Renee Martin-Nagle on Bringing Sustainability to the Airlines

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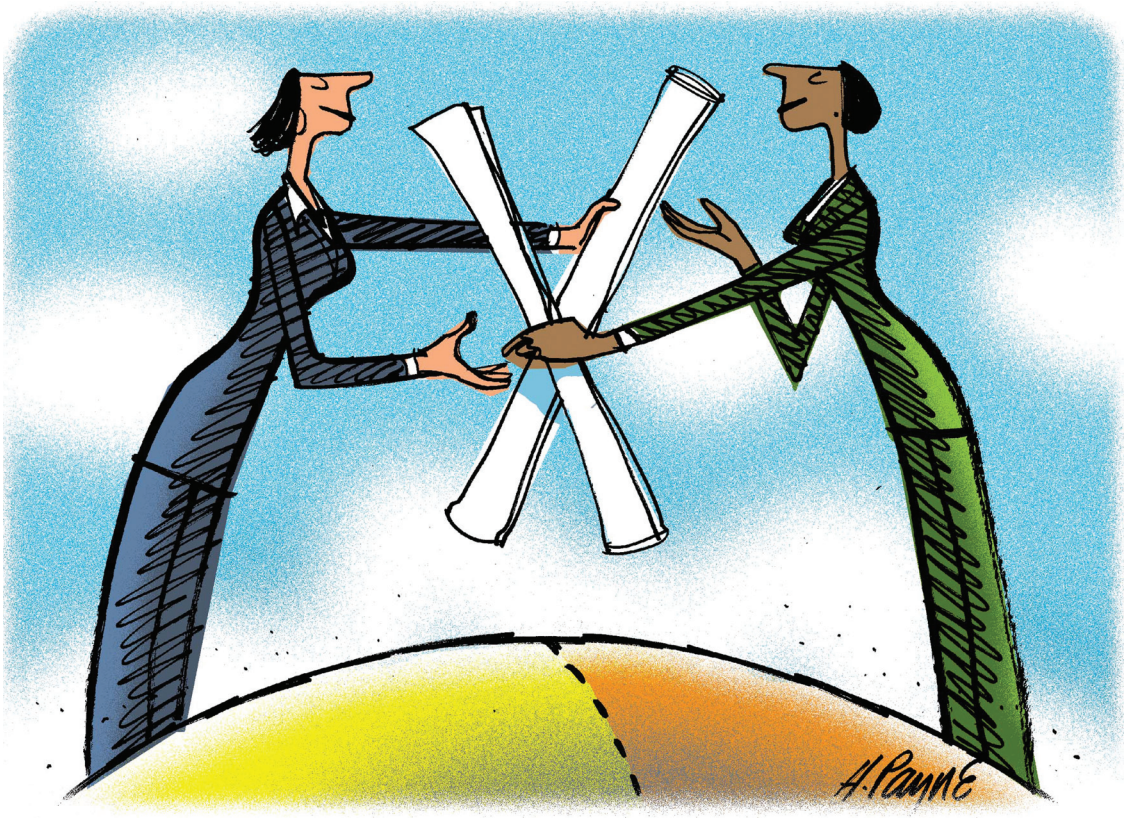

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The Solution, Not the Problem

By treating cities as it might have treated Standard Oil a century ago, EPA's approach to clean water infrastructure threatens its overall urban agenda

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Cities are the key to solving many of the environmental challenges facing our generation, including climate change and other threats to sustaining the needs of a growing global population. This focus on cities reflects in part the shift in population from rural to urban areas as people seek greater economic, cultural, and lifestyle opportunities. It also reflects the impact of cities. The C40 Cities Climate Leadership Group estimates that cities occupy only two percent of the world's landmass, but consume more than two-thirds of the world's energy and account for more than 70 percent of global carbon dioxide emissions. With so many people living close together, cities are at high risk from challenges such as power outages and rising sea levels, especially because 90 percent of the world's urban areas are on coastlines.

The less obvious but profound implications of these statistics are that cities represent a significant solution to climate change, water pollution, air pollution, and other challenges to sustainability. Denser living arrangements make mass transit, biking, walking, and other low or no-fuel options viable and even enjoyable modes of transport. Shared public spaces such as parks complement and enable smaller living quarters with shared walls that take less energy to heat and cool. Those are among the reasons why New Yorkers, who live in the most densely populated city in the United States, contribute about one-third of the greenhouse gas emissions of the average American.

