



Tonawanda and E3: Partnership for a Brighter Future

The Town of Tonawanda, New York hosts dozens of industrial facilities in a very compact area along the Niagara River. Homes were built for workers decades ago right next to these plants, and residents wanted to know whether chronic illnesses in their neighborhood were linked to pollution from these plants. When residents gathered data, they were shocked to learn that benzene and other detrimental air pollutant levels were extremely high. When it became apparent that regulation would not be enough to clean up the air, community organizers reached out to EPA for a more comprehensive approach. The federal, state, and local Economy, Energy, Environment (E3) initiative helped Tonawanda bring together a diverse partnership of manufacturers, community leaders, local stakeholder organizations, state and federal agencies, and many others. Together, the Tonawanda E3 team is working to improve the performance of its manufacturing base and make the town a healthy place to live, work, and play.

Photo Source: Town of Tonawanda Technical Support Department

Industrial and Residential: Conflicting Land Uses

- Manufacturing Facility
- Residential Neighborhood

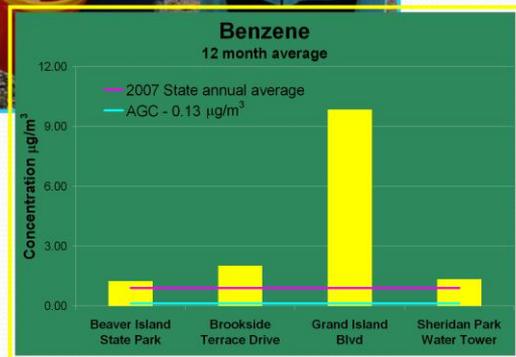


Map of Tonawanda

The Town of Tonawanda is situated along the Niagara River and historic Erie Canal, between Buffalo and Niagara Falls. A two-mile zone around the western section of Tonawanda is home to more than 50 permitted facilities, in one of the most heavily industrialized areas in Western New York. Regulated facilities include a foundry coke plant, two petroleum distribution terminals, bulk chemical storage terminals, trucking depots, a coal-fired power plant, a tire manufacturer and a cellulose sponge manufacturer.

Because homes were constructed next to plants decades ago for workers, there is a mix of residential and industrial activity in a very small area, posing significant health risks for residents. Cancer rates in neighborhoods around the industrial area are elevated, as are premature births and heart defects. Smoke, strong odors and toxic emissions are sometimes present in the area.

Investigating a Legacy of Pollution



Prior to the beginning of E3 efforts in Tonawanda, the Clean Air Coalition of Western New York (CAC) took the lead to uncover information about air pollution. As citizens performing science, the residents collected air quality data that showed elevated levels of air pollutants such as benzene. The “bucket brigade” results armed residents for the first time with the knowledge that their suspicions were correct: the air they breathed was contaminated with cancer-causing chemicals. Residents wanted something to be done about the toxic pollution they had discovered. (Upper-right photo: Citizen bucket brigade collecting air samples).

Their efforts were essential because they armed the New York State Department of Environmental Conservation (NYDEC) with enough information to fund a substantial community-wide air quality study (Upper-left and lower-left photos show NYDEC air monitoring equipment used in the study).

The results of the study indicated that further work needed to be conducted to improve air quality in the community. The annual measurements of some hazardous air pollutants were well above the values predicted by air quality dispersion models used for regulatory purposes. The graph on the slide shows that benzene levels were well above the state-wide average and exceeded the state's health based guideline. (Lower-right graph shows above average benzene levels).

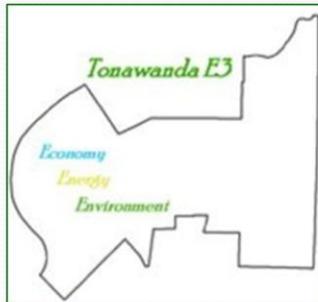
The highest area of cancer risk was located in one industrial area and linked to elevated benzene emissions. The estimated annual lifetime cancer risk from benzene was calculated to be 75 in-one-million greater than expected.

The results of the air quality study provided a strong basis for EPA to conduct further compliance monitoring and regulatory actions.



E3: ECONOMY - ENERGY - ENVIRONMENT

A SUSTAINABLE GROWTH STRATEGY



E3 is a community-focused framework that facilitates collaboration among groups with common interests

The community, led by the Clean Air Coalition, realized that regulatory action alone would not be enough to achieve their goal of improving air quality in Tonawanda for years to come. EPA's E3 initiative provided a solution that could bring together the town's manufacturers as well as federal agencies, state agencies and the local community. E3 is an interagency effort involving five federal agencies (U.S. EPA, U.S. Department of Energy, U.S. Department of Labor, U.S. Department of Commerce, and the U.S. Small Business Administration), coordinated locally by EPA Region 2, the NYSDEC, the Clean Air Coalition, and the Town of Tonawanda. The E3 Framework enables collaboration among groups with common interests and a common agenda. By providing manufacturers with the best technical assistance available, E3 enables them to reduce their waste, energy use, resource use, greenhouse gas emissions, and pollution emissions. Communities use the E3 framework to strengthen their manufacturing base, retain and create jobs, boost local economies, reduce energy consumption, and achieve their sustainability goals.

E3 Brings Together Tonawanda Team



The community's concern about air pollution was the motivating factor for pursuing a comprehensive solution, which led to the formation of the Tonawanda E3 team. E3 was essential in bringing together a diverse group of key players to the table around a common goal.

Following enforcement actions that EPA took against Tonawanda Coke Corporation in 2009, the Clean Air Coalition's pursuit of a comprehensive approach led to the conclusion that forming a partnership with the town's manufacturers would be the best way to reduce pollution into the future.

