weather flows, green infrastructure, and water reuse opportunities

# EPA-DoD Partnership

- Initial focus on joint technology solutions & demonstrations to solve regional water resource challenges on DoD bases.
- Expands opportunities to promote and transfer technology successes broadly to other communities.
- Leverages opportunities with DOD's SERDP and ESTCP programs.



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