



Statement of Principles In Support of Resource Recovery

March 1, 2013

In a world of increasing competition for scarce resources (including water, energy, and food) our future will depend increasingly on recycling and recovery of key resources. As acknowledged by organizations such as the National Association of Clean Water Agencies, the Water Environment Federation, and the Water Environment Research Foundation, we should be viewing our traditional “wastewater” treatment facilities and infrastructure, as “centers of regeneration,” where energy considerations are prominently featured, not simply as treatment and discharge operations to reduce pollution impacts. The opportunity exists not only to produce clean water, but to capture key resources in the “N-E-W” paradigm. This paradigm focuses on the recovery of numerous potential resources, including Nutrients, Energy, and Water to reduce the environmental, economic, and social impacts of accessing these resources. Refocusing on such concepts can:

1. Reduce the demand on potable water through conservation and water reuse
2. Reduce our reliance on fossil fuels by capturing and using biogases from wastewater and landfill operations
3. Reduce the carbon footprint of our water/wastewater treatment facilities. Adapt to a changing climate.
4. Produce economically viable, yet environmentally sustainable fertilizer products (nutrients)
5. Reduce reliance upon environmentally destructive chemicals and heavy metals
6. Enhance stormwater management through soil amendments which enhances water infiltration
7. Improve security of our food and water resources

In recognition of these benefits, to our communities, our waters, and our members, the U.S. Water Alliance joins with other organizations, in endorsing the following Resource Recovery Principles and encouraging U.S. EPA, and other organizations, to adopt policies, strategies, and regulations which reflect these values.

Statement of Support:

EPA's NPDES regulatory strategy should include clear, achievable, and flexible standards and provisions that encourage the adoption of technologies and practices that help advance a broader strategy or resource recovery, combining regulatory and non-regulatory tools such as financial, technical, and research-related assistance.

We urge the U.S. EPA, and other organizations, involved in water quality policy and regulation to:

- Develop policies and regulatory strategies that reward use of technologies and systems that provide resource recovery, through recognition of such implementation in permits; this could also include a regulatory framework that allows the resource market to drive the regulations placed on facilities that recover resources, while not regulating unnecessarily.
- Fully measure and account for the economic and environmental benefits from resource recovery, including, but not limited to, greenhouse gas emission reductions and offsets; this should be fully accounted for in true “triple bottom line” analysis and practices.

- Focus increased federal funding for resource recovery initiatives and technology research to further the current state of the industry, while also providing a cost basis for alternatives based upon the true cost of such programs. This should also include a certification program or other recognition that rewards “model utilities” for their practices.
- Prepare and distribute educational documents, technical resources and training materials to assist cities, utilities, treatment plants, and others in developing resource recovery programs, including energy, water, and nutrients;
- Develop model provisions to incorporate resource recovery into water and air quality permits; capacity, management, operations, and maintenance plans; and consent decrees and other enforcement vehicles;
- Develop regulatory strategies and funding mechanisms that reward facilities that employ concepts in line with these principles;
- Integrate and coordinate potentially competing and conflicting policies and practices among EPA programs and offices and other federal programs;
- Embrace innovative resource recovery strategies and practices through the use of compliance assistance and enforcement policies and mechanisms that reduce risks to permittees and practitioners; and
- Encourage all facilities to embrace resource recovery to reduce pollution and decrease environmental impacts, particularly by including resource recovery practices in areas of new facilities, facility upgrades/expansions, and as economically justifiable, in stand-alone projects, as appropriate.

Background

Many communities in the United States are looking for ways to reduce consumption of scarce natural resources and net environmental impact. Over the past several years, cities and utilities have recognized that recovery of resources already in their collection systems can provide cost savings, while also improving environmental stewardship. These “resource recovery” approaches are aimed not at removal and sequestration of compounds, but rather at recovery and utilization of the value included in our existing water/wastewater and solid waste systems. Resource recovery can help improve our air and water quality, all while reducing consumption of scarce resources—thereby aligning our utilities with the growing movement to “reduce, reuse, recycle”.

Resource Recovery Benefits

Resource recovery approaches can include a wide array of benefits and services such as: power generation, energy efficiency, water reclamation and reuse, recovery of nutrients as commercial fertilizer, production of biopolymers and bioplastics, sequestration and recovery of metals, and heat recovery and utilization. Resource recovery is not limited by facility size, location, or treatment requirements. The effectiveness of these approaches can be supplemented with other source separation and recycling operations, such as capture of metals, nutrients, and other resources before entering the collection system for more efficient recovery. Through utilization of resource recovery, we can also reduce the environmental impact of these compounds that are concentrated in our facilities and then re-released to the environment in our effluent discharge, biosolids programs, or air emissions.

Resource recovery implementation has a number of other environmental and economic benefits including:

- ✓ *Enhanced Water Supplies* – Through conservation and water reuse/recycling, we will stretch existing fresh water supplies and develop new sources of water to meet growing demands.
- ✓ *Improved Water Quality* – Through recovery of resources such as nutrients and metals, we will reduce the discharge of such compounds into our waterways and watersheds.
- ✓ *Cleaner Air* – Through production of alternative fuels from biogases and reduction of our reliance on fossil fuels, we will improve air quality surrounding our communities and reduce greenhouse gas emissions.
- ✓ *Reduced Reliance on Mining of Non-Renewable Resources* – Through capture and recovery of compounds such as phosphorus and metals, we will provide additional means to access key resources that support our global food security and manufacturing economy.
- ✓ *Increased Energy Efficiency* – Recovery of both power and heat naturally existing in our wastewater streams will reduce our demand for both electricity and heat.
- ✓ *Community (Social) Benefits* – Through capture and production of commercial goods and other resources in our facilities, we can provide local economies centered on proper utilization of the resources already existing in our locale. This reduces the need to import resources, which have associated transportation and geopolitical impacts.
- ✓ *Cost Savings* – Resource recovery often provides lower life-cycle costs than conventional removal and disposal options.

**This statement of principles was developed by the Alliance's
Urban Water Sustainability Council
www.USWaterAlliance.org**