Because cities are in the business of delivering services and planning infrastructure investments on a balanced budget, they have had to prioritize needs and take action by shifting quickly from policy development to execution. In stark contrast to inaction at the international and national level, C40 reports that over 4,700 climate change actions are in effect in nearly 60 cities, with almost 1,500 further actions under active consideration.

President Obama and EPA Administrator Lisa Jackson understand the opportunity that cities present and are acting on it. EPA's focus on urban waters and environmental justice (at its core an urban issue), and programs like the Urban Waters Federal Partnership, EPA's Coming Together for Clean Water, and the EPA, Department of Transportation, and Department of Housing and Urban Development's Federal Partnership for Sustainable Communities are premised on the idea that the solutions to urban environmental challenges will be achieved by empowering local communities and their governments to be effective stewards and by pooling resources across all levels of government. "Green teams" in EPA's regional offices are entering into voluntary, non-binding agreements with companies, professional sports teams, universities, hospitals, and other institutions to reduce energy use, water consumption, and solid waste. President Obama's Executive Order 13563 puts a renewed focus on science and benefit-cost analysis as the driver of mandated investments, and complements EPA's urban-empowerment strategy.

But the administration's urban agenda and commitment to sustainability generally are seriously undermined by EPA's current approach to water enforce-

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ment. Working through its Office of Enforcement and Compliance Assurance, EPA is systematically forcing expensive investments to reduce municipal wet weather discharges on cities throughout the country. Tens of billions of dollars in wet weather controls are being mandated through consent orders that set rigid reporting requirements, construction milestones, and operating constraints. These orders leave little if any judgment to cities and eliminate all flexibility to re-prioritize or pursue innovative approaches such as green infrastructure and operating models premised on adaptive management.

This is not to suggest that the administration is against green infrastructure; indeed, green infrastructure has been a signature focus of EPA's water program in recent years. But this focus has had little impact on OECA's enforcement activity against cities in particular, which is where the rubber meets the road in terms of compliance-related mandates and unfunded costs. OECA's consent orders, obtained by the Department of Justice, set substantial financial penalties for noncompliance. Over the past four years, OECA has applied this approach consistently and indiscriminately — i.e., without regard for a city's overall compliance record, clear record of effective environmental stewardship (in water quality and elsewhere), or level of investment in sewer and wastewater systems. Perhaps most problematic is that these consent orders are being imposed without site-specific or even national analyses of their impact on public health or water quality challenges that remain after cities comply with the Clean Water Act's secondary treatment standard.

There is no question that EPA has the authority to enforce the Clean Water Act and that enforcement is often necessary to ensure that the goals of the statute are achieved. By treating cities as it might have treated Standard Oil early last century, however, OECA's approach threatens the administration's urban agenda in three fundamental ways. It discourages environmental stewardship by cities and cuts directly against a sustainability approach to managing the urban environment. It disempowers local governments and communities. And it undermines EPA's credibility by imposing billions of dollars of unfunded mandates without a clear scientific and public health basis for doing so.

This article focuses on EPA's enforcement approach under the CWA in the context of sustainability. Using New York City as a case study, it juxtaposes the agency's current enforcement approach to wet weather pollution to the adaptive management approach recently agreed to between the city and state of New York in a landmark green infrastructure agreement that will dramatically improve water quality over the next 20 years. An enforcement overhaul is badly needed now so that OECA is advancing the administration's goals of urban empowerment, sustainability, and stewardship, not setting them back.

EPA's current CWA enforcement approach focuses on municipal discharges under wet weather conditions. Unlike many other sources of impairment — such as nonpoint source pollution from the agricultural, residential, and industrial sectors; atmospheric deposition; and hydrologic factors caused by dredging, channeling, and bulkheading watercourses — publicly owned wastewater treatment plants are heavily regulated under the CWA. With the significant assistance of a federal grant program that effectively wound down in the 1980s to late 1990s, many municipalities expanded and improved treatment works, so that today nearly all meet or exceed the performance standard of reducing 85 percent of conventional pollutants such as total suspended solids during dry weather flows.

Wet weather pollution is a more challenging issue. In separately sewered areas, where sanitary waste and stormwater travel through different pipes, rain picks up pollutants from the environment and discharges them directly to nearby water bodies. Combined sewers that convey both sanitary waste and stormwater are designed with relief points that discharge untreated wastewater during heavy rains (called combined sewer overflows or CSOs) to prevent damage to the biology of wastewater treatment plants. In addition, stormwater runoff can absorb or carry pollutants that are discharged to waterbodies through separate storm sewers.