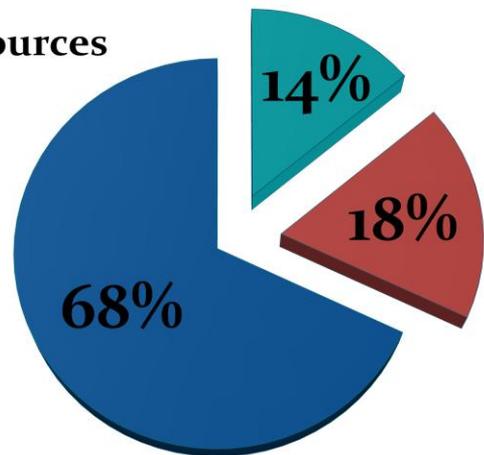
The U.S. EPA was vital in bringing together the right Tonawanda E3 team at the start, mostly through its influence and ability to reach out to state and local agencies. In September 2011, a diverse group of stakeholders, including organizations dedicated to worker health and safety, workforce development, small business assistance, energy efficiency, and other interests, gathered to formally sign the Tonawanda E3 charter and kick off the project. EPA's involvement helped trigger local stakeholders to join the growing collaboration. By involving residents, local stakeholders, and nonprofit organizations, E3 helped create an atmosphere where everyone involved is driving toward a common, triple bottom line goal: to help manufacturers reduce their waste, resource use, and pollution emissions, while reducing energy use and promoting and maintaining a healthy economy for the town.

Defining the Problem: Benzene Emission Sources

 **Title V Permitted Industrial Sources**

 **Minor, Area, and Nonpoint Sources**

 **Mobile Sources**



Early on in its efforts, the Tonawanda E3 team defined air pollution as the most immediate problem facing the town. Enforcement alone was not enough to cut residents' risk of cancer from benzene pollution: E3 provided the perfect framework to go beyond compliance and engage local manufacturers about pollution prevention.

Sixty-eight percent of benzene emissions in the town come from Title V permitted industrial sources— which includes large manufacturers, with 18 percent coming from mobile sources such as automobiles. (Pie chart shows sources of benzene emissions). Tonawanda's E3 team used TRI data to identify top emitters of benzene in the town. These manufacturers were named as the priority companies to participate in E3 assessments moving forward.

The team believed that E3 could provide promising opportunities to reduce benzene emissions through assessments.

E3 Gains Momentum



Judith Enck, EPA Region 2 Administrator

“The most important aspect of E3 is that it is driven by layers of collaboration and is community focused. By involving residents, local stakeholders, nonprofit organizations, as well as the state and federal agencies, it creates an atmosphere where everyone is driving toward a common goal.”

- Elizabeth Meer, New York State Department of Environmental Conservation

The E3 team developed a strategy to approach manufacturers who emit air emissions, which included large multi-national corporations. The team decided to use marketing and outreach tailored to reach these companies. Judith Enck, the Regional Administrator of EPA Region 2 (seen in photo), visited Tonawanda to lend her support to its E3 project. She personally encouraged the manufacturers to participate. In approaching these companies, the E3 team sought to build on the established sustainability efforts already in place in many of the companies. The companies’ expertise and commitment to resources made them ideal partners for the E3 initiative.

As of June 2013, four manufacturers have contracted with NYSP2I for environmental improvement assessments, as funded by a grant from the US EPA, with efforts being made in energy and greenhouse gas emission reductions, alternative material replacement, and solvent reduction.

E3 Helps Turn the Tide Toward Sustainability



While the E3 initiative in Tonawanda is in its early stages, successes can already be identified from this effort. The E3 team is helping to identify efficiencies, reduce resource wastes, support sustainable jobs, and make the economy greener. Some manufacturers have committed to participate in E3 assessments, a step that shows the trust that has been built between the E3 partners and the town's manufacturers. That sense of common purpose is essential to make Tonawanda a healthy place for future generations.

So far, the E3 team has decided to focus on the following areas: increasing energy efficiency, investigating materials substitution and chemical alternatives, and reducing solid and hazardous waste streams.

After joining together for the E3 effort, Tonawanda's manufacturers have come together to form a sustainability coalition. The Tonawanda Sustainability Council will help manufacturers share information and best practices about their sustainability efforts, and its members have discussed sustainability in their supply chains and potentially developing a sustainability scorecard for the Town of Tonawanda.

Looking Toward Tonawanda's Future



Tonawanda along the Niagara



Waterfront park in Tonawanda

Sustainable manufacturing and pollution prevention will play a vital role in Tonawanda's journey to accomplish its goals for the future.

Benzene levels in Tonawanda are already significantly reduced since federal and state enforcement actions have been taken in the community. The E3 initiative's efforts in the town promise to accomplish even greater reductions in the future.

The E3 team's future air pollution goals include:

- Reducing odor complaints in community.
- Reducing emissions of chemicals associated with acute irritation effects.
- Reducing general cancer risk in the community.

Thanks in part to E3, the town is on a path toward a more sustainable future. The next steps that the E3 team and the town plan to pursue include:

- Additional E3 assessments, which will arm manufacturers with the technical knowledge to reduce their waste, pollution, and energy use.
- Smart growth initiatives, including land use planning that incorporates recreation and green space.

- Reinvigorated waterfront district to attract businesses, encourage recreation, accommodate residential development, and balance diverse uses .

Through the strength of the diverse partnership that came together through E3, the town's efforts will help ensure that the citizens of Tonawanda will have a safe and healthy place to live, work, and play for generations to come, and that the town's manufacturers will become part of a new green economy as they work towards a sustainable future.

Photo Source: Town of Tonawanda Technical Support Department