The costs of addressing wet weather flows are much greater than those incurred to achieve the initial pollution reductions under the CWA in the 1970s and 1980s. As it would be prohibitively expensive to design and retrofit drainage systems to handle extreme storms, wet weather pollution is a classic case for the application of benefit-cost principles. But that analysis is not happening today. Without site-specific or even national analyses of the impact on public health or water quality standards once cities have complied with the secondary treatment standard, OECA has singled-out wet weather pollution for enforcement.

One regulatory basis put forward to explain this focus is EPA's CSO policy, developed in 1994 and adopted directly into statute without undergoing notice and comment rulemaking. Ostensibly sensitive to financial burdens and benefit-cost principles, the CSO policy as

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interpreted and enforced by OECA in consent decrees, has mandated investments of tens of billions of local taxpayer dollars.

Another authority cited by OECA is EPA's Capacity, Management, Operations, and Maintenance guidance. The CMOM guidance was developed by an EPA regional office to provide a framework for managing separately sewered systems and includes broad narrative recommendations for the operation of sewer systems. Like the CSO policy, this has never been subject to notice and comment rulemaking. As interpreted and enforced by OECA in decree negotiations, however, this guidance has been used to mandate investments in both separately sewered and combined sewered cities, and to address quality of life issues such as basement backups and flooding.

These are important matters, to be sure, but they are distinct from any discharges to navigable waters that are the subject of the CWA. A scientific basis for these standards has never been established, nor the cost-effectiveness of directing scarce resources to these programs versus competing needs, such as the replacement of aging networks of pipes and plants that are critical to maintaining compliance with the 85 percent removal standard, and that EPA estimates will cost American cities between $300 and $500 billion to maintain and upgrade over the next 20 years.

Despite these uncertainties, nearly 100 cities across the country have been forced into sewer overflow consent decrees by OECA, many with rigid compliance schedules that micro-manage decisions that need to be made at a local level. Chicago, Cincinnati, DeKalb, Kansas City, Memphis, Seattle, South Bend, St. Louis, and other cities must adopt strict operational measures to reduce water in basements and sewer backups. For example, Kansas City, Missouri, is mandated to perform a set mileage of sewer cleaning per year regardless of operational need. Memphis must submit a detailed operations and maintenance program for its lift stations and force mains with such details as the frequency of checking meters and the amount of inventory on hand. St. Louis just entered into a $4.7 billion decree to make capital improvements and to adopt operational measures and to clean all of its smaller pipes on a five- or 10-year basis.

None of these cities can modify operational mandates without written approval from federal regulators, which can take months to obtain; this effectively prohibits a city from adapting and re-directing resources if conditions change. As both the service providers and the bill collectors, cities are called upon to explain the costs of these programs and the benefits they are designed to achieve, and to get the buy-in of local residents (i.e., taxpayers and ratepayers) and other stakeholders.

OECA is aware of these challenges. At one forum attended by more than 40 large cities, a high-ranking OECA official suggested that, to explain increased water rates necessitated by a wet weather consent decree, local officials should simply explain that EPA is the "bad guy" and that the city government has no choice in the matter. In New York City's case, OECA has likened its approach to a "12 step program" where the first stage is denial, and so on. This dynamic — EPA as necessary evil and city as powerless polluter — is completely at odds with the Obama administration's effort to empower cities. And it cuts against a sustainability approach to urban management, which seeks to maximize social, economic, and environmental benefits across the life cycle of projects.

New York City's experience with OECA in recent years brings these deficiencies into stark relief. Since at least 2007, when Mayor Bloomberg launched PlaNYC — New York's comprehensive sustainability plan — the city has been a worldwide leader in urban environmental management and stewardship. PlaNYC set the goal of reducing the city's greenhouse gas emissions by 30 percent below 2005 levels by 2030. Annual inventories show that citywide emissions have been reduced by 13 percent below 2005 levels in just four years, with New Yorkers becoming more energy efficient by switching to more effective and less polluting fuels, and by retrofitting facilities with higher-efficiency systems. Thanks to $10 billion in wastewater investments since 2002, New York Harbor is cleaner today than it has been in more than 100 years, with bacteria levels consistently better than bathing standards and dissolved oxygen standards consistently better than fish propagation standards. The city's 14 treatment plants exceed the 85 percent removal standard for dry weather flows, and for all flows (wet and dry weather) together remove more than 77 percent of pollutants on an annual basis. These investments are the foundation of a harbor revitalization that has given rise to new waterfront neighborhoods throughout the five boroughs over the last ten years.

As good as these results are, more needs to be done. Because it is highly impervious, the city still discharges approximately 30 billion gallons of CSOs every year, and historic dredging and bulkheading have altered hy-

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drology dramatically. Under PlaNYC we are investing heavily to tackle these challenges. After more than two years of planning and testing, New York City and State recently signed an agreement under which the city will implement a $2.4 billion green infrastructure plan over 20 years that will soften our hardscapes and absorb rain before it reaches our sewers, preventing surcharges and overflows. This commitment includes more than $187 million of green infrastructure investments that will be in the ground by 2015. The city has already changed the stormwater management rules for new development that will result in the installation of $900 million of stormwater controls by 2030. In addition to the green infrastructure elements, the agreement substituted more cost-effective grey infrastructure for required projects for a savings of $1.4 billion and also deferred $2 billion worth of certain traditional engineering solutions or "grey" infrastructure such as storage tunnels.

In sharp contrast to OECA's approach, the city's green infrastructure agreement with New York State is based on planning and prioritization initiated by the city and structured in accordance with adaptive management principles. It includes five-year build out goals, annual reporting of activities, in-depth reviews of progress every five years, and perhaps most important, a process for instituting mid-course corrections without penalties. New York City's green infrastructure program will not only provide cost-effective methods to reduce wet weather pollution and flooding, it will improve air quality, reduce energy use, increase property values, and beautify much of the cityscape.

On the operations side, the city's public water utility, the Department of Environmental Protection, has instituted a series of specific programs to optimize performance of the water and sewer system, including inspecting and, where necessary, cleaning all 136 miles of its largest sewers in the last two years, and evaluating the hydraulic capacity of the entire New York City combined and sanitary sewer system (some 7,400 miles) with updated impervious cover data from recent satellite flyovers. We have also created a specialized unit to investigate areas of the city with the highest number of recurring sewer backup complaints. Since the program was implemented, sewer backups have decreased dramatically. To assess the condition of the city's infrastructure and plan future capital and maintenance investments, DEP launched an asset management program that has scored more than 25,000 individual wastewater assets based on performance, criticality, and physical condition. We are using this data to prioritize investments that are most needed to optimize system performance.

With this track record — and a sustainability program that is a world-wide model — New York City has surely proven itself to be an active, committed, and capable steward of an urban environment that 8.4 million people call home and millions more work in and visit every day. And while New York City's performance is not perfect, one would expect this record to inform OECA's enforcement approach. It has not. As with dozens of other cities across the country, New York is currently the subject of an inquiry that has been underway since 2010. During the same period that the city has developed and is implementing a multi-billion dollar green infrastructure plan and has significantly improved its operations and maintenance practices, OECA has concluded — in part on the basis of inspections conducted more than five years ago — that it can more effectively oversee the operations, maintenance, and construction of the city's sewer and wastewater systems than the city itself. If the administration's goals are to empower cities and promote sustainable investments based on sound science, this is not the way to do it. Building on the urban agenda that the Obama administration already has underway, it's time for EPA to upgrade and modernize its enforcement toolbox.

Rather than treating cities like the willful corporate polluters who had to be brought to heel 40 years ago, EPA should look to the green infrastructure agreement between New York City and State as the foundation for a new paradigm. Inflexible schedules and punitive penalties should be replaced with build-out goals, periodic reviews, and where necessary collaborative course corrections to ensure that science and results are dictating the course and pace of water quality improvement. Of course, punitive measures must always be available to compel the unwilling. But cities that prove themselves capable environmental stewards should be given maximum flexibility within a well-defined framework to achieve environmental goals that are challenging but not punitive.

There is evidence that EPA is moving in this direction. The recently adopted Integrated Municipal Stormwater and Wastewater Planning Approach Framework is intended to help cities figure out how to "best prioritize capital investments." In theory, the framework will allow cities to prioritize investments across all CWA programs, and we hope that it will guide EPA's enforcement. Using an adaptive management approach, EPA can empower cities to develop comprehensive plans that allocate scarce resources to the most pressing issues. Doing so will ensure that cities remain affordable and attractive places to live. •

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